



# Little-Psycho Linux<sup>v3.0</sup>

The more **silent**

The more **dangerous**

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From Iran

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## Chapter 1

### What is Linux?

Linux is a lightweight Linux distribution specifically designed for destructive data, stress testing and Benchmarkin of hardware and software. It's not your typical everyday operating system. It is maintained and established in 2021 by **Hossein Seilany**, the developer of Emperor-os and predator-os Linux. This is lightweight Linux with a KDE plasma-desktop, based on the Debian 12.5 and equipped kernel 6.6 LTS and 6.1 LTS.

Little-Psycho has a focus on destructive and stress testing of both software and hardware and also included the overclocking and health testing tools. These tools and commands impose much stress on the system and measure the performance of the system.



### Developed in 2021

The Linux is a lightweight Linux distribution maintained by Hossein Seilani, the creator behind Emperor-OS and Predator-OS.

<https://emperor-os.ir/>  
<https://predator-os.ir/>

**Based on:** is based on Little-psycho (Long Term Support) as its foundation, providing a stable and secure core.

**Desktop Environment:** The KDE Plasma desktop offers a user-friendly and customizable interface.

**Kernel Version:** It comes equipped with Kernel 6.6 LTS (Long Term Support)

**designed for:**

**Destructive and Stress Testing:** This distro includes a suite of tools designed to push your hardware and software to their limits. These tools can help identify weaknesses and ensure stability under extreme conditions.

**Benchmarking:** It provides utilities to measure your system's performance and compare it to others.

**Overclocking:** For experienced users, offers tools to increase the clock speed of your CPU and potentially improve performance (use with caution as it can damage hardware if not done properly).

**System Health Monitoring:** Keep an eye on your system's health with built-in monitoring tools that track temperatures, voltages, and other vital statistics.

**Important Note:**

The provided tools can be demanding on your system and potentially cause harm if not used correctly. is best suited for advanced users comfortable with stress testing and potentially causing hardware instability.



As a System Administrator, you can examine and monitor the status of your Linux systems when they are under high load stress. Little-Psycho is capable of stress testing a computer system in various selectable ways. It was designed to exercise various physical subsystems of a computer, as well as the different operating system kernel interfaces.

## Little-psycho Features

### Live Medium with KDE Plasma:












Boot directly from a Live CD, eliminating the need for permanent installation.

KDE Plasma desktop provides a user-friendly interface for navigating the tools.

## Tools

boasts an impressive collection of over **190** specialized tools for in-depth stress testing.

As a system administrator, you can monitor system behavior under high loads and identify potential bottlenecks.

-  The distro offers various stress test options, allowing you to target specific components:
-  CPU compute power
-  Storage drive stress
-  Input/Output (I/O) synchronization
-  Pipe I/O performance
-  Cache thrashing analysis
-  Virtual memory stress testing
-  Network socket stressing
-  Process creation and termination speed
-  Context switching properties
-  Extensive Testing Capabilities:

### provides a comprehensive suite with over 260 stress tests in total.

This includes dedicated tests for the CPU, exceeding 85 options, to evaluate aspects like floating-point calculations, integer operations, bit manipulation, and control flow.

### Over 20 specific tests target virtual memory management for in-depth analysis.

Utilities for manipulating memory technology devices, such as flash

memory, Disk-On-Chip, or ROM. Includes the following tools:

docfdisk, doc\_loadbios, flashcp, flash\_erase, flash\_eraseall, flash\_lock,

flash\_otp\_dump, flash\_otp\_info, flash\_otp\_lock, flash\_otp\_write, flash\_unlock,

ftl\_check, ftl\_format, jffs2dump, jffs2reader, lsmttd, mkfs.jffs2, mkfs.ubifs,

mtdd\_debug, mtdinfo, mtdpart, nanddump, nandtest, nandwrite, nftldump,

nftl\_format, recv\_image, rfddump, rfdformat, serve\_image, sumtool, ubiattach, ubiblock, ubirc32, ubidetach, ubiformat, ubihealthd, ubimkvol, ubinfo, ubinize, ubireName, ubirmvol, ubirsvol, ubiupdatevol.

### Supported Devices:

Flash memory (e.g., USB drives, SD cards)

Disk-On-Chip (eMMC, embedded storage)

Read-Only Memory (ROM) (limited functionality)

### General Utilities:

docfdisk: Likely for displaying information about flash partitions without modifying them.

doc\_loadbios: Potentially used to read and display the BIOS stored in flash memory (advanced use).

mtddinfo: Provides detailed information about the flash memory device.

mtdd\_debug: Advanced tool for debugging purposes (use with caution).

sumtool: Calculates checksums for data integrity verification.

### Flash Manipulation:

flashcp: Copies data between flash devices.

flash\_erase/flash\_eraseall: Erases all or specific portions of flash memory (destructive action).

flash\_lock/flash\_unlock: Locks or unlocks specific areas of flash memory for protection.

flash\_otp\_\* tools: Interact with One-Time Programmable (OTP) sections of flash memory, which are meant to be written only once (use with extreme caution).

nanddump/nandwrite/nandtest: Specifically for manipulating data on NAND flash memory (common Type).

recv\_image/serve\_image: Tools for transferring flash images between devices (potentially for flashing firmware).

File Systems on Flash:

mkfs.jffs2/mkfs.ubifs: Creates JFFS2 and UBIFS file systems, commonly used on flash-based devices.

jffs2dump/jffs2reader: Used to read data from JFFS2 file systems.

nftldump/nftl\_format: Tools for manipulating and formatting filesystems based on NAND flash translation layer (NFTL).

ubiattach/ubidetach: Attaches and detaches UBI volumes (another file system for flash).

ubiformat/ubimkvol/ubinize: Used to format, create volumes, and prepare UBI flash memory.

ubihealthd: Monitors the health of UBI volumes.

ubininfo/ubinize: Provides information about and manipulates UBI volumes.

Additional Tools:

lsmttd: Lists available MTD (Memory Technology Devices).

mtdpart: Manages partitions on flash memory devices.

rfdump/rfdformat: Tools for working with raw flash data (advanced use).

### **HTTP, WebDAV, SOAP, PostgreSQL, MySQL, LDAP and Jabber/XMPP servers.**

- Testing Servers: You could potentially use to stress test existing servers running these protocols. The provided tools might be useful for simulating high load on web servers (HTTP), databases (PostgreSQL, MySQL), or communication servers (Jabber/XMPP).
- Package Management: utilizes Ubuntu's package management system (apt, Synaptic, etc.). This allows you to install server software for these protocols if needed. You would need to configure and manage them separately.

Here's a breakdown of each protocol and its relevance to Little-Psycho:

- HTTP, WebDAV, SOAP: These are used for web communication and services. While itself isn't a web server, its stress testing tools could be used to simulate high traffic on existing web servers using these protocols.
- PostgreSQL, MySQL: These are popular database management systems. wouldn't include them directly, but its tools could be used to stress test existing databases.
- LDAP: This is a directory service for user authentication and authorization. It wouldn't be directly relevant to Little-Psycho's core functionality.
- Jabber/XMPP: This is a protocol for instant messaging and real-time communication. Similar to HTTP, could potentially be used to stress test existing Jabber servers.

## Supported Hardware:

Little-psycho 12 boasts broad hardware compatibility thanks to its support for various architectures. Here's a simplified explanation of the information provided:

- Little-psycho Doesn't Set Hardware Limits: Unlike some operating systems, Little-psycho doesn't have strict hardware requirements. As long as the Linux kernel, core system libraries (libc, gcc), and other essential tools can run on your system's architecture, Little-psycho should work.
- Focus on Kernel and Tools: The key factor determining compatibility is whether the Linux kernel and essential tools have been ported (adapted) to your specific hardware architecture.
- Little-psycho Ports Website.
- Little-psycho's compatibility with 64-bit PC architectures. This is the most common architecture for modern personal computers.

**Little-psycho offers a range of installation options depending on your needs and available resources. Here's a breakdown of the memory and disk space requirements mentioned:**

### **Minimum Requirements (bare-bones):**

Memory (RAM): 780 MB

Disk Space: 10GB

### **Important Note:**

These are very minimal requirements and not recommended for everyday use. A system with such limited resources would likely be sluggish and struggle to run multiple applications simultaneously.

## Chapter 2

### Before Installing Little-psycho GNU/Linux

#### Backing Up Before Installing Little-psycho: Crucial Step!

The provided excerpt highlights the critical importance of backing up your data before installing Little-psycho GNU/Linux. Here's a breakdown of the key points:

**Data Loss Risk:** Partitioning your disk to make room for Little-psycho can potentially erase all existing data. This applies even if you're using reliable partitioning tools. Mistakes happen, so it's crucial to have a backup.

**Backing Up Existing Files:** Make a complete backup of all your important files (documents, photos, music, etc.) before starting the installation process.

**Extra Caution for First-Time Users:** If this is your first time installing a non-native operating system, the risk of data loss might be higher due to unfamiliarity. Emphasize the importance of a backup even more in such cases.

**Multi-Booting Considerations:** If you plan to create a system that can boot into both Little-psycho and your existing operating system (multi-boot), ensure you have the installation media for the existing OS readily available.

**Potential Boot Loader Issues:** In rare cases, partitioning might affect the boot loader (the program that tells your computer which operating system to launch). Having the installation media for your existing OS allows you to potentially repair the boot loader or even reinstall the existing OS if necessary.

## Partitioning Explained for Multi-Boot with Little-psycho

This section explains disk partitioning, a crucial step for installing Little-psycho on a system that already has another operating system (multi-boot).

### What is Partitioning?

Imagine dividing your hard drive into separate sections, like creating rooms in a house. Each section acts independently, so changes in one section won't affect others. Partitioning allows you to dedicate specific areas for different operating systems.

### Why Partition for Little-psycho?

Little-psycho requires its own dedicated partitions, separate from other operating systems like Windows or macOS. While sharing some partitions with other Unix systems might be possible, it's not covered in this guide.

### Checking Your Current Partitions:

Before partitioning, it's wise to understand your existing disk layout. Use your current operating system's partitioning tool (e.g., Disk Management in Windows or fdisk in DOS) to view existing partitions without making changes.

### Backup is Crucial!

Partitioning can erase existing data on a partition. Think of it like moving furniture before knocking down a wall – back up your data to avoid any loss! Tools like the Little-psycho installer or Windows Disk Management might offer options to resize partitions without data loss (works well in most cases), but remember:

Partitioning inherently carries a risk.

Always have a full backup before proceeding.

#### Resizing Existing Partitions (Optional):

Modern operating systems sometimes allow resizing existing partitions to create space for Little-psycho without losing data. This works well generally, but remember:

This is an advanced operation.

Back up your data completely before attempting this.

#### Little-psycho Installer and Partition Resizing:

The Little-psycho installer and Windows Disk Management (Windows 7) might allow you to resize existing FAT/FAT32 or NTFS partitions (used by DOS and Windows) without data loss. During Little-psycho installation, when prompted for partitioning, choose manual partitioning, select the partition you want to resize, and specify its new size.

## Prepping Your Hardware and OS for Little-psycho Installation (BIOS/UEFI Setup)

This section guides you through potential adjustments to your system's firmware (BIOS/UEFI) before installing Little-psycho in a multi-boot scenario.

### What is BIOS/UEFI?

The BIOS (Basic Input/Output System) or UEFI (Unified Extensible Firmware Interface) is core firmware that initializes your hardware during startup and allows your operating system to access it. It plays a crucial role in the booting process.

### Accessing BIOS/UEFI Setup Menu:

Locate your system's specific key or key combination to enter the BIOS/UEFI setup menu. It's often the Delete or F2 key, but consult your system's manual or manufacturer's website for confirmation. Usually, a brief message appears during startup indicating the key to press.

### Boot Device Selection:

Within the BIOS/UEFI menu, you'll find options for selecting boot devices. This determines the order in which your system searches for a bootable operating system. Common boot devices include internal hard drives, CD/DVD drives, and USB storage (sticks or external hard drives). Modern systems might also offer network booting options.

Depending on your chosen installation media (CD/DVD, USB, network), enable the appropriate boot devices if they're not already enabled by default.

### Boot Menu Option (Optional):

Some BIOS/UEFI **Versions** offer a boot menu accessible during startup. This allows you to choose a specific boot device for the current session without changing the default boot order. Common keys for this menu include F12, F11, or F8. Using this menu won't affect your default boot settings.

### Changing Default Boot Order (if No Boot Menu):

If your system lacks a boot menu option, you'll need to modify your BIOS/UEFI settings to make the device containing your Little-psycho installer the primary boot device.

### Remember:

Consult your system's documentation for specific BIOS/UEFI access keys and navigation instructions.

Changing boot order settings is usually straightforward, but refer to your system's manual if needed.

## UEFI Firmware Considerations for Installing Little-psycho

This excerpt highlights some key points to remember when installing Little-psycho on a system with UEFI firmware.

### What is UEFI?

UEFI (Unified Extensible Firmware Interface) is a modern firmware interface replacing the traditional BIOS on many new systems. It offers advantages but also introduces some compatibility considerations.

### CSM (Compatibility Support Module):

Many UEFI systems include a CSM (Compatibility Support Module) that mimics a classic BIOS environment. This allows older operating systems designed for BIOS to function on UEFI systems.

However, UEFI is intended to eventually replace BIOS entirely, and some systems have UEFI without CSM, meaning they lack compatibility mode.

### UEFI Boot vs. BIOS Boot:

The way UEFI loads an operating system differs fundamentally from the classic BIOS approach. This difference extends to how hard disk partitions are structured.

### Partition Table Schemes:

BIOS and CSM mode UEFI use a traditional DOS partition table (MBR).

Native UEFI mode utilizes a GUID Partition Table (GPT), which is becoming more common due to its ability to handle larger hard drives (beyond 2 TB limitations of MBR).

A single disk can only use one partitioning scheme (MBR or GPT).

If you plan a multi-boot setup with different operating systems on the same disk, all OSes must use the same partition table scheme.

### Booting and GPT:

Booting from a GPT disk requires native UEFI mode.

The increasing prevalence of larger hard drives makes GPT a more common choice.

### Boot Loaders:

BIOS/CSM and native UEFI have different requirements for boot loader location and format.

This translates to needing different boot loaders depending on the system's firmware mode.



## **In essence:**

Understand whether your system uses UEFI with CSM or native UEFI mode.

Choose a partitioning scheme (MBR or GPT) that aligns with your system's firmware mode and any other operating systems you plan to install in a multi-boot setup.

The Little-psycho installer generally detects your system's firmware mode and uses the appropriate boot loader. However, it's always good to be aware of these considerations for a smoother installation process.

## **Secure Boot and Other UEFI Considerations for Little-psycho Installation**

This section covers two additional UEFI-related topics relevant to installing Little-psycho: Secure Boot and the Windows "Fast Boot" feature.

### **Secure Boot**

UEFI firmware can leverage a security mechanism called Secure Boot.

This feature restricts the system to loading and **Executing** code signed with specific cryptographic keys. By default, most systems with Secure Boot only accept keys from Microsoft for signing the Windows bootloader.

### **Little-psycho and Secure Boot Compatibility**

Little-psycho offers a "shim" bootloader that is signed by Microsoft, ensuring compatibility with systems that have Secure Boot enabled.

In general, Little-psycho should work fine on such systems.

### **Windows "Fast Boot" / "Fast Startup"**

Windows 8 ("Fast Boot") and 10 ("Fast Startup") features aim to reduce startup times.

When enabled, Windows doesn't fully shut down but enters a partial hibernation state. This can be problematic in dual-boot setups.

### **Why Disable Fast Boot in Dual Boot?**

With Fast Boot enabled, Windows might have an outdated view of the disk filesystem's state.

This can lead to data corruption when another operating system (like Little-psycho) accesses the same filesystems.

## Recommendations:

Disable Fast Boot in Windows when setting up a dual-boot system with Little-psycho to prevent potential filesystem corruption.

Windows Update might sometimes re-enable Fast Boot, so check this setting periodically.

Disabling Fast Boot might also be necessary to access UEFI settings for selecting boot devices (including the Little-psycho installer).

Some UEFI systems might skip initializing keyboard or USB hardware during a “fast boot” to save time. Disabling Fast Boot might be required to use your keyboard or USB drive during the boot selection process.

## Additional Hardware Considerations

While uncommon on modern systems, some older PCs with only USB keyboards might require enabling legacy keyboard emulation in the BIOS settings for the keyboard to function in the bootloader menu.

Consult your motherboard manual if your keyboard doesn't work in the bootloader menu and look for options like “Legacy keyboard emulation” or “USB keyboard support” in the BIOS settings.

## Downloading Files from Little-psycho Mirrors

To find the nearest (and thus probably the fastest) mirror, see the main site:

<https://little-psycho.ir/>

## Preparing Files for Booting Little-psycho from a USB Stick (Linux Environment)

This excerpt guides you through preparing a USB stick for booting Little-psycho on a system where Linux is already installed.

### Requirements:

A system running GNU/Linux with USB support.

A USB flash drive.

Recognizing the USB Drive:

Upon inserting the USB stick, it should be automatically detected by your Linux system.

Verifying USB Detection (if not automatic):

Check if the usb-storage kernel module is loaded (needed for USB functionality).

Identifying the USB Device **Name**:

Use the lsblk command to view block devices.

Insert the USB stick and compare the output before and after insertion. The newly recognized device will be your USB drive.

Alternatively, you can view the output of dmesg (as root) to identify the device **Name**.

### **Caution:**

Writing to the USB stick will erase any existing data!

Double-check the device **Name** before proceeding to avoid accidentally wiping data from another storage device.

### **Next Steps:**

The provided excerpt doesn't cover the specific process of writing the Little-psycho installation files to the USB drive. It focuses on preparing your system and identifying the USB device.

In subsequent sections, the documentation will likely guide you through tools like dd or Rufus to write the Little-psycho image file to the USB stick.

### **Remember:**

Backing up any important data on the USB drive is crucial before proceeding.

Always verify the USB device **Name** before writing the Little-psycho image to avoid data loss on other storage devices.

## Verifying Little-psycho Installation Files: Importance and Process

This section emphasizes the importance of verifying the integrity of downloaded Little-psycho installation files before proceeding with the installation. Corrupted files can lead to installation failures or even system instability.

### How to Verify File Integrity:

Little-psycho provides checksum files (SHA256SUMS or SHA512SUMS) alongside the actual installation images on their mirrors. These checksums act like digital fingerprints that can be used to verify if a downloaded file is complete and hasn't been altered during download.

### Locating Checksum Files:

The checksum files are available in the same locations as the installation images themselves. You can find links to these locations on the official Little-psycho website.

### Verifying Checksums:

Download the Little-psycho installation image (ISO file).

Locate the corresponding checksum file (SHA256SUMS or SHA512SUMS) for your downloaded image.

Use a **Terminal** window on your system.

Navigate to the directory where you downloaded the ISO file.

Run the appropriate checksum verification command depending on the checksum file **Type**:

For SHA256 checksums: `sha256sum fileName.iso` (replace `fileName.iso` with the actual file **Name**)

For SHA512 checksums: `sha512sum fileName.iso`

The command will generate a long string of characters (the checksum) followed by the file**Name**.

Compare the generated checksum with the corresponding entry in the downloaded checksum file (SHA256SUMS or SHA512SUMS).

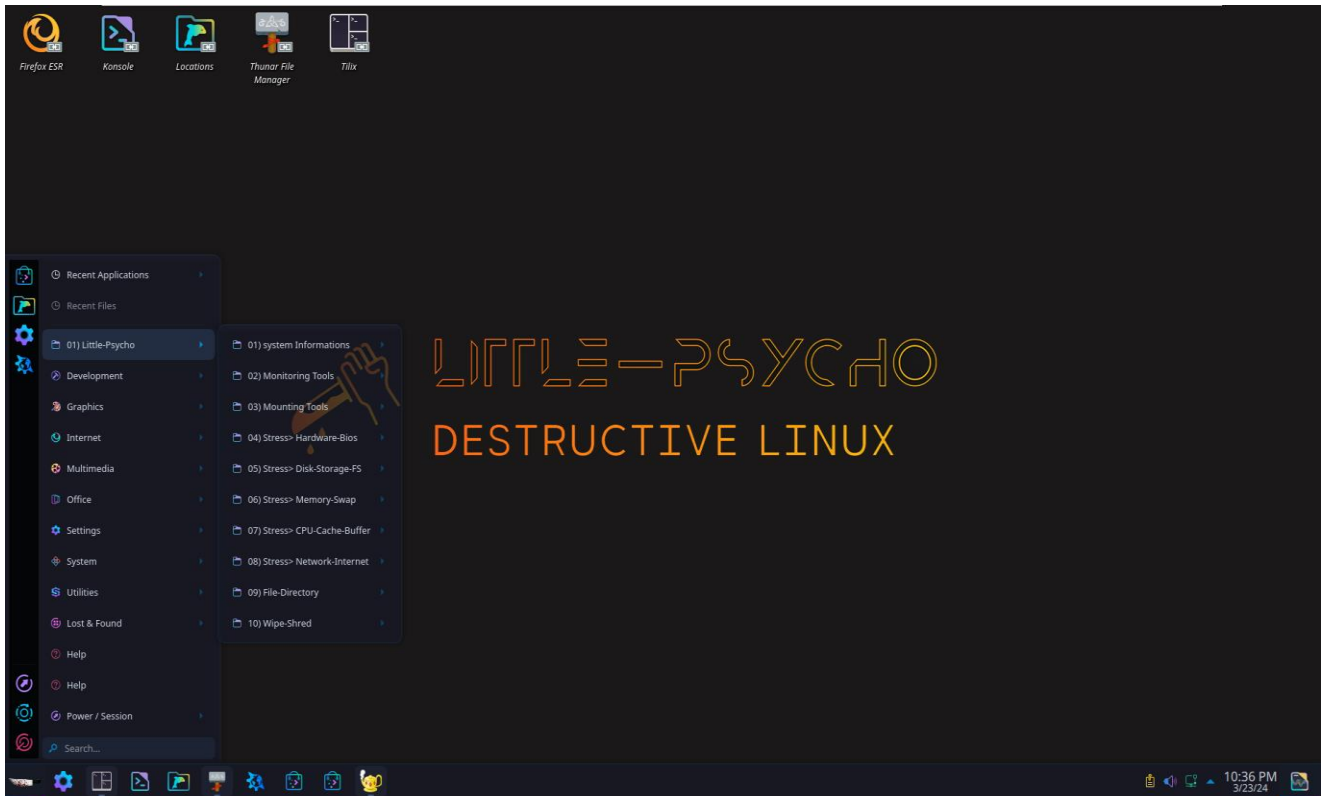
### Match = Success, Mismatch = Redownload:

If the checksums match, it indicates that your downloaded file is intact and can be used for installation.

If the checksums don't match, it means the downloaded file might be corrupted. In this case, discard the downloaded file and download it again. Repeat the verification process to ensure the integrity of the new download.

## Chapter 3

### Little-psyco Tools



## Categories:

### ### 01) System Information in Linux

System information in Linux encompasses details about the hardware, software, and configuration of a system. This information helps users and administrators understand the system's resources and performance. Commands like `uname`, `lscpu`, `free`, `df`, and `ifconfig` provide insights into the system's kernel version, CPU architecture, memory usage, disk space, network interfaces, and more.

### ### 02) Monitoring Tools in Linux

Monitoring tools in Linux are crucial for tracking system performance metrics in real-time or historically. Tools like `top`, `htop`, `vmstat`, `sar`, and `nmon` offer visibility into CPU usage, memory consumption, disk activity, network traffic, and other performance indicators. Monitoring tools help users identify bottlenecks, troubleshoot issues, and optimize system performance.

### ### 03) Mounting Tools in Linux

Mounting tools in Linux are used to attach filesystems to the directory tree, allowing users to access storage devices and network shares. The `mount` command is commonly used to mount devices, and the `/etc/fstab` file can be configured to automatically mount filesystems at system boot. Mounting tools facilitate seamless access to data stored on different devices within the Linux filesystem.

### ### 04) Stress Test > Hardware-BIOS

Stress testing hardware at the BIOS level involves evaluating hardware components (e.g., CPU, RAM) by subjecting them to intense workloads. Diagnostic tools provided by hardware manufacturers can stress test hardware components to assess stability, performance, and identify any potential hardware failures or issues at the BIOS level.

### ### 05) Stress Test > Disk-Storage-FS

Stress testing disk storage and filesystems in Linux involves evaluating the performance and reliability of storage devices under heavy workloads. Tools like `fio`, `hdparm`, and `badblocks` can stress test disk drives, measure read/write speeds, and detect any issues with storage devices or filesystems, ensuring data integrity and optimal performance.

### ### 06) Stress Test > Memory-Swap

Stress testing memory and swap space in Linux involves simulating heavy memory loads to assess the system's RAM and swap performance. Tools like ``stress``, ``memtester``, and ``vmstat`` can stress test memory and swap space to identify memory leaks, performance bottlenecks, or stability issues, ensuring efficient memory management.

### ### 07) Stress Test > CPU-Cache-Buffer

Stress testing CPU cache and buffers in Linux involves evaluating the CPU's cache memory and buffer capabilities under high computational loads. Tools like ``stress-ng`` can stress test the CPU cache and buffers to assess performance, identify potential issues with cache memory, and optimize system resources for efficient computation.

### ### 08) Stress Test > Network-Internet

Stress testing the network and internet connection in Linux involves generating heavy network traffic to evaluate bandwidth, latency, and reliability. Tools like ``iperf``, ``ping``, and ``netem`` can stress test network connections, simulate different network conditions, and identify potential network issues to ensure robust network performance and connectivity.

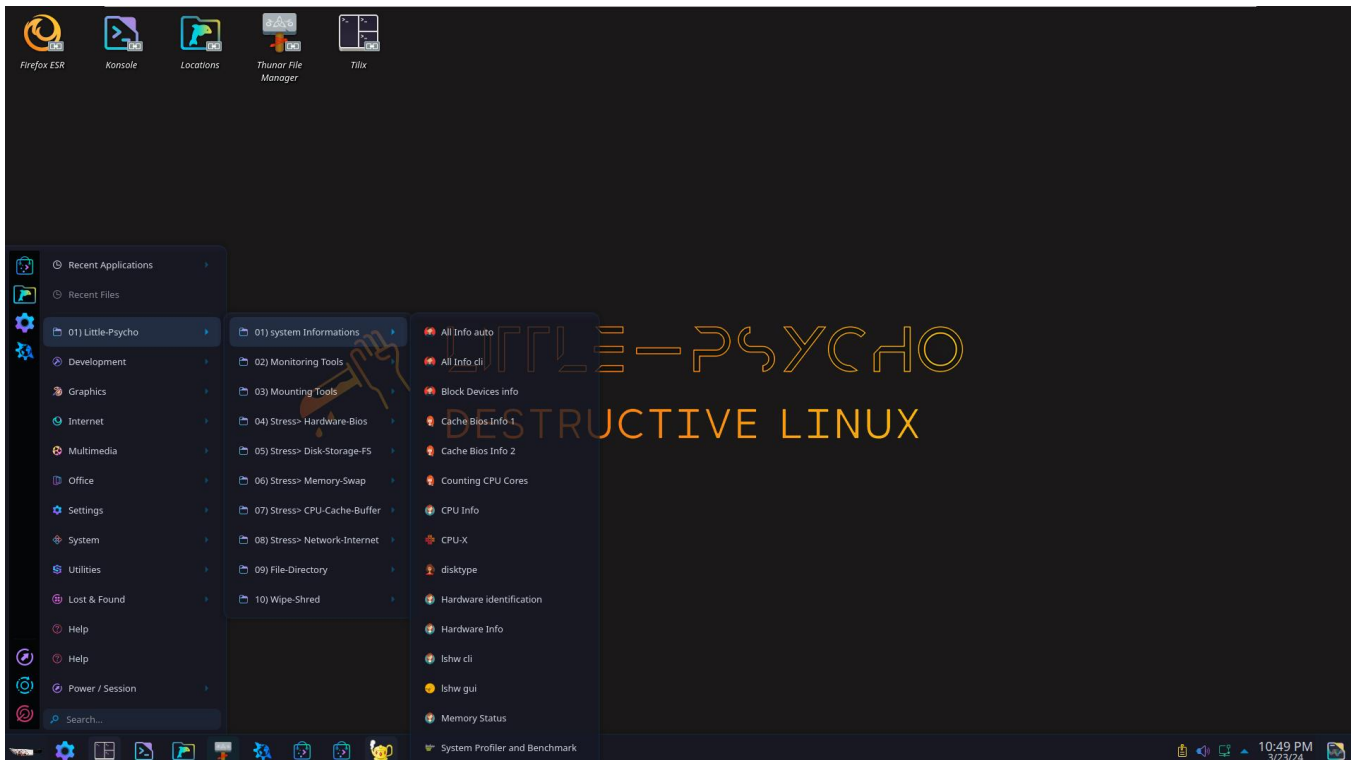
### ### 09) Stress Test > File-Directory

Stress testing file and directory operations in Linux involves evaluating the performance and reliability of file systems when handling a large number of files or directories. Tools like ``stress``, ``iozone``, and ``fsstress`` can stress test file systems, measure I/O performance, and identify potential bottlenecks or issues with file operations, ensuring data integrity and efficient file management.

### ### 10) Wipe-Shred Data

Wiping and shredding data in Linux involves securely erasing files or storage devices to prevent data recovery. The ``shred`` command can overwrite files with random data multiple times to securely delete sensitive information. Tools like ``wipe`` or ``secure-delete`` can also be used to securely erase data on storage devices beyond recovery, ensuring data security and privacy when disposing of devices or sensitive data. Properly wiping and shredding data is essential to protect confidential information and comply with data privacy regulations.

### ### 01) System Information in Linux



System information in Linux encompasses details about the hardware, software, and configuration of a system. This information helps users and administrators understand the system's resources and performance. Commands like `uname`, `lscpu`, `free`, `df`, and `ifconfig` provide insights into the system's kernel **Version**, CPU architecture, memory usage, disk space, network interfaces, and more.



## System information tools

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Cache Bios Info 1
Comment=Getting Cache Information
Icon=/usr/share/Icons/little-psyacho/14.png
Terminal=true
Categories=sysinfo;
Exec=bash -c 'sudo /usr/sbin/biosdecode;Exec bash'
```

The biosdecode command in Linux is used to display information about the BIOS (Basic Input/Output System) of the system. It provides detailed information about the BIOS Version, vendor, release date, address ranges, and more. This command is helpful for users and administrators to gather specific details about the BIOS configuration on the system.

To use the biosdecode command, you can typically run it in the Terminal with root or superuser privileges. Here is an example command to display BIOS information using biosdecode:

```
sudo biosdecode
```

Running this command will output detailed information about the BIOS settings and configuration on the system, providing insights into the firmware that initializes hardware components during the system boot process.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Block Devices info
Comment=Displaying the block devices
Icon=/usr/share/Icons/little-psyacho/3.png
Terminal=true
Categories=sysinfo;
Exec=bash -c 'lsblk -fmat; Exec bash'
```

The lsblk command in Linux is used to list information about block devices, such as hard drives and partitions. When used with the -fmat options, lsblk provides a formatted output with detailed information about block devices in a machine-readable format.

Here is a breakdown of the options used with lsblk -fmat:

-f: This option displays the output in a full listing format, providing comprehensive details about each block device.

-m: This option enables machine-readable output, making it easier to process the information programmatically.

-a: This option shows all devices, including empty ones.

-t: This option displays the output in a tree-like format, showing the relationship between devices and partitions.

When you run `lsblk -fmat` in the [Terminal](#), you will get a detailed and structured output showing information about block devices, their partitions, filesystem [Types](#), mount points, and more. This can be useful for system administrators and users to understand the storage configuration of the system.

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=Counting CPU Cores

**Comment**=Displays the total number of core processors installed

**Icon**=/usr/share/[Icons](#)/little-psycho/14.png

**Terminal**=true

**Categories**=sysinfo;

**Exec**=bash -c 'nproc'; **Exec** bash'

The `nproc` command in Linux is used to display the number of processing units available to the current process. When you run `nproc` in the [Terminal](#), it simply outputs the number of processing units (CPU cores or threads) that are available on the system.

This command is helpful for determining the parallel processing capabilities of the system, especially when configuring applications or scripts to make use of multiple processing units efficiently. By knowing the number of available processing units, users can optimize resource utilization and improve performance for parallel tasks.

[Desktop Entry]

**Name**=CPU-X

**Comment**=Gathers information on CPU, motherboard and more

**Exec**=cpu-x

**Icon**=cpu-x

**Type**=Application

**Categories**=sysinfo;

**Terminal**=false

**Keywords**=CPU;system;core;speed;clock;rate;Intel;AMD;motherboard;

"CPU-X," which is a graphical tool used to gather information about the system's CPU and other hardware components. CPU-X provides detailed information about the CPU architecture, clock speed, cache size, vendor information, and more.

CPU-X offers a user-friendly interface to visualize and understand the hardware specifications of the system. By using CPU-X, users can quickly access and review essential information about their CPU and system components without relying on command-line tools.

Overall, CPU-X serves as a convenient tool for users who prefer a graphical interface to explore and monitor their system's hardware configuration.

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=CPU Info

**Comment**=Information about host CPU

**Icon**=/usr/share/Icons/little-psyacho/4.png

**Terminal**=true

**Categories**=sysinfo;

**Exec**=bash -c 'cpu-info; Exec bash'

Displays information about the CPU architecture, number of CPUs, CPU cores, threads per core, CPU flags, and more.

[Desktop Entry]

**Name**=System Profiler and Benchmark

**Comment**=Displays system information

**Exec**=/usr/bin/hardinfo

**Icon**=/usr/share/hardinfo/pixmaps/logo.png

**Terminal**=false

**Type**=Application

StartupNotify=true

**Categories**=sysinfo;

The `hardinfo` command in Linux is used to launch the HardInfo application, which is a system profiler and benchmark tool. HardInfo provides detailed information about various hardware components of the system, including CPU, memory, storage devices, network interfaces, and more.

When you run the `hardinfo` command in the [Terminal](#), it opens the HardInfo graphical user interface, where you can navigate through different [Categories](#) to view hardware information, sensor data, benchmarks, and system details. HardInfo offers a user-friendly way to gather comprehensive details about the hardware configuration of the system.

Users and administrators can utilize HardInfo to analyze system performance, troubleshoot hardware issues, and identify hardware specifications without the need for complex command-line tools.

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=Hardware identification

**Comment**=Information about host hardware

**Icon**=/usr/share/[Icons](#)/little-psyacho/4.png

**Terminal**=true

**Categories**=sysinfo;

**Exec**=bash -c 'sudo /usr/sbin/hwinfo; Exec bash'

The `hwinfo` command in Linux is a powerful tool used to probe for hardware information on a system. It provides detailed and comprehensive information about various hardware components such as CPU, memory, storage devices, network interfaces, USB controllers, graphics cards, and more.

When you run the `hwinfo` command in the [Terminal](#), it generates a detailed report containing hardware information categorized into different sections. This report can be useful for system administrators, troubleshooters, and users who need to gather specific details about the hardware configuration of a system.

`hwinfo` is a versatile command-line tool that can help users diagnose hardware issues, identify hardware components, and gather in-depth information about the system's hardware setup.

```
[Desktop Entry]
Type=Application
Name=lshw gui
Comment=Provides information on hardware
Comment[ca]=Proveeix informació sobre el maquinari
Comment[es]=Ofrece información sobre el equipamiento instalado
Icon=lshw-gtk
Exec=su-to-root -X -c lshw-gtk
Terminal=false
Categories=sysinfo;
```

This command is used to launch the graphical user interface (GUI) Version of `lshw`, which is a hardware probing tool that provides detailed information about the hardware components of a system.

When you run `lshw-gtk` in the Terminal, it opens the GUI interface of `lshw`, allowing users to navigate through different hardware Categories and view detailed information about the CPU, memory, storage devices, network interfaces, and other hardware components.

The graphical interface provided by `lshw-gtk` offers a user-friendly way to explore and analyze the hardware configuration of a system without having to rely solely on command-line tools. Users can use `lshw-gtk` to troubleshoot hardware issues, identify hardware specifications, and gather comprehensive hardware information.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=lshw cli
Comment=List information about hardware configuration
Icon=/usr/share/Icons/little-psyacho/4.png
Terminal=true
Categories=sysinfo;
Exec=bash -c 'sudo lshw; Exec bash'
```

The `lshw` command in Linux is a powerful tool used to list detailed information about the hardware components of a system. When you run `lshw` in the Terminal, it generates a comprehensive report that includes information about the CPU, memory, storage devices, network interfaces, and other hardware components.

`lshw` provides a structured and detailed overview of the hardware configuration, making it useful for system administrators, troubleshooters, and users who need to gather specific details about the hardware setup of a system. The information presented by `lshw` is categorized into different sections, allowing users to easily navigate through and extract relevant hardware details.

By utilizing the `lshw` command, users can obtain in-depth hardware information, diagnose hardware-related issues, identify hardware components, and ensure compatibility when installing or configuring software on the system.

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=Memory Status

**Comment**=Display amount of free and used memory in the system

**Icon**=/usr/share/**Icons**/little-psyacho/4.png

**Terminal**=true

**Categories**=sysinfo;

**Exec**=bash -c 'free -mht; Exec bash'

The `free -mht` command in Linux is used to display memory-related information in a human-readable and summarized format. Here is a breakdown of the options used with the `free` command:

`-m`: Displays the output in megabytes, which is a common unit of measure for memory.

`-h`: Enables human-readable output, which formats the memory sizes in a more easily understandable format (e.g., using units like KB, MB, GB).

`-t`: Adds a total line at the end of the output, showing the total memory available in each category (total, used, free, shared, buffers, cache).

When you run `free -mht` in the **Terminal**, you will get a summarized view of the memory usage on your system, including the total memory available, used memory, free memory, shared memory, buffers, cache, and the overall memory statistics. This command is helpful for monitoring memory usage and identifying any potential memory-related issues on the system.

**Other**

**Operating System Info:**

To display operating system information, you can use the `lsb_release -a` command to show details about the distribution and **Version** of the Linux operating system.

### **HostName and DNS Info:**

Use the `hostname` command to display the system's **hostname**.

To view DNS information, you can check the `/etc/resolv.conf` file for configured DNS servers.

### **Network Info:**

Use the `ifconfig` command or `ip addr show` command to view network interface information.

The `netstat -rn` command displays routing information.

The `ss -tulnp` command shows listening network services.

### **Who is Online:**

The `who` command displays information about users currently logged in.

The `w` command provides more detailed information about users currently logged in.

### **Last Logged-in Users:**

The `last` command shows a list of last logged-in users.

Running `lastlog` provides information about when users last logged in.

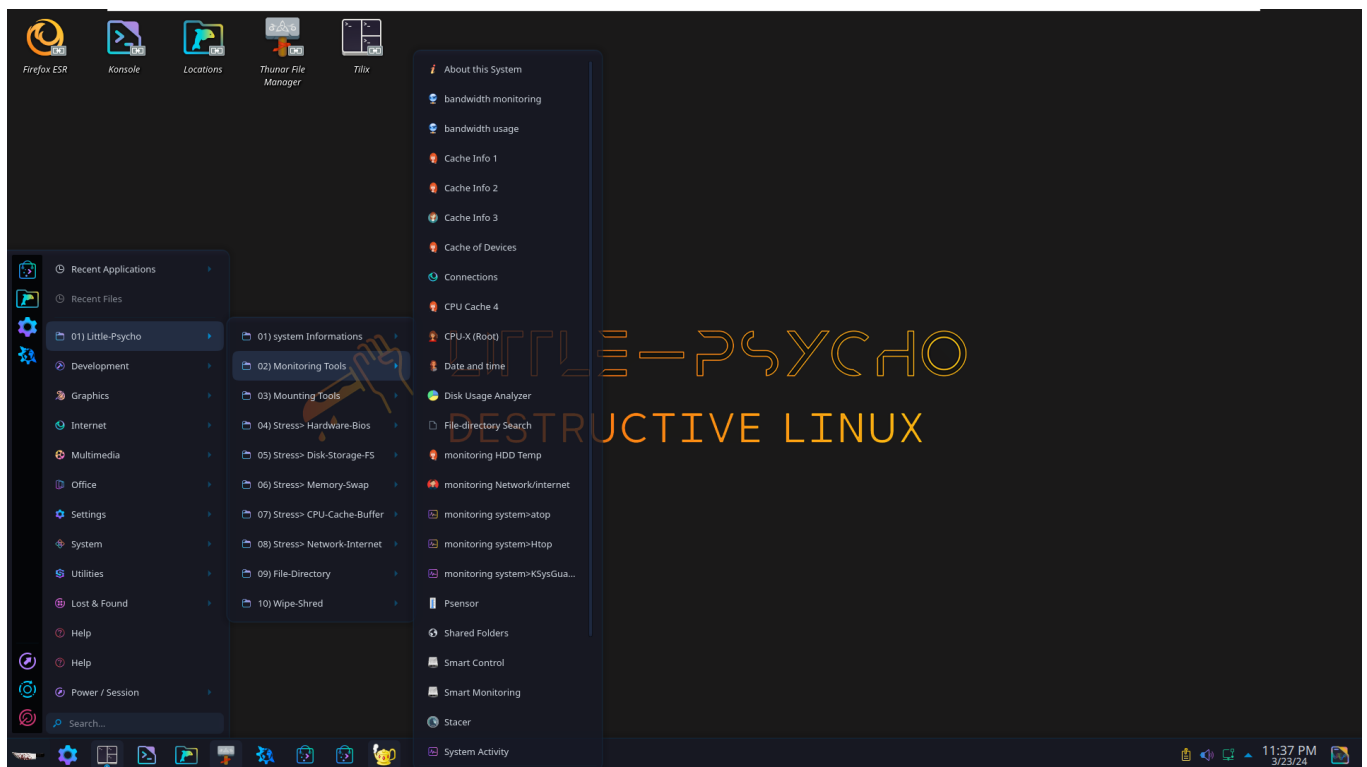
### **Free and Used Memory:**

Use the `free -m` command to display memory usage in megabytes.

To view detailed memory information, you can run `cat /proc/meminfo`.

By utilizing these commands in Linux, you can gather essential system information related to the operating system, **hostname**, DNS, network configuration, online users, logged-in users, and memory usage.

## **Monitoring Tools**



[Desktop Entry]

Type=Application

Version=1.0

Name=monitoring system>atop

Comment=Show System Processes

Icon=htop

Exec=atop

Terminal=true

Categories=monitor

The `atop` command in Linux is a powerful performance monitoring tool that provides detailed real-time information about system resources, processes, CPU usage, memory usage, disk activity, and network activity. It offers an interactive and informative display that allows users to analyze system performance and identify bottlenecks.

When you run the `atop` command in the `Terminal`, it launches the `atop` interactive command-line interface, where you can navigate through different views to monitor various aspects of system performance. `atop` provides a wealth of information presented in a concise and structured manner, making it a valuable tool for system administrators and users who need to troubleshoot performance issues or optimize system resource usage.



By using `atop`, users can track system resource utilization in real-time, monitor processes, identify CPU or memory-intensive tasks, analyze disk and network activity, and gain insights into overall system performance. It is a versatile tool that can help enhance system monitoring and performance tuning efforts.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Cache of Devices
Comment=Displays all caches of Devices.
Icon=/usr/share/Icons/little-psycho/14.png
Terminal=true
Categories=monitor;
Exec=bash -c 'sudo dmesg | grep cache; Exec bash'
```

The command `sudo dmesg | grep cache` in Linux is used to display kernel messages related to cache by filtering the output of the `dmesg` command using `grep`.

When you run this command in the `Terminal` with `sudo` privileges, it will show you kernel messages that contain the keyword "cache". This can be useful for troubleshooting cache-related issues or for gathering information about cache configurations on the system.

By using `dmesg` to access kernel message logs and `grep` to filter for specific keywords like "cache", you can focus on relevant information related to cache in the system's kernel message log.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Cache Info 1
Comment=Getting Cache Information
Icon=/usr/share/Icons/little-psycho/14.png
Terminal=true
Categories=monitor;
Exec=bash -c 'cat /proc/info; Exec bash'
```

When you run `cat /proc/cpuinfo` in the **Terminal**, it displays detailed information about the CPU(s) in the system. The `/proc/cpuinfo` file provides information such as the model **Name**, CPU family, cache size, CPU cores, flags, and other specifics about the processor(s) installed on the system.

By using `cat /proc/cpuinfo`, you can easily access and review essential details about the CPU architecture and configuration of the system. This command is helpful for understanding the hardware capabilities of the CPU(s) and optimizing system performance accordingly.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Cache Info 2
Comment=Getting Cache Information
Icon=/usr/share/Icons/little-psycho/14.png
Terminal=true
Categories=monitor;
Exec=bash -c 'cat /proc/memcache; Exec bash'
```

The `/proc/memcache` file does not exist in Linux systems. If you are looking to retrieve information about memory usage, you can use the `/proc/meminfo` file instead.

You can run `cat /proc/meminfo` in the **Terminal** to display detailed information about the system's memory usage, including information about total memory, free memory, used memory, buffers, cache, and more.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Cache Info 3
Comment=Information about host cahe
Icon=/usr/share/Icons/little-psyacho/4.png
Terminal=true
Categories=monitor;
Exec=bash -c 'cache-info; Exec bash'
```

You can use commands like 'cache-info or tools like lscpu to display information about the CPU, including details about the cache such as cache size, cache levels, and cache associativity.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=CPU Cache 4
Comment=Getting CPU Cache Information
Icon=/usr/share/Icons/little-psyacho/14.png
Terminal=true
Categories=monitor;
Exec=bash -c 'lscpu | grep cache; Exec bash'
```

The command `lscpu | grep cache` in Linux is used to display information specifically related to CPU cache by filtering the output of the `lscpu` command using `grep`. When you run this command in the `Terminal`, it will show you details about the CPU cache, including cache size, cache levels, cache associativity, and other cache-related information available from the `lscpu` command output. By using `lscpu` in conjunction with `grep cache`, you can easily focus on and retrieve information about the CPU cache configuration on the system. This command is useful for quickly identifying cache details without having to sift through the entire `lscpu` output.

```
[Desktop Entry]
Version=1.0
Type=Application
Categories=monitor
Name=Smart Control
Icon=gsmartcontrol
Exec="/usr/bin/gsmartcontrol-root"
```

gsmartcontrol is a graphical user interface (GUI) application that allows users to monitor and manage the SMART (Self-Monitoring, Analysis, and Reporting

Technology) data of their storage devices, such as hard drives (HDDs) and solid-state drives (SSDs).

When you run gsmartcontrol in the [Terminal](#) or through the application launcher, it opens a user friendly interface where you can view detailed information about your storage devices, check the SMART attributes for signs of potential disk issues, run tests to assess the health of the drives, and perform various diagnostic tasks to ensure the reliability and performance of your storage devices.

gsmartcontrol provides a convenient way for users to monitor the health and status of their storage devices, proactively identify potential disk failures, and take appropriate actions to prevent data loss. It is a valuable tool for maintaining the integrity of storage devices and maximizing their lifespan.

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=monitoring HDD Temp

**Comment**=hard drive temperature monitoring utility

**Icon**=/usr/share/**Icons**/little-psycho/14.png

**Terminal**=true

**Categories**=monitor

**Exec**=bash -c '/usr/sbin/hddtemp -h;**Exec** bash'

The `/usr/sbin/hddtemp` command in Linux is used to monitor and display the temperature of hard disk drives (HDDs) in the system. By running this command, you can obtain real-time temperature readings of your hard drives, which can be important for monitoring drive health and preventing overheating issues.

When you **Execute** `/usr/sbin/hddtemp` in the [Terminal](#), it queries the hard drives connected to your system and retrieves temperature data for each drive. This information can help you identify if any drives are running too hot, which may indicate potential hardware problems or inadequate cooling.

Monitoring hard drive temperatures with `/usr/sbin/hddtemp` can be beneficial for maintaining the longevity and performance of your storage devices, as excessive heat can lead to premature drive failure. By keeping an eye on drive temperatures, you can take proactive measures to ensure the stability and reliability of your storage infrastructure.

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=monitoring system>Htop  
**Comment**=Show System Processes  
**Icon**=htop  
**Exec**=htop  
**Terminal**=true  
**Categories**=monitor  
**Keywords**=system;process;task

htop is a powerful interactive process viewer and system monitor for Unix-like systems, including Linux. It provides a user-friendly and customizable text-based interface that allows you to monitor system resources, view running processes, and manage system performance in real-time.

Some key features of htop include:

Color-coded display for easy visualization of resource usage.

Interactive process viewer with the ability to scroll, filter, and navigate processes.

Sorting capabilities to arrange processes based on various criteria such as CPU usage, memory usage, and more.

Support for mouse interactions for ease of use.

Detailed system information including CPU usage, memory usage, swap usage, load average, and uptime.

htop is a popular tool for monitoring system activity, troubleshooting performance issues, and managing processes efficiently within a **Terminal** environment. It provides a more user-friendly and feature-rich alternative to the traditional top command.

[Desktop Entry]

**Name**=Disk Usage Analyzer  
**Comment**=Check folder sizes and available disk space  
**TryExec**=baobab  
**Exec**=baobab %U  
**Icon**=org.gnome.baobab  
**Terminal**=false  
**Type**=Application  
**StartupNotify**=true  
**MimeType**=inode/directory;  
**Categories**=monitor

Baobab is a graphical disk usage analyzer for the GNOME desktop environment in Linux. When you run the Baobab command or launch the application, it provides a visual representation of disk space usage on your system, allowing you to quickly identify which files and directories are taking up the most space.

Key features of Baobab include:

Interactive and intuitive interface for exploring disk usage.

Visual representation of disk space usage using colored rectangles.  
Ability to drill down into directories to identify large files and folders.  
Option to delete unnecessary files directly from the application.  
Baobab is a useful tool for managing disk space, identifying disk usage patterns, and freeing up storage by removing unnecessary files. It helps users understand how disk space is allocated on their system and take action to optimize storage usage.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Psensor
GenericName=Psensor
Comment=Psensor is a graphical temperature monitor for Linux
Keywords=temperature;fan;monitoring;indicator;
Icon=psensor
TryExec=psensor
Exec=psensor
Categories=monitor;hardware;
X-GNOME-Autostart-Delay=30
StartupNotify=true
```

Psensor is a graphical temperature monitor for Linux systems that allows users to monitor the temperature of various hardware components, such as the CPU, GPU, motherboard, and hard drives. When you run Psensor or launch the application, it provides real-time temperature readings and fan speed information in a user-friendly graphical interface.

Key features of Psensor include:

Display of temperature values for different hardware sensors.

Graphical representation of temperature trends over time.

Support for customizing sensor display and alert thresholds.

Ability to monitor fan speeds and other hardware metrics.

Notification alerts for temperature spikes or critical levels.

Psensor is a handy tool for monitoring system temperatures and ensuring that hardware components are operating within safe temperature ranges. By keeping an eye on temperature readings, users can prevent overheating issues, optimize system performance, and prolong the lifespan of their hardware.

```
[Desktop Entry]
Name=Stacer
Exec=stacer
```

**Comment**=Linux System Optimizer and Monitoring

**Icon**=stacer

**Type**=Application

**Terminal**=false

Encoding=UTF-8

**Categories**=monitor

Stacer is a system optimizer and monitoring tool for Linux systems that provides a user-friendly graphical interface for managing various aspects of system performance, system cleaning, and system monitoring. When you run Stacer or launch the application, it offers a range of features to help users optimize and maintain their Linux systems.

Key features of Stacer include:

**System Cleaner:** Allows users to clean up system cache, logs, trash, and other unnecessary files to free up disk space and improve system performance.

**Startup Apps Manager:** Enables users to manage and control which applications launch at system startup.

**System Services Manager:** Provides a way to manage system services and enable/disable services as needed.

**Resource Monitor:** Displays real-time system resource usage, including CPU, memory, and disk usage.

**App Uninstaller:** Allows users to easily uninstall applications from their system.

**Package Manager:** Provides a graphical interface for managing software packages on the system.

Stacer is a versatile tool that can help users optimize their Linux systems, clean up disk space, monitor system resources, and manage system services efficiently through its intuitive and feature-rich interface.

[Desktop Entry]

**Version**=1.0

**Type**=Application

**Categories**=monitor;hardware

**Name**=Smart Monitoring

Generic**Name**=Hard Disk and SSD Health Inspection

Generic**Name**[fr]=Inspecteur de santé de disque dur et de SSD

**Comment**=Monitor and control SMART data on hard disk and solid-state drives

**Icon**=gsmartcontrol

**Exec**=bash -c 'smartctl -h; Exec bash'

smartctl is a command-line utility for monitoring and controlling Self-Monitoring, Analysis, and Reporting Technology (SMART) data on hard disk drives (HDDs) and solid-state drives (SSDs). When you run the smartctl command in the Terminal, you can access detailed information about the health and status of your storage devices.

Key features of smartctl include:

**SMART Attributes:** Displays a list of SMART attributes and their respective values, which provide insights into the health and performance of the drive.

**Self-Tests:** Allows you to run self-tests on the drive to check for potential issues and errors.

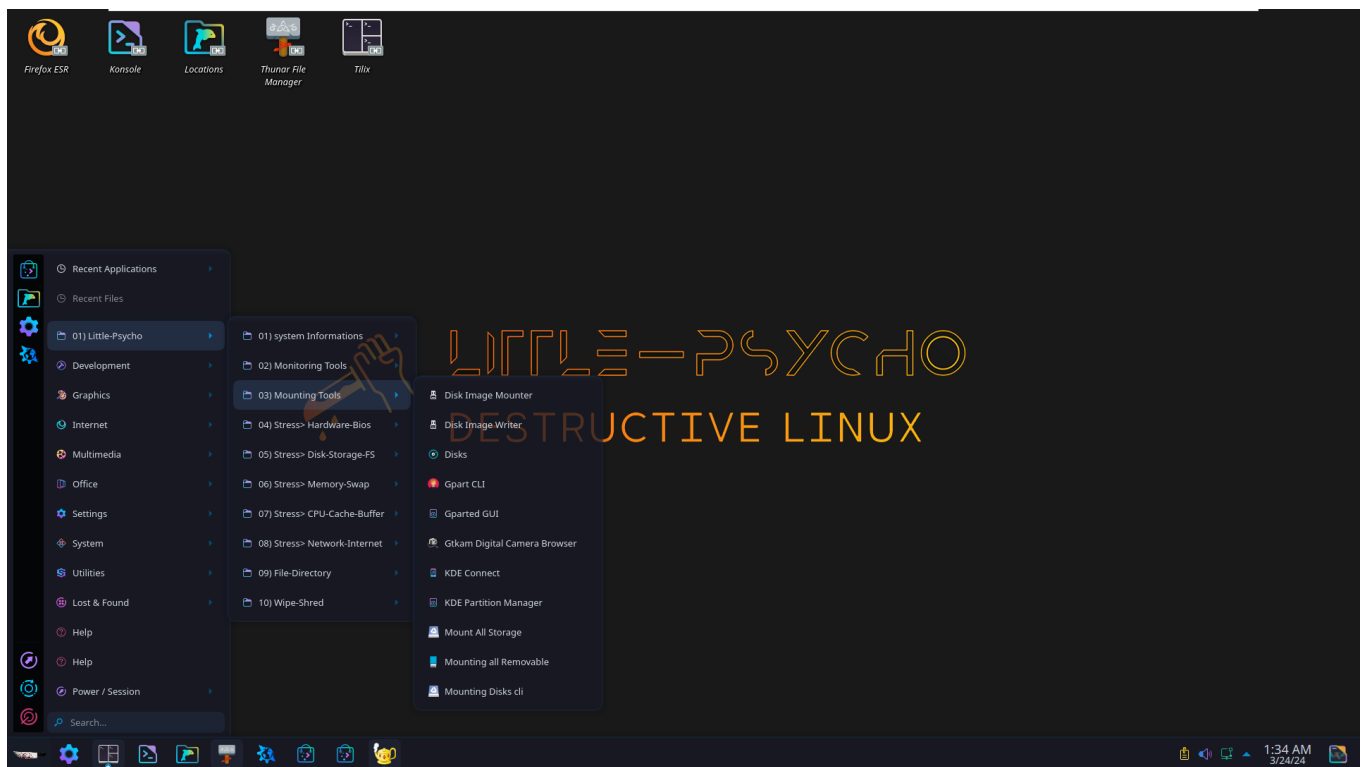
**Error Logs:** Provides access to error logs and detailed information about drive errors and failures.

**Health Assessment:** Assists in assessing the overall health and reliability of the storage device.

By using smartctl, users can proactively monitor the health of their storage devices, identify potential disk failures, and take necessary actions to prevent data loss. It is a valuable tool for system administrators, power users, and anyone looking to ensure the integrity and longevity of their storage drives.



## Mounting tools



### [Desktop Entry]

**Name**=Disk Image Mounter

**Comment**=Mount Disk Images

**Exec**=gnome-disk-image-mounter %U

**Categories**=unmounting

**Icon**=drive-removable-media

**MimeType**=application/x-cd-image;application/x-raw-disk-image;

**Terminal**=false

**StartupNotify**=false

**Type**=Application

**X-Purism-FormFactor**=Workstation;Mobile;

The **gnome-disk-image-mounter** is a utility in the GNOME desktop environment that allows users to mount disk images (.iso, .img, .dmg, etc.) and access their contents as if they were physical disks. By using this tool, users can easily explore and interact with the files and folders stored within disk image files without the need to burn them to physical media.

Key features of **gnome-disk-image-mounter** include:

**Mounting Disk Images:** Enables users to mount disk images with a simple graphical interface.

**Accessing Contents:** Provides access to the contents of the mounted disk image for browsing and file manipulation.

Unmounting Images: Allows users to unmount disk images when they are no longer needed.

Integration with GNOME Desktop: Seamlessly integrates with the GNOME desktop environment for a user friendly experience.

By using `gnome-disk-image-mounter`, users can conveniently work with disk image files, install software from disk images, extract files, and perform various tasks that involve virtual disks. It simplifies the process of working with disk images and enhances the usability of the GNOME desktop environment for managing virtual media.

[Desktop Entry]

**Name**=Disk Image Writer

**Comment**=Write Disk Images to Devices

**Exec**=`gnome-disks --restore-disk-image %U`

**Icon**=`drive-removable-media`

**Terminal**=false

**StartupNotify**=false

**Type**=Application

**X-Purism-FormFactor**=Workstation;Mobile;

**Categories**=unmounting

`gnome-disks` is a graphical utility in the GNOME desktop environment that provides a user friendly interface for managing storage devices, partitions, and disk images on Linux systems. When you run `gnome-disks` or launch the application, it allows you to perform various disk management tasks easily.

Key features of `gnome-disks` include:

**Drive Information:** Displays detailed information about storage devices, including model, capacity, partitions, and SMART status.

**Partition Management:** Enables users to create, delete, resize, format, and label partitions on storage devices.

**Disk Imaging:** Allows users to create disk images from partitions or restore disk images to partitions.

**SMART Monitoring:** Provides access to Self-Monitoring, Analysis, and Reporting Technology (SMART) data for monitoring drive health.

**Mounting and Unmounting:** Allows users to mount and unmount partitions and disk images for data access.

`gnome-disks` is a versatile tool for disk management tasks, such as formatting drives, managing partitions, creating disk images, and monitoring drive health. It offers a straightforward and intuitive interface for users to interact with storage devices and perform essential disk-related operations on their Linux systems.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Gpart CLI
Comment=gpart tries to guess which partitions are on a hard disk.
Icon=/usr/share/Icons/little-psycho/8.png
Terminal=true
Categories=unmounting
Exec=bash -c 'gpart -h; Exec bash'
```

The `gpart` command in Linux is used to guess the primary partition table of a hard disk device. It is a tool that can help you identify the partition layout on a disk by analyzing the disk structure and guessing the partition boundaries.

When you run the `gpart` command followed by the device `Name` (e.g., `/dev/sda`), it will analyze the disk and attempt to determine the partitions present on the disk based on the data structures it finds.

Please note that the `gpart` command is a guessing tool and may not always provide accurate or complete information about the disk partitions. It is recommended to use more reliable tools like `fdisk`, `parted`, or `gdisk` for managing and examining disk partitions on Linux systems.

```
[Desktop Entry]
Name=Gparted GUI
Comment=Create, reorganize, and delete partitions
Exec=/usr/sbin/gparted %f
Icon=gparted
Terminal=false
Type=Application
Categories=unmounting
StartupNotify=true
```

GParted (GNOME Partition Editor) is a graphical partition manager for Linux systems that allows users to create, delete, resize, move, and manage disk partitions on their hard drives. It provides a user friendly interface for performing various partitioning tasks without the need for complex command-line operations.

Key features of GParted include:

**Partition Management:** Create, delete, resize, move, copy, and format partitions on hard drives.

**File System Support:** Support for a wide range of file systems, including ext2/3/4, NTFS, FAT, XFS, and more.

**Partition Table Support:** Works with various partition table formats, such as MBR (Master Boot Record) and GPT (GUID Partition Table).

**Live Environment:** Can be used in a live environment without modifying the existing disk partitions.

**Graphical Interface:** Provides an intuitive and visual representation of disk partitions for easier management.

GParted is a powerful tool for disk partitioning and management, suitable for both beginners and advanced users who need to manipulate disk partitions efficiently. It is widely used for tasks such as resizing partitions, creating new partitions, and managing disk space allocation on Linux systems.

[Desktop Entry]

Encoding=UTF-8

**Name**[de]=GTKam Digitalkamera Browser

**Name**=Gtkam Digital Camera Browser

**Comment**=Browse and download images from an attached digital camera

**Exec**=gtkam

**Icon**=gtkam-camera

**Terminal**=false

**Type**=Application

**Categories**=GNOME;GTK;Photography;Graphics;RasterGraphics;Viewer;unmounting

StartupNotify=true

X-GNOME-DocPath=gtkam/gtkam.xml

**gtkam** is a GTK+ application that provides a graphical interface for accessing and managing digital cameras that are connected to a Linux system. When you run **gtkam** or launch the application, it allows you to interact with your digital camera, view photos, transfer images, and perform various operations related to camera management.

Key features of **gtkam** include:

**Camera Detection:** Automatically detects and connects to supported digital cameras.

**File Transfer:** Allows users to transfer photos and videos from the camera to the computer.

**Preview Images:** Provides a preview of images stored on the camera.

**Camera Settings:** Allows users to modify camera settings and configurations.

**Batch Operations:** Supports batch transfer and management of multiple images.

By using `gtkam`, users can easily manage their digital camera contents, transfer photos to their computer, and perform basic operations without the need for complex command-line tools. It provides a convenient and user-friendly interface for interacting with digital cameras on Linux systems.

[Desktop Entry]

**Name**=Mount All Storage

**Comment**=Manage Drives and Media, thunar-volman-settings - controls configuration of thunar's removable media

**Exec**=thunar-volman-settings

**Icon**=/usr/share/Icons/little-psycho/mount.png

**Type**=Application

**Categories**=unmounting

The Thunar Volume Manager (`Thunar volman`) is a component of the Thunar file manager in the Xfce desktop environment that handles the auto-mounting of removable storage devices such as USB drives, external hard drives, and optical discs. It provides a seamless experience for users by automatically mounting and managing removable media when they are plugged into the system.

`Thunar volman settings` refers to the settings or configuration options related to Thunar Volume Manager. By accessing Thunar volman settings, users can customize how removable media are handled, configure auto-mounting preferences, set up notifications for device events, and define actions to be taken when specific devices are connected.

Key features of Thunar Volume Manager settings may include:

Configuring auto-mounting behavior for different **Types** of devices.

Defining actions to be **Executed** when a specific device is connected (e.g., opening a file manager window).

Setting up notifications for device insertion and removal events.

Customizing mount points for removable media.

Managing permissions and access control for mounted devices.

By adjusting `Thunar-volman` settings, users can tailor the auto-mounting and device management behavior to suit their preferences and workflow, enhancing the usability and convenience of handling removable storage devices within the Xfce desktop environment.

[Desktop Entry]

**Type**=Application

**Name**=KDE Partition Manager

**Comment**=Manage disks, partitions, and file systems

**Exec**=partitionmanager

**Icon**=partitionmanager

Partitionmanager is a graphical disk partitioning tool for Linux systems that allows users to create, resize, delete, and manage disk partitions in a user-friendly interface. It provides a visual representation of the disk layout and partitions, making it easier for users to perform various partitioning tasks without the need for complex command-line operations.

Key features of Partitionmanager include:

Partition Creation: Allows users to create new partitions on disks.

Partition Resizing: Enables users to resize existing partitions to adjust their size.

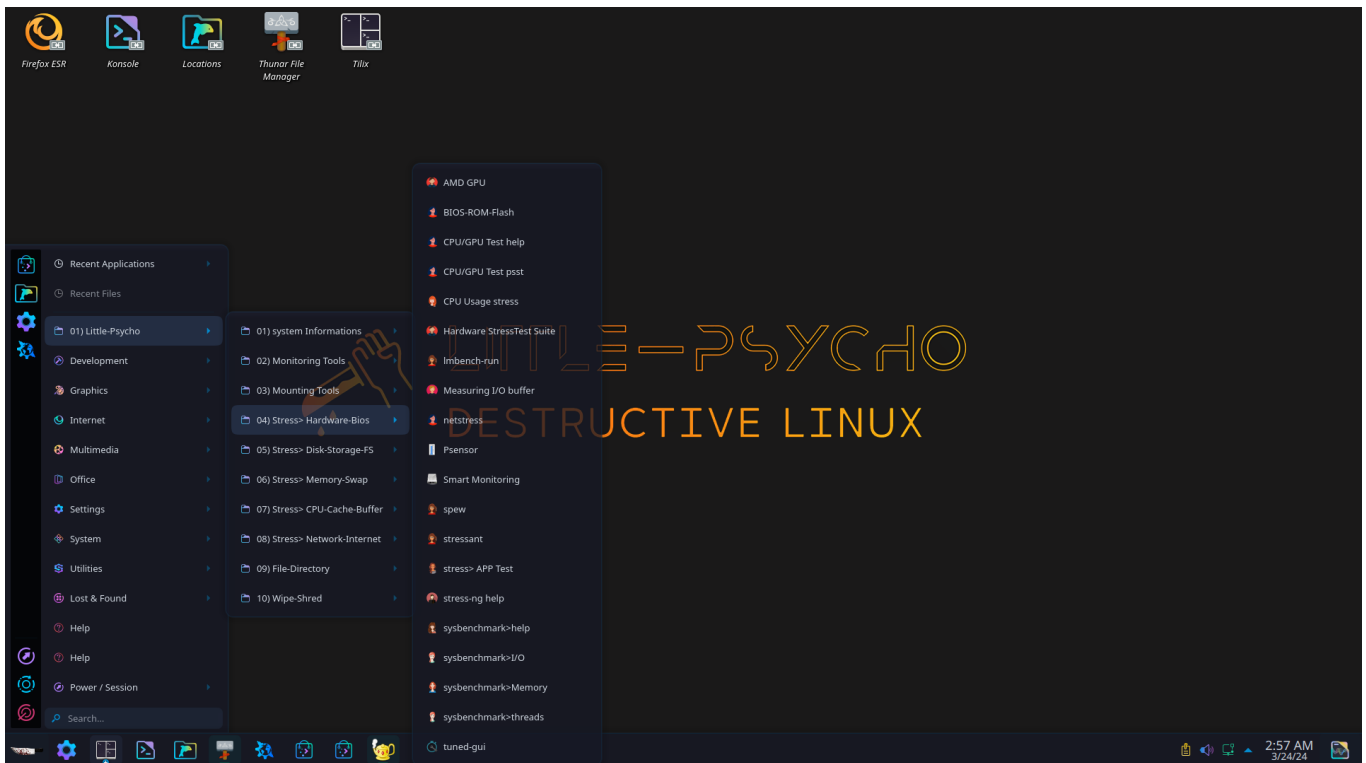
Partition Deletion: Supports deleting unwanted partitions from disks.

File System Support: Works with various file systems, allowing users to format partitions with different file system Types.

Partition Table Management: Provides options for managing partition tables, such as creating new partition tables or converting between different table formats.

Partitionmanager is a versatile tool for disk partitioning and management, suitable for users who prefer a graphical interface for handling disk partitions on their Linux systems. It simplifies the process of managing disk space, organizing data, and configuring storage layouts in a visual and intuitive manner.

## Stress Testing on Hardware and bios



[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=CPU Usage stress

**Comment**=utility which manages CPU usage and system load

**Icon**=/usr/share/Icons/little-psycho/14.png

**Terminal**=true

**Categories**=hardware

**Exec**=bash -c '/usr/bin/cputool -h; Exec bash'

**cputool** is a command-line utility or tool that is designed to manage CPU usage and system load on a Linux system. It provides functionalities to monitor CPU performance, control CPU usage, and potentially optimize system resources related to CPU activity.

While the specific features and capabilities of **cputool** may vary depending on the implementation or **Version** of the tool, common functionalities that such a tool may offer include:

**CPU Monitoring**: Displaying real-time CPU usage statistics, such as usage percentage, load averages, and core utilization.

**CPU Control**: Allowing users to adjust CPU performance settings, set CPU affinity for processes, or limit CPU usage for specific tasks.

**System Load Management**: Providing insights into system load metrics and offering tools to optimize system performance under high load conditions.

Resource Allocation: Facilitating the allocation of CPU resources to different processes or tasks based on user-defined criteria.

Users typically use `cputool` to monitor and manage CPU-related aspects of their system, optimize performance, troubleshoot high CPU usage issues, and ensure efficient utilization of computing resources. It can be a valuable tool for system administrators, power users, and anyone looking to fine-tune CPU performance on their Linux machine.

Display CPU usage statistics:

```
cputool --stats
```

Monitor CPU temperature:

```
cputool --temperature
```

Limit CPU usage for a specific process:

```
cputool --limit 50 --process <process_Name>
```

Set CPU affinity for a process:

```
cputool --affinity 0,2 --process <process_id>
```

Display CPU load averages:

```
cputool --load
```

Enable CPU performance mode:

```
cputool --performance
```

Display CPU frequency scaling information:

```
cputool --scaling-info
```

Optimize CPU usage for power saving:

```
cputool --powersave
```

Display CPU cache information:



```
cputool --cache
```

Reset CPU utilization statistics:

```
cputool --reset-stats
```

These examples showcase various ways to utilize the cputool command for monitoring CPU performance, managing CPU resources, and optimizing system load on a Linux system. Adjust the command parameters based on the specific features and options provided by your cputool tool.

[Desktop Entry]

Type=Application

Version=1.0

Name=BIOS-ROM-Flash

Comment=Identify, read, write, erase, and verify BIOS-ROM-flash chips

Icon=/usr/share/Icons/little-psycho/9.png

Terminal=true

Categories=hardware;

Exec=bash -c '/usr/sbin/flashrom -h; Exec bash'

flashrom is a command-line utility used for identifying, reading, writing, erasing, and verifying BIOS-ROM-flash chips on Linux systems. It is a powerful tool that can interact with flash memory chips on various devices such as motherboards, network cards, and other hardware components that use flash memory for firmware storage. Here are some examples of commands that can be used with flashrom:  
Identify flash chip(s) on the system:

```
flashrom -p <programmer> --probe
```

Read the content of a flash chip:

```
flashrom -p <programmer> -r backup.rom
```

Write a firmware image to a flash chip:

```
flashrom -p <programmer> -w new_firmware.rom
```

Erase a flash chip before writing:

```
flashrom -p <programmer> -E
```

Verify the contents of a flash chip against a file:

```
flashrom -p <programmer> -v new_firmware.rom
```

Perform a full chip erase:

```
flashrom -p <programmer> -E --chip
```

Force the write operation even if the flash chip is not detected as empty:

```
flashrom -p <programmer> -w new_firmware.rom -f
```

List all available programmers:

```
flashrom --programmer
```

Dump the SPD data (Serial Presence Detect) from a memory module:

```
flashrom -p <programmer> --spd
```

Update the firmware using a specific layout file:

```
flashrom -p <programmer> -w firmware.rom -l layout.txt
```

These commands demonstrate various operations that can be performed using flashrom to manage and manipulate flash memory chips on supported hardware devices. Make sure to replace <programmer> with the appropriate programmer option based on your hardware configuration.

[Desktop Entry]

Type=Application

Version=1.0

Name=Measuring I/O buffer

Comment=measuring the time it takes to read an input buffer and write an output buffer

Icon=/usr/share/Icons/little-psycho/8.png

Terminal=true

Categories=hardware;

Exec=bash -c 'cpipe -h; Exec bash'

To use cpipe command in Linux for stress testing, you can simulate high data transfer rates between processes or commands to put a load on your system and test its performance under heavy data transfer conditions. Here's a simple example of how you can use cpipe for stress testing:

Install cpipe if it's not already available on your system. You can typically install it using your package manager (e.g., apt, yum, dnf).

Use cpipe to generate a constant data stream and measure the throughput. For stress testing purposes, you can create a data stream and send it to /dev/null to discard the output. Here's an example command:

```
cpipe -s 1G -n 100 < /dev/zero > /dev/null
```

In this command:

-s 1G sets the buffer size to 1GB. You can adjust this size based on your stress testing requirements.

-n 100 specifies the number of times the buffer should be filled and transferred. You can increase this number to stress test for a longer duration.

< /dev/zero reads from /dev/zero, which generates an infinite stream of null bytes.

> /dev/null writes the data stream to /dev/null, effectively discarding the output.

Monitor the throughput and system performance metrics (e.g., CPU usage, memory usage) during the stress test to evaluate the system's behavior under heavy data transfer load.

You can also combine cpipe with other commands or processes in a pipeline to simulate more complex stress testing scenarios.

Remember to adjust the buffer size, number of iterations, and other parameters based on your specific stress testing requirements and system capabilities. Additionally, be cautious when running stress tests as they can put a significant load on your system.

Here are a few more examples of how you can use `cpipe` command in Linux for stress testing:

### Increasing Buffer Size:

Use a larger buffer size to simulate higher data transfer rates:

```
cpipe -s 1G -n 100 </dev/zero > /dev/null
```

### Adjusting Transfer Speed:

Limit the data transfer speed to stress test slower data transfer rates:

```
cpipe -vr -s 10M -r 100 </dev/zero > /dev/null
```

### Combining with Commands:

Combine `cpipe` with other commands in a pipeline for more complex stress testing scenarios:

```
cat large_file | cpipe -vt -s 100M | gzip > compressed_file.gz
```

### Continuous Data Transfer:

Continuously transfer data to stress test system performance over an extended period:

```
while true; do cpipe -s 1G -n 1 </dev/zero > /dev/null; done
```

### Random Data Generation:

Generate random data instead of null bytes for stress testing:

```
dd if=/dev/urandom bs=1M count=100 | cpipe -s 100M > /dev/null
```

### Calculating Throughput:

Measure and display the throughput during the stress test:

```
cpipe -s 100M -r 1 < large_file | pv > /dev/null
```

```
[Desktop Entry]
Type=Application
Version=1.0
Name=lmbench-run
Comment=Utilities to benchmark systems
Icon=/usr/share/Icons/little-psyacho/16.png
Terminal=true
Categories=hardware;
Exec=bash -c 'sudo lmbench-run; Exec bash'
```

lmbench is a set of utilities designed to benchmark systems by measuring various low-level performance metrics. These utilities provide insights into the performance characteristics of a system's hardware and software components. By running lmbench benchmarks, you can assess the system's capabilities in areas such as memory access speeds, file I/O performance, context switching times, and more.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=netstress
Comment=stress and benchmark network activity of a given ethernet device or path using simulated (random) real world
Icon=/usr/share/Icons/little-psyacho/9.png
Terminal=true
Categories=hardware
Exec=bash -c '/usr/bin/netstress; Exec bash'
```

netstress that is designed to stress and benchmark network activity on a specific Ethernet device or path using simulated real-world traffic patterns.

NetStress is a benchmarking tool used to measure network performance for both wired and wireless connections. It facilitates bulk data transfer using layer 3 protocols such as TCP and UDP. The tool assesses network performance by measuring throughput, which is the amount of data transferred per unit of time (typically expressed in bits or bytes per second). To utilize NetStress for benchmarking network performance, you typically follow these steps:

**Setup:** Ensure that you have NetStress installed on your system. You may need to download and install the tool from a reliable source.

**Configuration:** Configure NetStress to specify the network interface or path you want to benchmark, the **Type** of protocol (TCP or UDP) to use for data transfer, and any additional settings such as packet size, duration of the test, and target IP address.

**Run Benchmark:** Start the benchmark test using NetStress to initiate bulk data transfer over the specified network connection. The tool will measure the throughput achieved during the data transfer.

**Analyze Results:** Once the benchmark test is complete, analyze the results provided by NetStress to understand the network performance in terms of throughput. You can use this information to evaluate the speed and efficiency of the network connection.

Here is a basic example of how you can use NetStress to benchmark network performance using TCP:

```
netstress -t tcp -s 10.0.0.1 -p 5001 -l 1000 -d 60
```

In this example:

- t tcp specifies the TCP protocol for data transfer.
- s 10.0.0.1 sets the target IP address for the test.
- p 5001 defines the port number to use for the test.
- l 1000 sets the packet size to 1000 bytes.
- d 60 specifies the duration of the test in seconds.

By running NetStress with appropriate parameters, you can evaluate the network performance of the specified connection in terms of throughput using TCP or UDP protocols.

Here are a few more examples of how you can use NetStress for benchmarking network performance using TCP and UDP protocols:

#### **Benchmarking with TCP Protocol:**

Measure network throughput using TCP protocol with a packet size of 1500 bytes and a test duration of 120 seconds:

```
netstress -t tcp -s 192.168.1.100 -p 5001 -l 1500 -d 120
```

#### **Benchmarking with UDP Protocol:**

Conduct a network performance test using UDP protocol with a packet size of 1024 bytes and a test duration of 60 seconds:

```
netstress -t udp -s 10.0.0.2 -p 6000 -l 1024 -d 60
```

#### **Testing Wireless Network:**

Evaluate the performance of a wireless network connection by benchmarking UDP throughput with a packet size of 512 bytes and a test duration of 90 seconds:

```
netstress -t udp -s 192.168.0.1 -p 7000 -l 512 -d 90
```

### Customizing Test Parameters:

Customize the test parameters to simulate high network traffic using TCP protocol with a packet size of 2048 bytes and a test duration of 180 seconds:

```
netstress -t tcp -s 10.10.10.10 -p 8000 -l 2048 -d 180
```

### Comparing TCP and UDP Performance:

Run simultaneous tests to compare TCP and UDP throughput on the same network connection:

```
netstress -t tcp -s 192.168.1.1 -p 9000 -l 1000 -d 120 &  
netstress -t udp -s 192.168.1.1 -p 9000 -l 1000 -d 120
```

[Desktop Entry]

Type=Application

Version=1.0

Name=CPU/GPU Test help

Comment=Power Stress and Shaping Tool (PSST) CPU and GPU

Icon=/usr/share/Icons/little-psyacho/9.png

Terminal=true

Categories=hardware

Exec=bash -c 'sudo /usr/bin/psst; Exec bash'

PSST is a userspace controlled power virus for cpu and other soc-sub components such as gpu & memory. Presently only cpu is supported. The intent is to subject the SoC at different run-time varying utilization levels for analysis. This is done by controlled duty-cycling of utilization to specific contour. A simplest contour could be fixed low utilization. This allows simple usage such as logging of system parameters at fixed low overhead even at small polling intervals (ms). More complex usages, such as study of governors, workloads e.t.c., are possible by applying different power shape contours.

PSST (Power Stress and Shaping Tool) designed for stress testing and shaping the power consumption of CPUs and GPUs.

PSST is a tool that allows users to simulate different power consumption scenarios on CPUs and GPUs to evaluate their performance under varying power loads. By stressing the hardware components and shaping the power consumption patterns, users can assess the stability, efficiency, and thermal characteristics of the devices.

While I don't have specific details about PSST, the tool likely provides functionalities to:

**Stress Testing:** Generate workloads that push the CPU and GPU to their limits to assess performance under high power consumption scenarios.

**Power Shaping:** Control and shape the power consumption patterns to simulate real-world usage scenarios and analyze how the devices respond to different power levels.

**Thermal Profiling:** Monitor the thermal behavior of the CPU and GPU under varying power loads to understand how heat dissipation affects performance.

If you have PSST installed and want to use it for stress testing and shaping the power consumption of CPUs and GPUs, you may need to refer to the tool's documentation or guides for instructions on how to configure and run tests effectively.

For specific details on how to utilize PSST for CPU and GPU power stress testing and shaping, consider exploring the tool's official documentation or seeking guidance from experts familiar with power consumption testing tools in hardware evaluation and optimization.

## USAGE

psst --help

psst [options <value>]

Supported options are:

- C|--cpumask <CPUMASK> hex bit mask of cpu# to be selected.  
(e.g., a1 selects cpu 0,5,7. default: every online cpu. Max:400 [1024])
- p|--poll-period <pollperiod> (ms) for logging (default: 500 ms)
- d|--duration <duration> (ms) to run the tool (default: 3600000 i.e., 1hr)
- l|--log-file </path/to/log-file> (default: /var/log/psst.csv)
- v|--verbose enables verbose mode (default: disabled when args

specified)

- V|--Version prints **Version** when specified
- T|--track-max-cpu track the cpu# which had max freq during each polling
- h|--help prints usage when specified
- s|--shape-func <shape-func,arg> (default: single-step,0.1)

Supported power shape functions & args are:

- <single-step,v> where v is load step height.
- <sinosoid,w,a> where w is wavelength [seconds] and a is the max amplitude (load %)
- <stair-case,v,u> where v is load step height, u is step length (sec)
- <single-pulse,v,u> where v is load step height, u is step length (sec)
- <linear-ramp,m> where m is the slope (load/sec)
- <saw-tooth,m,a> slope m (load/sec);reversed after max a% or min(0.1)%

example 1: use psst just for logging system power/thermal parameters with minimum overhead

```
$ sudo ./psst #implied default args: -s single-step,0.1 -p 500 -v
```



example 2: linear ramp CPU power with slope 3 (i.e., 3% usage increase every sec) applied for cpu0, cpu1 & cpu3.

poll and report every 700mS. output on **Terminal**. run for 33 sec  
\$ sudo ./psst -s linear-ramp,3 -C b -p 700 -d 33000 -v

```
[Desktop Entry]
Type=Application
Version=1.0
Name=stress-ng help
Comment=A tool to load and stress a computer system
Icon=/usr/share/Icons/little-psycho/2.png
Terminal=true
Categories=hardware
Exec=bash -c '/usr/bin/stress-ng -h; Exec bash'
```

stress-ng is a tool that is used to impose a configurable amount of CPU, memory, I/O, and other **Types** of stress on your system. It is a versatile stress testing tool that can simulate various **Types** of workloads to assess system stability, performance, and behavior under heavy load conditions.

Here are 10 examples of using stress-ng with different stress options:

#### **CPU Stress:**

Stress all CPUs for 60 seconds:

```
stress-ng --cpu 0 --timeout 60s
```

#### **Memory Stress:**

Stress memory with 4 workers for 120 seconds:

```
stress-ng --vm 4 --timeout 120s
```

#### **I/O Stress:**

Stress I/O with 8 workers for 90 seconds:

```
stress-ng --io 8 --timeout 90s
```

#### **CPU and Memory Stress:**

Stress CPU and memory simultaneously for 2 minutes:

```
stress-ng --cpu 2 --vm 1 --timeout 2m
```

#### **Timeout and Metrics:**

Stress CPU for 30 seconds and display stress metrics:

```
stress-ng --cpu 1 --timeout 30s --metrics
```

### Stress CPU, Memory, and I/O:

Stress CPU, memory, and I/O with 4 workers each for 3 minutes:

```
stress-ng --cpu 4 --vm 4 --io 4 --timeout 3m
```

### Matrix Stress:

Stress the system with a matrix workload for 1 minute:

```
stress-ng --matrix 1 --timeout 1m
```

### CPU Load Average Stress:

Stress the system to maintain a load average of 4 for 5 minutes:

```
stress-ng --cpu-load 4 --timeout 5m
```

### Timeout and Log File:

Stress CPU for 2 minutes and log the output to a file:

```
stress-ng --cpu 1 --timeout 2m --log-file stress.log
```

### Custom Stress Profile:

Create a custom stress profile with specific stress options:

```
stress-ng --cpu 2 --vm 1 --io 1 --hdd 1 --fork 4 --timeout 180s
```

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=stressant

**Comment**=testing (CPU, RAM, disk,network) by putting them under heavy load and try to detect failures.

**Icon**=/usr/share/Icons/little-psyacho/16.png

**Terminal**=true

**Categories**=hardware;network;cpu

**Exec**=bash -c ‘/usr/bin/stressant -h; Exec bash’

## Stressant - stress testing tool

**Stressant** is a simple yet complete stress-testing tool that forces a computer to perform a series of test using well-known Linux software in order to detect possible design or construction failures.

Stressant builds on top of existing software and tries to cover most components of you system (currently disk, CPU and processor). It is part of the **Gnml Live Linux** project and also packaged for Little-psycho.

### Features

- 💧 disk testing (with *smartctl(8)* and *fio()*)
- 💧 CPU testing (with *stress-ng(1)*)
- 💧 network testing (with *iperf3(1)*)
- 💧 designed to be ran automatically
- 💧 supports sending reports by email or saving to disk
- 💧 basic benchmarks (with *hdparm(8)* and *dd(1)*)

### stressant manual page

#### Synopsis

```
stressant [-h] [-Version] [-log [PATH]] [-email EMAIL] [-smtpserver HOST] [-smtpuser USERNAME] [-smtppass PASSWORD] [-no-information] [-no-disk] [-smart] [-diskDevice PATH] [-jobFile PATH] [-overwrite] [-writeSize SIZE] [-directory PATH] [-diskRuntime DISKRUNTIME] [-no-cpu] [-cpuBurnTime TIME] [-no-network] [-iperfServer HOST] [-iperfTime TIME]
```

# Description

Stressant is a simple yet complete stress-testing tool that forces a computer to perform a series of test using well-known Linux software in order to detect possible design or construction failures.

# Options

<code>-h, --help</code>	show this help message and exit
<code>--Version</code>	show program's <b>Version</b> number and exit
<code>--logfile &lt;PATH&gt;</code>	write reports to the given logfile (default: stressant- <b>\$HOSTNAME</b> .log)
<code>--email EMAIL</code>	send report by email to given address
<code>--smtpserver HOST</code>	SMTP server to use, use a colon to specify the port number if non-default (25). will attempt to use STARTTLS to secure the connection and fail if unsupported (default: deliver using the <code>-mta</code> command)
<code>--smtpuser USERNAME</code>	user <b>Name</b> for the SMTP server (default: no user)
<code>--smtppass PASSWORD</code>	password for the SMTP server (default: prompted, if <code>--smtpuser</code> is specified)
<code>--no-information, --information</code>	gather basic information (default: True)
<code>--no-disk, --disk</code>	run disk tests (default: True)
<code>--smart, --no-smart</code>	run SMART tests (default: False)
<code>--diskDevice PATH</code>	device to benchmark (default: <code>/dev/sda</code> )

<code>--jobFile PATH</code>	path to the fio job file to use (default: <code>/usr/share/doc/fio/examples/basic-verify.fio</code> )
<code>--overwrite</code>	actually destroy the given device (default: <code>False</code> )
<code>--writeSize SIZE</code>	size to write to disk, bytes or percentage (default: <code>100M</code> )
<code>--directory PATH</code>	directory to perform file tests in, created if missing (default: <code>None</code> )
<code>--diskRuntime DISKRUNTIME</code>	upper limit for disk benchmark (default: <code>1m</code> )
<code>--no-cpu, --cpu</code>	run CPU tests (default: <code>True</code> )
<code>--cpuBurnTime TIME</code>	timeout for CPU burn-in (default: <code>1m</code> )
<code>--no-network, --network</code>	run network tests (default: <code>True</code> )
<code>--iperfServer HOST</code>	iperf server to use (default: <code>iperf.he.net</code> )
<code>--iperfTime TIME</code>	timeout for iperf test, in seconds (default: <code>60</code> )

## Examples

### Small run load with defaults:

```
stressant
```

### Very fast test, useful to run if you are worried about crashing the machine:

```
stressant --writeSize 1M --cpuBurnTime 1s --iperfTime 1
```

### Extensive test with complete disk wipe and SMART long test:

```
sudo stressant --writeSize 100% --overwrite --cpuBurnTime 24h --smart
# wait for the prescribed time, then show the SMART test results:
sudo smartctl -l selftest
```

### Network test only on dedicated server:

```
stressant --no-information --no-cpu --no-disk --iperfServer iperf.example.net
```

### Send test results by email:

```
stressant --email person@example.com
```

If the mail server refuses mail from your location, you can use another relay (password will be prompted):

```
stressant --email person@example.com --smtpserver submission.example.net --smtpuser person  
--smtppassword
```

The `stressant-meta` package also depends on other tools that are not directly called by the automated script above, but are documented below. The meta-package also suggests many more useful tools.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=stress> APP Test
Comment=stress test application for simulating high load situations
Icon=/usr/share/Icons/little-psycho/19.png
Terminal=true
Categories=hardware
Exec=bash -c 'stressapptest -h; Exec bash'
```

it is a tool used to test and stress test systems by consuming a large amount of memory and CPU resources. This tool is commonly used to identify system stability issues, memory errors, and CPU performance under heavy loads.

Here are some examples of using stressapptest for stress testing:

### Start Stress Testing:

Begin stress testing with default settings:

```
stressapptest
```

### Specify Duration:

Run stress testing for a specific duration (e.g., 60 seconds):

```
stressapptest -s 60
```

### Set Memory Size:

Specify the amount of memory to use for stress testing (e.g., 1GB):

```
stressapptest -M 1G
```

### Set Number of Threads:

Define the number of stress test threads to use (e.g., 4 threads):

```
stressapptest -W 4
```

### Specify CPU Load:

Introduce CPU load during stress testing (e.g., 50% load):

```
stressapptest -C 50
```

### Log Output to File:

Save stress test output to a log file:

```
stressapptest > stress_test.log
```

### Set Memory Allocation Mode:

Choose memory allocation mode (e.g., 0 for malloc, 1 for mmap):

```
stressapptest -m 1
```

### Display Help:

View help information and command options:

```
stressapptest -h
```

### Set Error Threshold:

Define the error threshold for stress testing:

```
stressapptest -e 100
```

### Customize Stress Testing:

Combine multiple options to customize stress testing parameters:

```
stressapptest -s 120 -M 2G -W 8 -C 75
```

```
[Desktop Entry]
Type=Application
Version=1.0
Name=sysbenchmark>help
Comment=multi-threaded benchmark tool
Icon=/usr/share/Icons/little-psycho/15.png
Terminal=true
Categories=hardware
Exec=bash -c 'sysbench --help; Exec bash'
```

Sysbench is a popular multi-threaded benchmark tool that is used to evaluate the performance of CPU, memory, file I/O, and database systems under various workload scenarios. It is commonly used to stress test and benchmark different aspects of a system to assess its capabilities and limitations.

Here are some examples of using sysbench for benchmarking and stress testing:



### **CPU Benchmark:**

Run a CPU benchmark test with 4 threads for 10 seconds:

```
sysbench cpu --threads=4 --time=10 run
```

### **Memory Benchmark:**

Perform a memory read/write benchmark with total memory size of 1GB:

```
sysbench memory --memory-total-size=1G run
```

### **File I/O Benchmark:**

Conduct a file I/O benchmark test with 4 threads and a file size of 1GB:

```
sysbench fileio --file-total-size=1G --threads=4 prepare  
sysbench fileio --file-total-size=1G --threads=4 run
```

### **Database Benchmark (OLTP):**

Initialize a database for OLTP benchmark with 1000000 rows:

```
sysbench oltp_read_write --db-driver=mysql --mysql-db=test --mysql-user=root --mysql-  
password=password --table-size=1000000 prepare
```

```
sysbench oltp_read_write --db-driver=mysql --mysql-db=test --mysql-user=root --mysql-  
password=password --table-size=1000000 run
```

### **Threads Benchmark:**

Evaluate system performance with 8 threads running in parallel:

```
sysbench threads --threads=8 run
```

### **CPU Stress Test:**

Stress the CPU by running calculations for 60 seconds:

```
sysbench cpu --cpu-max-prime=20000 --time=60 run
```

### **Memory Stress Test:**

Stress the memory system by performing memory operations for 120 seconds:

```
sysbench memory --memory-oper=write --time=120 run
```

### **Customizing Tests:**

Customize test parameters such as total memory size, number of threads, and duration:

```
sysbench memory --memory-total-size=2G --threads=4 --time=180 run
```

### Database Stress Test:

Stress test a MySQL database with read-only queries for 300 seconds:

```
sysbench oltp_read_only --db-driver=mysql --mysql-db=test --mysql-user=root --mysql-password=password --time=300 run
```

### Cleanup and Prepare:

Clean up and prepare the environment before running a new benchmark test:

```
sysbench cleanup
sysbench prepare
```

```
[Desktop Entry]
Type=Application
Version=1.0
Name=spew
Comment=measure I/O performance of character devices, block devices, and regular files
Icon=/usr/share/Icons/little-psycho/16.png
Terminal=true
Categories=hardware
Exec=bash -c '/usr/bin/spew -h; Exec bash'
```

The Spew tool you provided is indeed a tool for measuring I/O performance and generating I/O load in Unix-like environments. It allows you to write and/or read generated data to or from character devices, block devices, or regular files. Below is a summary of the options and usage of Spew based on the information you provided:

### Synopsis:

```
spew --write|--read|--read-after-write [OPTION]... TRANSFER_SIZE[kKmMgG] FILE
```

- Options:
- `-B, --max-buffer-size=BUFFER_SIZE`: Specify the maximum buffer size for each read/write call.
- `-b, --min-buffer-size=BUFFER_SIZE`: Specify the minimum buffer size for each read/write call.
- `-c, --continue-after-error`: Continue after data integrity errors.
- `-d, --direct`: Use direct I/O (recommended for block device files).
- `-g, --generate-load`: Generate load with specific options.

- `-i, --iterations=COUNT` : Write/read data COUNT times (use 0 to repeat forever).
- `-l, --logfile=LOGFILE` : Send log messages to LOGFILE.
- `-o, --offset=OFFSET` : Seek to OFFSET before starting I/O.
- `-P, --progress` : Show progress during I/O operations.
- `-p, --pattern=PATTERN` : Use a specific data pattern when reading or writing data.
- `-r, --random` : Read/Write buffers to random offsets.
- `-S, --seed=SEED` : Use SEED for random number seed.
- `-s, --sync` : Use synchronous I/O operations.
- `-t, --tui` : Use curses-based **Terminal** user interface.
- `-u, --units=UNITS` : Show transfer rate in specific units.
- `--no-progress` : Do not show progress.
- `--no-rcfiles` : Do not use standard rcfiles.
- `--no-statistics` : Do not output statistics.
- `--no-tui` : Do not use TUI interface.
- `--raw` : Alias for `--read-after-write`.
- `--rcfile=RCFILE` : Read command-line options from RCFILE.
- `--read` : Read data from FILE.
- `--read-after-write` : Read back data after writing to FILE.
- `--statistics` : Output statistics.
- `--usage` : Show brief usage message and exit.
- `-V, --Version` : Output **Version** information and exit.
- `-v, --detailed-statistics` : Output detailed statistics.
- `--write` : Write data to FILE.

Here are some examples of how you can use the Spew tool with different options to measure I/O performance and generate I/O load:

#### Write data to a file:

```
spew --write --progress --max-buffer-size=4096k --pattern=random --iterations=1000 1M testfile.txt
```

This command writes random data with a maximum buffer size of 4MB to the file testfile.txt in 1MB chunks, showing progress and repeating the operation 1000 times.

#### Read data from a file:

```
spew --read --progress --min-buffer-size=1024k --iterations=5 testfile.txt
```

This command reads data from the file testfile.txt with a minimum buffer size of 1MB, showing progress, and performing the operation 5 times.

#### Read back data after writing to a file:

```
spew --read-after-write --progress --direct --sync --pattern=sequential --iterations=10 --logfile=log.txt 512k testfile.txt
```

This command writes sequential data with direct and synchronous I/O to the file testfile.txt, then reads back the data, showing progress, and logging the output to log.txt, repeating the operation 10 times with a buffer size of 512KB.

#### Random write with multiple threads:

```
spew --write --random --threads=4 --block-size=8192k --iterations=1000 /dev/sdb
```

This command performs random write operations with 4 threads using a block size of 8MB to the block device /dev/sdb, repeating the operation 1000 times.

#### Sequential read with specific sync mode:

```
spew --read --sequential --sync=fsync --block-size=4096k --iterations=500 /dev/sda
```

This command reads data sequentially from block device /dev/sda with fsync synchronization, using a block size of 4MB, and repeating the operation 500 times.

#### Measure latency during write operations:

```
spew --write --random --latency --block-size=1024k --iterations=100 /dev/nvme0n1
```

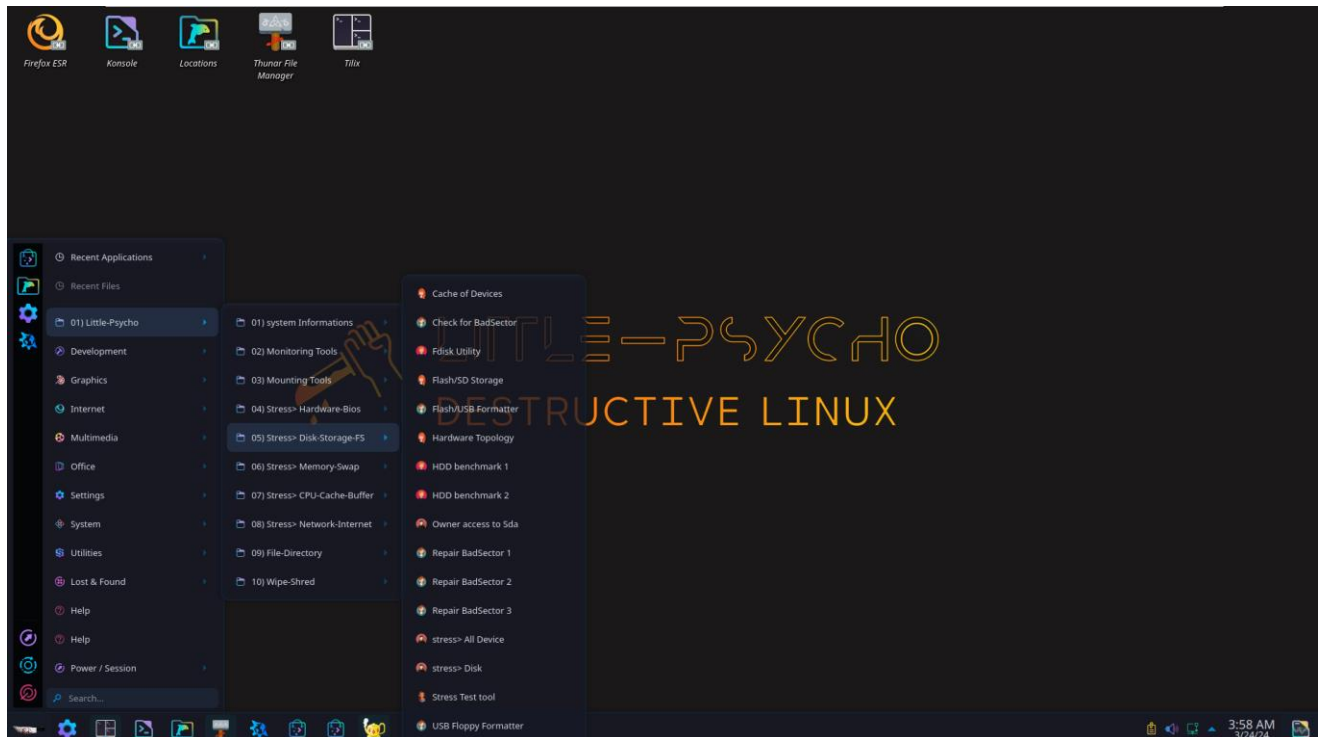
This command performs random write operations to NVMe device /dev/nvme0n1 with a block size of 1MB, measuring latency for each operation, and repeating the operation 100 times.

#### Customize I/O pattern and buffer size:

```
spew --read --pattern=zero --block-size=256k --iterations=1000 /dev/sdc
```

This command reads zero-filled data from block device /dev/sdc with a block size of 256KB and repeats the operation 1000 times.

## Stress testing on Disk/storage/filesystem



[Desktop Entry]

Type=Application

Version=1.0

Name=HDD benchmark 1

Comment=Hard drive benchmark suite

Icon=/usr/share/Icons/little-psycho/8.png

Terminal=true

Categories=disk;

Exec=bash -c '/usr/sbin/bonnie -h; Exec bash'

Bonnie++ is a benchmark suite that is aimed at performing a number of simple tests of hard drive and file system performance. It tests the sequential and random read and write speed of the filesystem.

Here are some examples of how you can use Bonnie++ to benchmark your filesystem:

**Run basic tests:**

```
bonnie++
```

This command runs all default tests on the filesystem.

**Specify the output directory:**

```
bonnie++ -d /path/to/output/directory
```

This command runs tests and saves the output files in the specified directory.

#### Run specific tests:

```
bonnie++ -d /path/to/output/directory -r 1024 -s 4096
```

This command runs only the specified tests with a file size of 1024MB and a file count of 4096.

#### Run in verbose mode:

```
bonnie++ -v
```

This command runs tests in verbose mode, providing detailed information during the benchmarking process.

#### Customize block size:

```
bonnie++ -b 8192
```

This command sets the block size to 8192 bytes for the tests.

#### Run random seek tests:

```
bonnie++ -x 1
```

This command includes random seek tests during the benchmark.

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=Repair BadSector 3

**Comment**=diskscan is intended to find sectors of a storage medium (hard disk, flash drive or pendrive, etc.) which are bad or in the process of going bad.

**Icon**=/usr/share/Icons/little-psyacho/4.png

**Terminal**=true

**Categories**=disk

**Exec**=bash -c 'diskscan -h;Exec bash'

It seems like you are referring to the diskscan command, which is a tool used to scan and display information about disks and storage devices connected to a system. The diskscan command helps you identify and list available disks, partitions, and their properties, such as size, [Type](#), filesystem, and mount points.

Here are some common examples of using the diskscan command:

#### List all disks and partitions:

```
diskscan
```

This command will scan and display a list of all disks and partitions available on the system.

#### Display detailed information about a specific disk:

```
diskscan /dev/sda
```

This command will provide detailed information about the disk `/dev/sda`, including partitions, filesystem **Types**, sizes, and mount points.

#### List disks with specific properties:

```
diskscan -t ext4
```

This command will list disks with filesystem **Type** `ext4`. You can replace `ext4` with any other filesystem **Type**.

#### Display disk information in a specific format:

```
diskscan -f json
```

This command will display disk information in JSON format. You can choose from different output formats such as JSON, XML, or YAML.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Fdisk Utility
Comment=This package contains the classic fdisk, sfdisk and cfdisk partitioning utilities
from the util-linux suite.
Icon=/usr/share/Icons/little-psycho/8.png
Terminal=true
Categories=disk
Exec=bash -c '/usr/sbin/fdisk -h; Exec bash'
```

`fdisk` is a command-line utility used for disk partitioning on Unix-like operating systems. It allows users to create, delete, modify, and manage disk partitions on a storage device. Here are some common examples of using the `fdisk` command:

#### List available storage devices:

```
fdisk -l
```

This command lists all available storage devices and their partitions on the system.

#### Start fdisk for a specific device:

```
fdisk /dev/sda
```

This command starts `fdisk` for the disk `/dev/sda`, allowing you to interactively manage its partitions.

#### Create a new partition:

```
n
```

After selecting the disk and starting `fdisk`, you can create a new partition by typing `n` and following the prompts for specifying the partition size, **Type**, and location.

#### Delete a partition:

```
d
```

To delete a partition, select the partition you want to remove by typing `d` and following the prompts.

### Write changes to disk:

```
w
```

After making changes to the partition table, save the changes by typing `w`. This will write the changes to the disk.

### Print partition table:

```
p
```

You can print the partition table by typing `p` in the `fdisk` interactive mode to view the current partition layout.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Flash/SD Storage
Comment=Identify properties of SD cards and flash based storage.run tests on DEVICE,
pointing to a flash storage medium.
Icon=/usr/share/Icons/little-psycho/14.png
Terminal=true
Categories=disk;
Exec=bash -c 'flashbench -h; Exec bash'
```

It seems like you are referring to `flashbench`, which is a tool used to measure the performance of flash storage devices, such as SSDs (Solid State Drives). `flashbench` is typically used to analyze the behavior of flash memory in terms of read and write speeds, latency, and other performance metrics.

Here is a basic example of how you can use `flashbench`:

Measure flash storage performance:

```
flashbench /dev/sda
```

This command will run `flashbench` on the flash storage device `/dev/sda` and provide performance metrics such as read speed, write speed, and latency.

`flashbench` can help you assess the performance characteristics of your flash storage device under different workloads and conditions. It is a valuable tool for benchmarking and optimizing the performance of SSDs and other flash-based storage solutions.



### Example:

```
$ sudo ./flashbench -O --erasesize=${4 * 1024 * 1024} \  
--blocksize=${256 * 1024} /dev/mmcblk0 --open-au-nr=2
```

```
4MiB      8.79M/s
```

```
2MiB      7.41M/s
```

```
1MiB      6.87M/s
```

```
512KiB    6.39M/s
```

```
256KiB    6.27M/s
```

```
$ sudo ./flashbench -O --erasesize=${4 * 1024 * 1024} \  
--blocksize=${256 * 1024} /dev/mmcblk0 --open-au-nr=3
```

```
4MiB      7.75M/s
```

```
2MiB      5.03M/s
```

```
1MiB      3.24M/s
```

```
512KiB    1.76M/s
```

```
256KiB    912K/s
```

In this case, trying 2 open AUs shows fast accesses for small block sizes, but trying 3 open AUs is much slower, and degrades further at smaller sizes.

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=Hardware Topology

**Comment**=provides a hierarchical view of the machine, NUMA memory nodes, sockets, shared caches, cores and simultaneous multithreading. It also gathers various attributes such as cache and memory information.

**Icon**=/usr/share/**Icons**/little-psycho/14.png

**Terminal**=true

**Categories**=disk;

**Exec**=bash -c 'lstopo; **Exec** bash'

The `lstopo` command is a tool that is part of the `hwloc` (Hardware Locality) software package. `hwloc` is used to provide information about the hardware topology of the system, including details about the CPU, caches, memory, and other hardware components. The `lstopo` command generates a graphical representation of the system's hardware topology, which can be useful for understanding the layout of hardware components and their interconnections.

Here is a basic example of how you can use the `lstopo` command:

Display hardware topology:

`lstopo`

This command will generate a graphical representation of the system's hardware topology, showing the layout of CPUs, caches, memory, and other components.

Using the `lstopo` command can provide valuable insights into the hardware architecture of your system, which can be helpful for tasks such as optimizing resource allocation, understanding NUMA (Non-Uniform Memory Access) effects, and identifying hardware bottlenecks.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=USB Floppy Formatter
Comment=disk formatter for USB floppy drives
Icon=/usr/share/Icons/little-psyacho/4.png
Terminal=true
Categories=disk
Exec=bash -c 'ufiformat -h; Exec bash'
```

The `ufiformat` command is a tool used to format USB floppy disks or USB floppy disk drives on Unix-like operating systems. It allows users to format floppy disks in the UFI (USB Floppy Interface) format, which is commonly used for USB floppy disk drives.

Here is a basic example of how you can use the `ufiformat` command:

Format a USB floppy disk:

```
ufiformat /dev/sdb
```

This command will format the USB floppy disk located at `/dev/sdb` using the UFI format. Make sure to replace `/dev/sdb` with the appropriate device path of your USB floppy disk.

Using the `ufiformat` command can help you prepare USB floppy disks for storing data or bootable images in the UFI format. It is a useful tool for managing and formatting USB floppy disks on Unix-like systems.

### Usage: `ufiformat [OPTION]... [DEVICE]`

Format a floppy disk in a USB floppy disk `DEVICE`.

`-f, --format [SIZE]` specify format capacity `SIZE` in KB

without `-f` option, the format of the current media will be used

`-F, --force` do not perform any safety checks

`-i, --inquire` show device information, instead of performing format

without `DEVICE` argument, list USB floppy disk devices

`-v, --verbose` show detailed output

`-q, --quiet` suppress minor output

`-h, --help` show this message

NOTE: uiformat supports only the following format capacities.

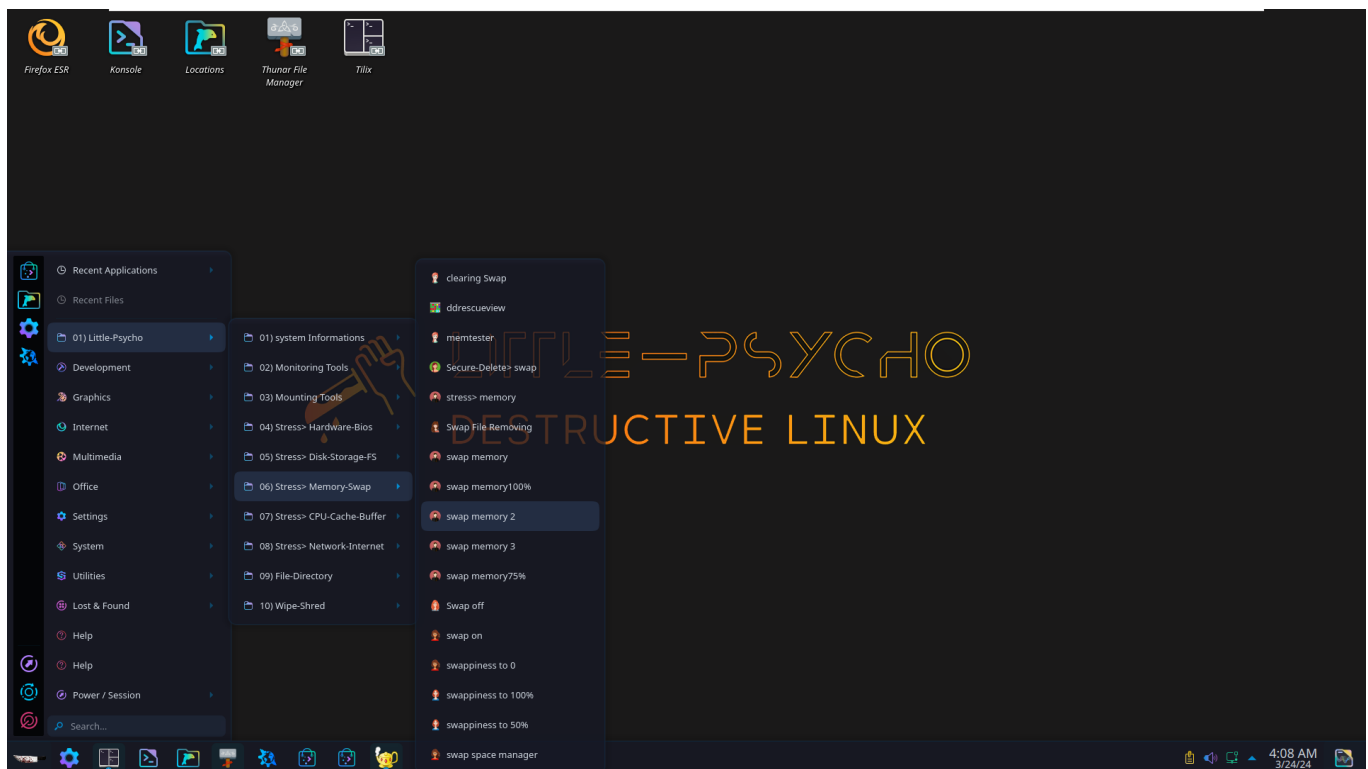
1440/1232/1200 (for 2hd disk)

720/640 (for 2dd disk)

The device should support the capacities also,  
otherwise uiformat shows an error message.

The above format capacities are predefined in the program, but  
each usb floppy device also has a limited set of formats (defined internally)  
that it can format media to. The allowed format capacities are obtained by  
querying the device, but this only returns the total format capacity  
and not CHS (cylinder, heads and sectors), hence a mapping is

## Stress testing on memory/swap



[Desktop Entry]

Type=Application

Version=1.0

Name=swappiness to 0

Comment=Increasing the swappiness value to 0

Icon=/usr/share/Icons/little-psycho/16.png

Terminal=true

Categories=swap

#Exec=bash -c 'sudo sysctl -w vm.swappiness=0; Exec bash'

Exec=bash -c 'sudo sed -i "/^vm.swappiness/cvm.swappiness=0" /etc/sysctl.conf; Exec bash'

Setting `vm.swappiness=0` and `vm.swappiness=100` are two different configurations related to how the Linux kernel manages swap space. Here is an explanation of each configuration:

`vm.swappiness=0`:

Setting `vm.swappiness=0` instructs the Linux kernel to avoid swapping processes out of physical memory as much as possible. This means that the kernel will try to keep as many processes and their data in RAM (physical memory) and only use swap space when absolutely necessary.

A swappiness value of 0 indicates that the kernel should prefer to use available physical memory over swap space for process memory management.

This setting is suitable for systems where you want to minimize swapping and prioritize keeping processes in RAM for better performance, especially on systems with ample physical memory.

`vm.swappiness=100:`

Setting `vm.swappiness=100` instructs the Linux kernel to aggressively swap processes out of physical memory and into swap space. This means that the kernel will prioritize using swap space over physical memory, potentially leading to increased swapping activity.

A swappiness value of 100 indicates that the kernel should make heavy use of swap space, even if there is available physical memory.

This setting is suitable for systems where you want to maximize the use of swap space and free up physical memory, which can be beneficial in certain scenarios where memory pressure is high.

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=clearing Swap

**Comment**=Clearing the swap Memory data

**Icon**=/usr/share/Icons/little-psycho/18.png

**Terminal**=true

**Categories**=swap

**Exec**=bash -c 'sudo swapoff -a; sudo swapon -a; Exec bash'

The commands `sudo swapoff -a` and `sudo swapon -a` are used to deactivate and reactivate swap space on a Linux system, respectively. Here is what each command does:

`sudo swapoff -a :`

The `swapoff` command is used to deactivate all swap partitions on the system.

When you run `sudo swapoff -a`, it disables all swap space, meaning that swap partitions are no longer used for virtual memory.

This command can be useful for scenarios where you want to temporarily disable swap space, perform maintenance tasks, or reconfigure swap settings.

`sudo swapon -a :`

The `swapon` command is used to activate all swap partitions on the system.

When you run `sudo swapon -a`, it reactivates all swap space, making swap partitions available for virtual memory management.

This command is typically used after disabling swap space to re-enable it without the need to manually enable individual swap partitions.

```
[Desktop Entry]
Version=1.0
Type=Application
Name=ddrescueview
Icon=ddrescueview
Comment=Graphical viewer for GNU ddrescue map files
Keywords=ddrescue;gddrescue;rescue;recovery;log;logfile;mapfile;
Categories=swap
Exec=ddrescueview %f
```

`ddrescueview` is a graphical user interface (GUI) tool that is used to visualize and analyze the output generated by the `ddrescue` command.

`ddrescue` is a data recovery tool that is used to copy data from one file or block device to another. It is designed to handle damaged or failing storage devices by intelligently recovering data while skipping over unreadable sections.

`ddrescueview` provides a visual representation of the recovery process performed by `ddrescue`, allowing users to see the progress of the recovery operation, identify problematic areas on the disk, and monitor the status of the data recovery process.

Here are some key features of `ddrescueview`:

**Visual representation:** It displays a graphical map of the disk showing completed, current, and remaining areas of the recovery process.

**Real-time progress:** Users can monitor the progress of the data recovery operation in real-time.

**Error highlighting:** It highlights areas of the disk that contain errors or are difficult to read, helping users identify problematic regions.

**Interactive interface:** Users can interact with the GUI to pause, resume, or stop the recovery process as needed.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=memtester
```

**Comment**=userspace utility for testing the memory subsystem for faults.

**Icon**=/usr/share/Icons/little-psycho/18.png

**Terminal**=true

**Categories**=swap

**Exec**=bash -c '/usr/sbin/memtester -h; Exec bash'

memtester is a command-line utility used for testing the memory (RAM) of a computer system by writing patterns to memory locations and then reading them back to detect any potential errors or faults. It is a tool commonly used for memory testing and diagnosing memory-related issues on Unix-like operating systems.

Here is a basic example of how you can use the memtester command:

Test system memory:

```
memtester <memory size> <number of passes>
```

**<memory size>**: Specify the amount of memory to test in kilobytes. For example, you can use values like 1024k for 1MB, 2048k for 2MB, etc.

**<number of passes>**: Specify the number of test passes to perform on the specified memory size.

For instance, to test 1MB of memory with 3 passes, you can run:

```
memtester 1024 3
```

### Test specific amount of memory with verbose output:

```
memtester 2048 5 -v
```

This command tests 2MB of memory with 5 passes and displays verbose output, providing more detailed information about the memory testing process.

### Test memory with random seed value:

```
memtester 4096 3 -s 123
```

This command tests 4MB of memory with 3 passes using a specific random seed value (123). Setting a random seed value can help in reproducibility and consistency of test results.

### Test memory with a specific pattern:

```
memtester 8192 2 -p 5A
```

This command tests 8MB of memory with 2 passes using a specific hexadecimal pattern (5A). Specifying a pattern can help in detecting specific **Types** of memory errors related to data patterns.

### Test memory with a specific address range:

```
memtester 16384 4 -a 0x10000000 0x20000000
```



This command tests 16MB of memory within the specified address range (from 0x10000000 to 0x20000000) with 4 passes. Testing specific memory address ranges can help isolate memory issues to particular regions.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Swap File Removing
Comment=Remove Swap File
Icon=/usr/share/Icons/little-psyacho/15.png
Terminal=true
Categories=swap
Exec=bash -c 'sudo swapoff -a /swapfile; Exec bash'
```

Remove Swap File

```
[Desktop Entry]
Type=Application
Version=1.0
Name=swap memory 3
Comment=Stress test swap memory
Icon=/usr/share/Icons/little-psyacho/2.png
Terminal=true
Categories=swap
Exec=bash -c 'stress --vm 1 --vm-bytes $(awk '/MemTotal/ {print $2}' /proc/meminfo)k --vm-keep -m 1; Exec bash'
```

The command you provided is using the `stress` tool to induce memory-related stress on the system. Here is a breakdown of the command and its options:

`stress`: The command to initiate the stress testing.

`--vm 1`: Specifies that the stress testing should include a memory (VM) stress test.

`--vm-bytes $(awk '/MemTotal/ {print $2}' /proc/meminfo)k`:

Uses `awk` to extract the total memory (`MemTotal`) value from the `/proc/meminfo` file and sets the memory size for the VM stress test to the total system memory size.

The `k` suffix specifies that the memory size should be in kilobytes.

`--vm-keep`: Instructs `stress` to keep the memory allocated for the VM stress test even after the stress test completes.

`-m 1`: Specifies that only one worker thread should be used for the stress test.

```
[Desktop Entry]
Type=Application
```

```
Version=1.0
Name=swap memory 2
Comment=Stress test swap memory
Icon=/usr/share/Icons/little-psyacho/2.png
Terminal=true
Categories=swap
Exec=bash -c 'stress-ng --vm 4 --vm-bytes 75% --vm-method all --verify --timeout 60s --metrics-brief; Exec bash'
```

The command you provided is using the `stress-ng` tool to stress test the system's memory. Here is a breakdown of the command and its options:

`stress-ng`: The command to invoke the `stress-ng` stress testing tool.

`--vm 4`: Specifies that the memory (VM) stress test should use 4 workers to stress the memory subsystem.

`--vm-bytes 75%`: Allocates memory usage as a percentage of the total system memory. In this case, it allocates memory equivalent to 75% of the total system memory.

`--vm-method all`: Specifies that all available memory stress methods should be used for the memory stress test.

`--verify`: Enables memory verification during the stress test to check for memory corruption.

`--timeout 60s`: Sets a timeout of 60 seconds for the stress test. The stress test will run for a maximum of 60 seconds.

`--metrics brief`: Displays brief metrics at the end of the stress test, providing a summary of the stress test results.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=swap memory75%
Comment=Stress test swap memory
Icon=/usr/share/Icons/little-psyacho/2.png
Terminal=true
Categories=swap
Exec=bash -c 'stress-ng --vm 4 --vm-bytes 75% --vm-method all --verify --timeout 60s --metrics-brief; Exec bash'
```

The command you provided is using the `stress-ng` tool to stress test the system's memory with specific parameters. Here is a breakdown of the command and its options:

`stress-ng`: The command to invoke the `stress-ng` stress testing tool.

`--vm 4`: Specifies that the memory (VM) stress test should use 4 workers to stress the memory subsystem.

`--vm-bytes 75%`: Allocates memory usage as a percentage of the total system memory. In this case, it allocates memory equivalent to 75% of the total system memory.

`--vm-method all`: Specifies that all available memory stress methods should be used for the memory stress test.

`--verify`: Enables memory verification during the stress test to check for memory corruption.

`--timeout 60s`: Sets a timeout of 60 seconds for the stress test. The stress test will run for a maximum of 60 seconds.

`--metrics brief`: Displays brief metrics at the end of the stress test, providing a summary of the stress test results.

[Desktop Entry]

Type=Application

Version=1.0

Name=stress> memory

Comment=Stress-ng memory stress test

Icon=/usr/share/Icons/little-psycho/2.png

Terminal=true

Categories=swap

Exec=bash -c 'sudo stress-ng --vm 2 --vm-bytes 1G --timeout 60s; Exec bash'

The command you provided is using the `stress-ng` tool with `sudo` privileges to stress test the system's memory with specific parameters. Here is a breakdown of the command:

`sudo stress-ng`: Running `stress-ng` with superuser privileges using `sudo` to ensure that the stress test can access system resources.

`--vm 2`: Specifies that the memory (VM) stress test should use 2 workers to stress the memory subsystem.

`--vm-bytes 1G`: Allocates memory usage of 1 gigabyte (1GB) for each worker. This parameter sets the memory allocation size per worker to 1GB.

`--timeout 60s`: Sets a timeout of 60 seconds for the stress test. The stress test will run for a maximum of 60 seconds.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=swap space manager
Comment=dynamic swap space manager
Icon=/usr/share/Icons/little-psycho/16.png
Terminal=true
Categories=swap
Exec=bash -c '/usr/sbin/swapspace -h; Exec bash'
```

`swapspace` is a utility that helps manage swap space in Linux systems dynamically. Swap space is used as virtual memory when the physical RAM is fully utilized.

Here are some key points about `swapspace`:

**Dynamic Swap Space Management:** `swapspace` allows for dynamic management of swap space, automatically adjusting the size of the swap file or swap partition based on system requirements.

**Automatic Swap Space Allocation:** It can automatically create and resize swap files or swap partitions as needed to optimize memory usage.

**Improved System Performance:** By managing swap space efficiently, `swapspace` can help improve system performance by ensuring that sufficient virtual memory is available when physical memory is under pressure.

**Ease of Use:** `swapspace` simplifies the process of managing swap space, especially for users who want a more automated and hands-off approach to swap space management.

```
[Desktop Entry]
Type=Application
Version=1.0
```

```
Name=swap on  
Comment=swap on  
Icon=/usr/share/Icons/little-psyacho/16.png  
Terminal=true  
Categories=swap  
Exec=bash -c 'sudo swapon -a; Exec bash'
```

```
[Desktop Entry]  
Type=Application  
Version=1.0  
Name=Swap off  
Comment=Disable Swap File  
Icon=/usr/share/Icons/little-psyacho/13.png  
Terminal=true  
Categories=swap  
Exec=bash -c 'sudo swapoff -a; Exec bash'
```

## Stress Testing on CPU/Cache/Buffer



[Desktop Entry]

Type=Application

Version=1.0

Name=100% CPU method1

Comment=Impose 100% CPU method 1

Icon=/usr/share/Icons/little-psycho/3.png

Terminal=true

Categories=cpu

Exec=bash -c 'echo "sudo stress-ng --cpu 4 -v --timeout 30s";echo;sudo stress-ng --cpu 4 -v --timeout 30s; Exec bash'

This command uses `stress-ng` with elevated privileges (`sudo`) to stress test the CPU with the following options:

`--cpu 4`: Specifies that the stress test should use 4 worker processes to stress the CPU.

`-v`: Enables verbose output, providing more detailed information during the stress test.

`--timeout 30s`: Sets a timeout of 30 seconds for the stress test. The stress test will run for a maximum of 30 seconds.

The command initiates a CPU stress test using `stress-ng` with 4 worker processes, verbose output enabled, and a 30-second timeout.

After the first command **Execution**, there is an `echo` command that outputs a new line, followed by the same `stress-ng` command to stress test the CPU again with the same parameters.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=100% CPU method4
Comment=Impose 100% CPU method 4
Icon=/usr/share/Icons/little-psycho/8.png
Terminal=true
Categories=cpu
Exec=bash -c 'echo "while ;; do ;; done";echo;while ;; do ;; done; Exec bash'
```

The command you provided creates an infinite loop in the shell using the while loop construct. Here is a breakdown of the command:

```
while ;; do ;; done
```

`while ;; do ;; done`: This construct creates an infinite loop that continues to **Execute** the `:` command (a null command that does nothing) indefinitely. The `:` command is commonly used as a placeholder in shell scripts and serves as a **no-op** (no operation) command.

In this case, the while loop condition `:` always evaluates to true (as `:` returns a zero exit status), causing the loop to continue indefinitely without performing any meaningful operations inside the loop body. This results in a loop that runs continuously, effectively creating a process that consumes CPU resources without **Executing** any significant tasks.

Running such a command may lead to high CPU utilization as the loop **Executes** continuously, performing no useful work other than consuming system resources. It is important to use caution when running infinite loops to avoid unintended consequences on system performance and stability.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=100% CPU method7
Comment=Impose 100% CPU method 7
Icon=/usr/share/Icons/little-psyacho/2.png
Terminal=true
Categories=cpu
Exec=konsole -e "bash -c 'echo "sudo dd if=/dev/zero of=/dev/null &";echo;sudo dd
if=/dev/zero of=/dev/null &; Exec bash"
```

The command you provided uses the dd command with sudo privileges to read from /dev/zero (a special device that provides an infinite stream of null bytes) and write to /dev/null (a special device that discards all data written to it). Here is a breakdown of the command:

```
sudo dd if=/dev/zero of=/dev/null
```

sudo: Executes the following command with superuser privileges.

dd: Command-line utility for copying and converting data.

if=/dev/zero: Specifies the input file as /dev/zero, which generates an endless stream of null bytes.

of=/dev/null: Specifies the output file as /dev/null, which discards all data written to it.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=100% CPU method9
Comment=Impose 100% CPU method 9
Icon=/usr/share/Icons/little-psyacho/4.png
Terminal=true
Categories=cpu
Exec=bash -c 'sudo stress --cpu $(nproc); Exec bash'
```

The command you provided utilizes the stress tool with sudo privileges to stress test the CPU by utilizing the maximum number of available CPU cores. Here is a breakdown of the command:



```
sudo stress --cpu $(nproc)
```

sudo: **Executes** the following command with superuser privileges.

stress: Command-line tool used for imposing load on and monitoring systems.

**--cpu \$(nproc)**: Specifies the CPU stress testing option with the number of workers equal to the output of nproc command, which returns the number of processing units available.

In summary, this command initiates a CPU stress test using the stress tool with the maximum number of worker processes equal to the number of available CPU cores on the system. By stressing the CPU, this command can help assess system performance under heavy computational loads and evaluate how the system handles high CPU usage scenarios.

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=CPU limit

**Comment**=Limit the CPU usage of a process

**Icon**=/usr/share/Icons/little-psycho/2.png

**Terminal**=true

**Categories**=cpu

**Exec**=bash -c 'tput setaf 3;echo "example: sudo cpulimit --pid 17918 --limit 50";tput setaf 4;echo;cpulimit;Exec bash'

Here is a breakdown of the corrected command:

sudo: **Executes** the following command with superuser privileges.

cpulimit: Command-line tool used to limit the CPU usage of a process.

**--pid 17918**: Specifies the Process ID (PID) of the process for which you want to limit the CPU usage. Replace **17918** with the actual PID of the target process.

**--limit 50**: Sets the CPU limit to 50%, restricting the specified process to use a maximum of 50% of the CPU resources.

By running this command, you can restrict the CPU usage of a specific process (identified by its PID) to a maximum of 50%, helping to prevent the process from consuming excessive CPU resources and potentially impacting overall system performance.

[Desktop Entry]

**Type**=Application  
**Version**=1.0  
**Name**=Fork Bomb  
**Comment**=quickly taking up all your CPU time and memory. This can cause your computer to freeze. It's basically a denial-of-service attack.  
**Icon**=/usr/share/Icons/little-psyacho/17.png  
**Terminal**=true  
**Categories**=cpu  
**Exec**=bash -c ':(){ :|: & }::; Exec bash'

The command you provided is known as a "fork bomb," a malicious command that can potentially harm a system by consuming system resources and causing it to become unresponsive.

Here is a breakdown of the command:

**:(){ :|: & }::; Exec bash**

**:(){ :|: & }:** Defines a function `:` that recursively calls itself (`:|:`) in the background (`&`). This creates a chain reaction of processes that rapidly consume system resources.

**:|:** Initiates the **Execution** of the function `:`, triggering the recursive forking process.

**Exec bash:** Replaces the current shell session with a new instance of the Bash shell.

[Desktop Entry]  
**Type**=Application  
**Version**=1.0  
**Name**=fuzz tool  
**Comment**=stress-test programs by giving them random input  
**Icon**=/usr/share/Icons/little-psyacho/16.png  
**Terminal**=true  
**Categories**=cpu  
**Exec**=bash -c '/usr/bin/fuzz -h; Exec bash'

stress test programs by giving them random input

[Desktop Entry]  
**Type**=Application  
**Version**=1.0

```
Name=stress> CPU 1
Comment=CPU Stress
Icon=/usr/share/Icons/little-psyacho/2.png
Terminal=true
Categories=cpu
Exec=bash -c 'sudo stress -c 2 -i 1 -m 1 --vm-bytes 128M -t 10s; Exec bash'
```

The command you provided uses the `stress` tool with `sudo` privileges to stress test the system with multiple `Types` of workload. Here is a breakdown of the command:

```
sudo stress -c 2 -i 1 -m 1 --vm-bytes 128M -t 10s
```

`sudo`: Executes the following command with superuser privileges.

`stress`: Command-line tool for imposing load on and monitoring systems.

`-c 2`: Specifies 2 worker processes to stress the CPU.

`-i 1`: Specifies 1 worker process to stress the I/O.

`-m 1`: Specifies 1 worker process to stress the memory.

`--vm-bytes 128M`: Specifies allocating 128MB of memory per worker process.

`-t 10s`: Sets a timeout of 10 seconds for the stress test. The stress test will run for a maximum of 10 seconds.

In summary, this command initiates a stress test using the `stress` tool with specific parameters:

2 worker processes for CPU stress.

1 worker process for I/O stress.

1 worker process for memory stress with 128MB allocated per process.

The stress test will run for a maximum of 10 seconds.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=sysbenchmark>CPU
Comment=Perform CPU Benchmarking and performance.
Icon=/usr/share/Icons/little-psyacho/16.png
Terminal=true
Categories=cpu
Exec=bash -c 'sudo sysbench --test=cpu run; Exec bash'
```

The command you provided utilizes the `sysbench` tool with `sudo` privileges to run a CPU performance test. Here is a breakdown of the command:

```
sudo sysbench --test=cpu run
```

`sudo`: Executes the following command with superuser privileges.

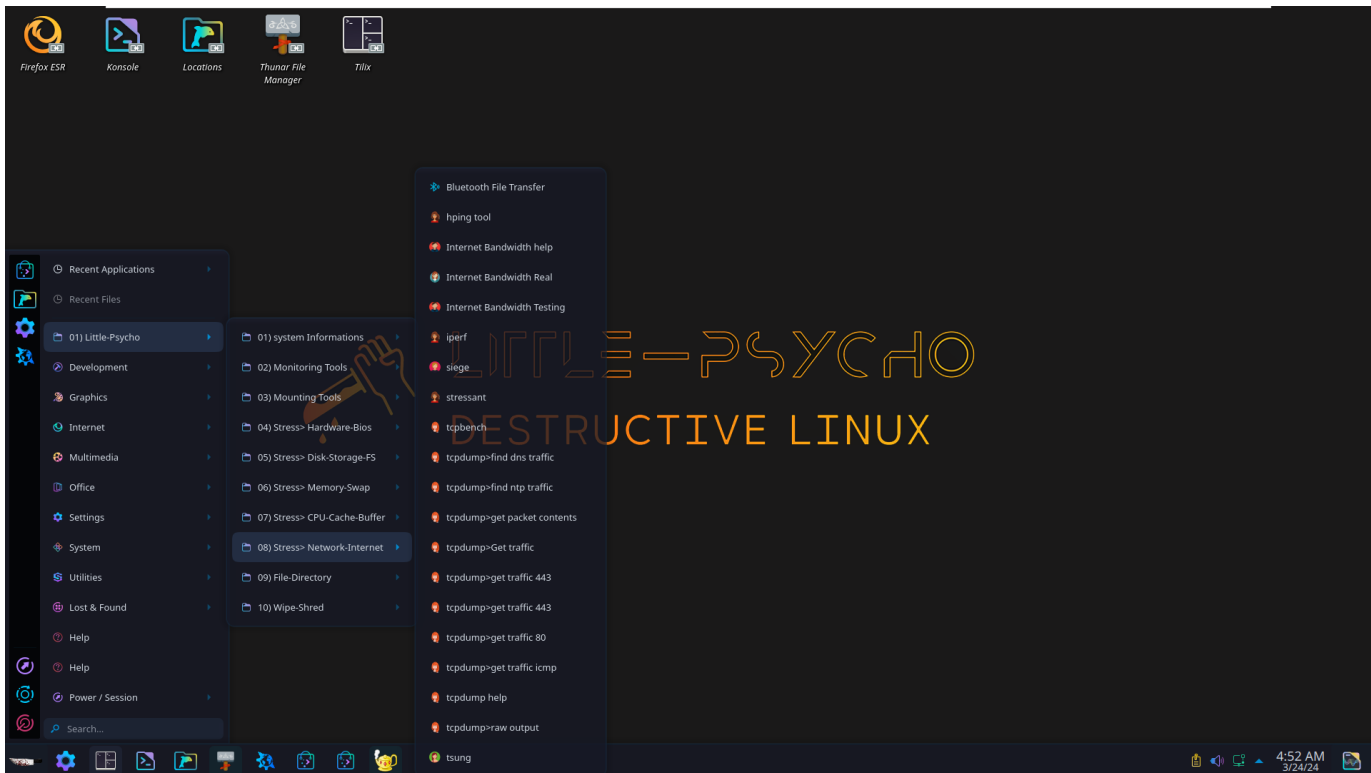
`sysbench`: Command-line benchmarking tool that allows you to test various system parameters and components.

`--test=cpu`: Specifies the CPU test mode, which focuses on evaluating CPU performance.

`run`: Instructs `sysbench` to start the CPU performance test.

By running this command, `sysbench` will Execute the CPU benchmark test, measuring the system's CPU performance under a specific workload. The test may involve tasks such as prime number calculations, matrix operations, or other CPU-intensive operations to assess the processing capabilities of the CPU.

## Stress Testing on Network-Internet



[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=hping tool

**Comment**=hping is a free packet generator and analyzer, well suited for testing the security of network devices.

**Icon**=/usr/share/Icons/little-psycho/16.png

**Terminal**=true

**Categories**=network

**Exec**=bash -c '/usr/sbin/hping3 -h; Exec bash'

This command will display the usage and options available for hping3, which is a command-line packet crafting and network testing tool. The -h option is commonly used in Unix-like systems to show the help message or usage instructions for a specific command.

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=Internet Bandwidth Testing

**Comment**=CLI for testing internet bandwidth using speedtest.net

**Icon**=/usr/share/Icons/little-psycho/3.png

**Terminal**=true

```
Categories=network;
```

```
Exec=speedtest-cli
```

This command will initiate a speed test using the `speedtest-cli` tool, which measures your internet connection's download and upload speeds, as well as latency (ping) to a nearby server.

Here are a few examples of how you can use the `speedtest-cli` tool to perform different **Types** of speed tests:

**Run a Basic Speed Test:** To run a basic speed test and display the download and upload speeds, as well as ping latency, you can use the following command:

```
speedtest-cli
```

**Specify a Server for the Speed Test:** You can specify a particular server for the speed test by providing the server ID. For example, to test against a server with ID 1234, use:

```
speedtest-cli --server 1234
```

**Save Speed Test Results to a CSV File:** If you want to save the speed test results to a CSV file for further analysis, you can use the following command:

```
speedtest-cli --csv
```

**Display Speed Test in a Simple Format:** To display the speed test results in a simple, easy-to-read format, you can use the `--simple` option:

```
speedtest-cli --simple
```

**Share Speed Test Results via Speedtest.net:** You can also share your speed test results on Speedtest.net by using the `--share` option. This will provide you with a unique URL to share your results:

```
speedtest-cli --share
```

```
[Desktop Entry]
```

```
Type=Application
```

```
Version=1.0
```

```
Name=Internet Bandwidth Real
```

```
Comment=display in real time the network traffic speed
```

```
Icon=/usr/share/Icons/little-psycho/4.png
```

```
Terminal=true
```

```
Categories=network;
```

```
Exec=bash -c 'cbm; Exec bash'
```

The Color Bandwidth Meter (CBM) is a small program to display the traffic currently flowing through the network devices in a simple curses-based GUI. The traffic for all interfaces include values as receive, transfer and total Bytes/s or bits/s (or its multiples as KB/s and Kb/s).

## NAME

cbm - display in real time the network traffic speed

## SYNOPSIS

cbm [--help] [--Version]

## DESCRIPTION

Color Bandwidth Meter (CBM) displays the current traffic on all network devices.

This program is so simple that it should be self-explanatory.

## OPTIONS

--help Display some help and exit.

--Version Display Version information and exit.

## INTERACTIVE CONTROL

cbm can be controlled with the following keys:

Up/Down Select an interface to show details about.

q Exit from the program.

b Switch between bits per second and bytes per second.

+ Increase the update delay by 100ms.

- Decrease the update delay by 100ms.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=iperf
Comment=Internet Protocol bandwidth measuring tool
Icon=/usr/share/Icons/little-psyacho/16.png
Terminal=true
Categories=network;
Exec=bash -c 'iperf3 -h; Exec bash'
```

Here are some sample commands using iperf3 for stress testing network bandwidth:

Server Mode: Start iperf3 in server mode to listen for incoming connections:

```
iperf3 -s
```

Client Mode - TCP Bandwidth Test: Run a TCP bandwidth test to a server with IP address 192.168.1.100:

```
iperf3 -c 192.168.1.100
```

Client Mode - UDP Bandwidth Test: Perform a UDP bandwidth test to a server with IP address 192.168.1.100 using a specified bandwidth (-b) of 10Mbits/sec:

```
iperf3 -c 192.168.1.100 -u -b 10M
```

Bidirectional Bandwidth Test: Conduct a bidirectional bandwidth test (both directions simultaneously) with a server at 192.168.1.100:

```
iperf3 -c 192.168.1.100 -R
```

Parallel Connections Test: Test network bandwidth using multiple parallel connections (4 parallel streams) to a server at 192.168.1.100:

```
iperf3 -c 192.168.1.100 -P 4
```

Duration and Interval Test: Run a bandwidth test for a specific duration (e.g., 30 seconds) with a report interval of 5 seconds:

```
iperf3 -c 192.168.1.100 -t 30 -i 5
```

[Desktop Entry]

Type=Application

Version=1.0

Name=siege

Comment=stress test a single URL with a user defined number of simulated users, or it can read many URLs into memory and stress them simultaneously.

Icon=/usr/share/Icons/little-psycho/8.png

Terminal=true

Categories=network

Exec=bash -c '/usr/bin/siege -h; Exec bash'



Siege is a command-line tool for load testing web applications. It allows you to simulate multiple users accessing your web server simultaneously, helping you evaluate your server's performance under various levels of load.

To run a basic load test using siege, you can use the following command:

```
siege -c 10 -t 1m http://example.com
```

-c 10: Specifies the number of concurrent users to simulate (in this case, 10 users).

-t 1m: Sets the duration of the test (1 minute in this example).

http://example.com: The URL of the website or web application you want to test.

Here are a few more examples of how you can use siege for stress testing web applications:

Customizing Number of Concurrent Users and Time Duration: Test with 50 concurrent users for 5 minutes:

```
siege -c 50 -t 5m http://example.com
```

Setting Delay Between Requests: Introduce a delay of 2 seconds between each request:

```
siege -c 10 -t 1m -i http://example.com
```

Randomizing URLs from a File: Load test by randomly selecting URLs from a file:

```
siege -c 20 -t 2m -f urls.txt
```

Limiting Number of Times Each URL is Requested: Limit each URL to be requested 5 times:

```
siege -c 10 -t 1m -i -b -f urls.txt
```

HTTP POST Requests: Perform stress testing with HTTP POST requests:

```
siege -c 5 -t 1m --content-Type="application/json" 'http://example.com POST {"key": "value"}'
```

Customizing User-Agent Header: Specify a custom User-Agent header for the requests:

```
siege -c 10 -t 1m --header="User-Agent: MyCustomUserAgent" http://example.com
```

[Desktop Entry]

Type=Application

Version=1.0

Name=tcpbench

Comment=tcpbench is a small tool that performs throughput benchmarking and concurrent sampling of kernel network variables.

Icon=/usr/share/Icons/little-psyacho/14.png

Terminal=true

Categories=network

Exec=bash -c 'tcpbench; Exec bash'

It seems like you're referring to the tcpbench tool for stress testing TCP connections. Here are some examples of how you can use tcpbench for stress testing:

Basic TCP Connection Test: Test TCP connections to a specific host and port:

```
tcpbench host port
```

Specifying Number of Connections: Test TCP connections with a specific number of connections:

```
tcpbench -c 100 host port
```

Setting Connection Rate: Set the connection rate (connections per second) for stress testing:

```
tcpbench -r 10 host port
```

Customizing Test Duration: Run the stress test for a specific duration (e.g., 30 seconds):

```
tcpbench -t 30 host port
```

Testing Throughput: Measure TCP throughput during stress testing

```
tcpbench -T host port
```

Simulating Slow Network Connection: Simulate a slow network connection with a specific delay (e.g., 100ms):

```
tcpbench -d 100 host port
```

Customizing Buffer Size: Set the buffer size for TCP connections during stress testing:

```
tcpbench -b 1024 host port
```

```
[Desktop Entry]
Type=Application
Version=1.0
Name=tcpdump>get traffic 443
Comment=show traffic related to 443 port Types.
Icon=/usr/share/Icons/little-psycho/14.png
Terminal=true
Categories=network
Exec=bash -c 'sudo tcpdump port 443; Exec bash'
```

tcpdump is a powerful command-line packet analyzer tool used for capturing and analyzing network packets. While tcpdump itself is not typically used for stress testing, it can be helpful for inspecting network traffic during stress tests. Here are some examples of how you can use tcpdump in conjunction with stress testing tools to analyze network traffic:

Capture All Traffic on a Specific Interface: Capture all network traffic on a specific interface (e.g., eth0):

```
sudo tcpdump -i eth0
```

Filter Traffic by Source or Destination IP Address: Capture traffic to or from a specific IP address:

```
sudo tcpdump host 192.168.1.100
```

Filter Traffic by Port Number: Capture traffic on a specific port (e.g., port 80 for HTTP):

```
sudo tcpdump port 80
```

Save Captured Packets to a File: Save captured packets to a file for later analysis:

```
sudo tcpdump -i eth0 -w capture.pcap
```

### Display Captured Packets in ASCII

Format: Display captured packets in ASCII format for easier readability:

```
sudo tcpdump -A -i eth0
```

Capture and Display Packet Headers Only: Display only packet headers without packet data:

```
sudo tcpdump -q -n -i eth0
```

Capture Specific Protocol Traffic: Capture traffic for a specific protocol (e.g., TCP):

```
sudo tcpdump -i eth0 tcp
```

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=tsung

**Comment**=multi-protocol load testing tool HTTP, WebDAV, SOAP, PostgreSQL, MySQL, LDAP and Jabber/XMPP servers.

**Icon**=/usr/share/Icons/little-psyacho/5.png

**Terminal**=true

**Categories**=network

**Exec**=bash -c 'tsung -h; Exec bash'

Tsung is a distributed load testing tool that can simulate thousands of users concurrently accessing your system. Here are some examples of how you can use Tsung for stress testing:

Basic HTTP Load Test: Run a basic HTTP load test with 1000 concurrent users over 5 minutes:

```
tsung -f tsung_script.xml -r 1000 -t 300s start
```

WebSocket Load Test: Perform a WebSocket load test with 500 users for 10 minutes:

```
tsung -f tsung_websocket_script.xml -r 500 -t 600s start
```

Customizing Ramp-Up Time: Specify a ramp-up time of 30 seconds for a gradual increase in load:

```
tsung -f tsung_script.xml -r 1000 -t 300s -ramp 30 start
```

Load Test with Think Time: Add a think time of 2 seconds between user actions:

```
tsung -f tsung_script.xml -r 500 -t 600s -think 2000 start
```

Distributed Load Testing: Distribute the load testing across multiple servers for scalability:

```
tsung -f tsung_script.xml -l node1,node2,node3 -r 1000 -t 300s start
```

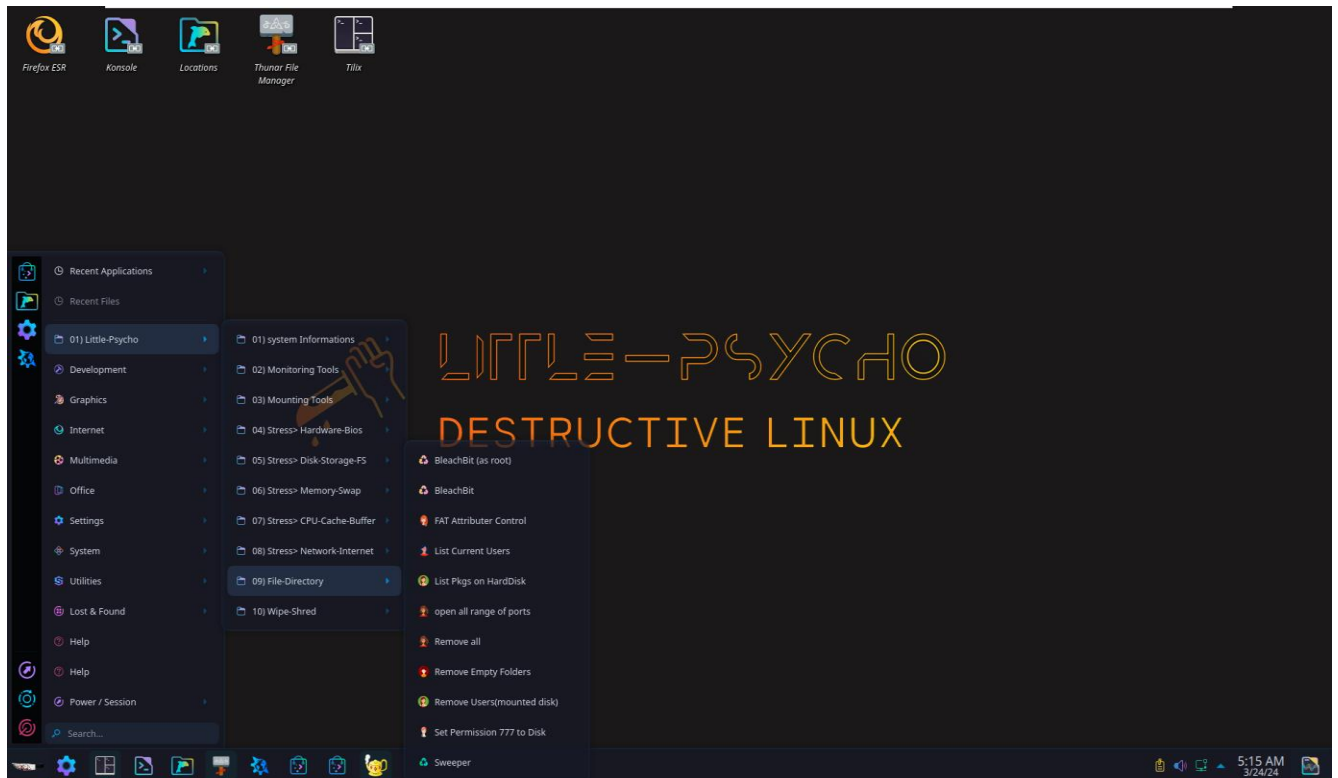
Analyzing Test Results: Generate HTML reports for analyzing test results after the load test:

```
tsung -r report_dir analyze
```

Load Test with SSL/TLS: Perform a load test over HTTPS with SSL/TLS encryption:

```
tsung -f tsung_https_script.xml -ssl start
```

## Stress Testing on File/Folder



[Desktop Entry]

Version=1.1

Type=Application

Name=BleachBit

Comment=Free space and maintain privacy

GenericName=Unnecessary file cleaner

TryExec=pkExec

Exec=pkExec bleachbit

Icon=bleachbit

Categories=users;

Keywords=cache;clean;free;performance;privacy;

StartupNotify=true

X-GNOME-UsesNotifications=true

BleachBit is a free and open-source disk space cleaner, privacy manager, and computer system optimizer. It helps you free up disk space, protect your privacy, and improve system performance by removing unnecessary files and clearing traces of your online and offline activities.

Some common tasks you can perform using BleachBit include:

Cleaning System Junk Files: Use BleachBit to remove temporary files, cache files, log files, and other unnecessary data that can accumulate on your system over time.

**Clearing Browser Data:** Clean up browser cache, cookies, browsing history, saved passwords, and other temporary internet files to enhance privacy and free up space.

**Deleting Temporary Files:** Remove temporary files created by various applications and system processes to reclaim disk space and improve system performance.

**Shredding Files:** Securely delete files so that they cannot be recovered using data recovery tools, ensuring sensitive data is permanently erased.

**Managing System and Application Logs:** Clear system logs and application logs to maintain system cleanliness and protect your privacy.

**Customizing Cleaning Options:** Customize cleaning options to exclude or include specific **Categories** of files and data based on your preferences and requirements.

**Scheduled Cleaning:** Set up scheduled cleaning tasks to automate the process of removing junk files and maintaining system hygiene regularly.

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=List Pkgs on HardDisk

**Comment**=List installed pkgs on mounted Disk

**Icon**=/usr/share/**Icons**/little-psyacho/5.png

**Terminal**=true

**Categories**=users

**Exec**=bash -c 'sudo bash /opt/list-dpkg-sda.sh; Exec bash'

The dpkg command is used to install, remove, and manage software packages on Little psycho-based Linux distributions like Ubuntu. If you want to list all installed packages using dpkg, you can use the following command:

```
dpkg --list
```

This command will display a list of all installed packages on your system. You can also use grep to filter the list. For example, to search for a specific package, you can use:

```
[Desktop Entry]
Type=Application
Version=1.0
Name=List Current Users
Comment=List all users in current Live system
Icon=/usr/share/Icons/little-psyacho/9.png
Terminal=true
Categories=users
Exec=bash -c 'cut -d: -f1 /etc/passwd;Exec bash'
```

The command `cut -d: -f1 /etc/passwd` is used to extract the first field (userName) from the `/etc/passwd` file in a Unix-based system. Here's a breakdown of the command:

`cut`: This command is used to extract sections from each line of files.

`-d:`: Specifies the delimiter used to separate fields in the file. In this case, `:` is used as the delimiter.

`-f1`: Specifies the field to extract. In this case, `1` indicates the first field.

`/etc/passwd`: Path to the file from which the data will be extracted.

The `/etc/passwd` file stores essential information about user accounts on the system.

When you run `cut -d: -f1 /etc/passwd`, the command will output a list of userNames present in the `/etc/passwd` file, as the userNames are the first fields separated by colons in each line of the file.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=open all range of ports
Comment=
Icon=/usr/share/Icons/little-psyacho/16.png
Terminal=true
Categories=users
Exec=konsole -e "bash -c 'sudo ufw allow 1:65535/tcp;sudo ufw allow 1:65535/udp;Exec bash'"
```

The commands `sudo ufw allow 1:65535/tcp` and `sudo ufw allow 1:65535/udp` are used to allow incoming TCP and UDP traffic on a wide range of ports (from port 1 to port 65535) respectively using the Uncomplicated Firewall (UFW) on a Linux system.



`sudo ufw allow 1:65535/tcp`: This command allows incoming TCP traffic on ports ranging from 1 to 65535. TCP (Transmission Control Protocol) is a connection-oriented protocol that provides reliable and ordered delivery of data packets.

`sudo ufw allow 1:65535/udp`: This command allows incoming UDP traffic on ports ranging from 1 to 65535. UDP (User Datagram Protocol) is a connectionless protocol that offers faster data transmission but without the reliability guarantees of TCP.

By running these commands, you are essentially opening up a wide range of TCP and UDP ports on your system, which may be necessary for certain applications or services that require communication over a broad spectrum of ports.

[Desktop Entry]

X-DocPath=

Icon=sweeper

Exec=sweeper

Type=Application

Categories=users;

Name=Sweeper

Comment=Helps to clean unwanted traces the user leaves on the system and to regain disk space removing unused temporary files

X-DBUS-ServiceName=org.kde.sweeper

With Sweeper, you can perform the following tasks:

**Clearing Cache Files:** Remove cache files generated by applications to free up disk space.

**Deleting Temporary Files:** Clean up temporary files created by the system and applications.

**Removing Browser Data:** Delete browser cache, browsing history, cookies, and other temporary internet files.

**Clearing Trash:** Empty the trash bin to permanently delete files from the system.

**Cleaning System Logs:** Remove system logs and other unnecessary log files to maintain system cleanliness.

**Managing Recent Documents:** Clear the list of recent documents accessed on the system for privacy.

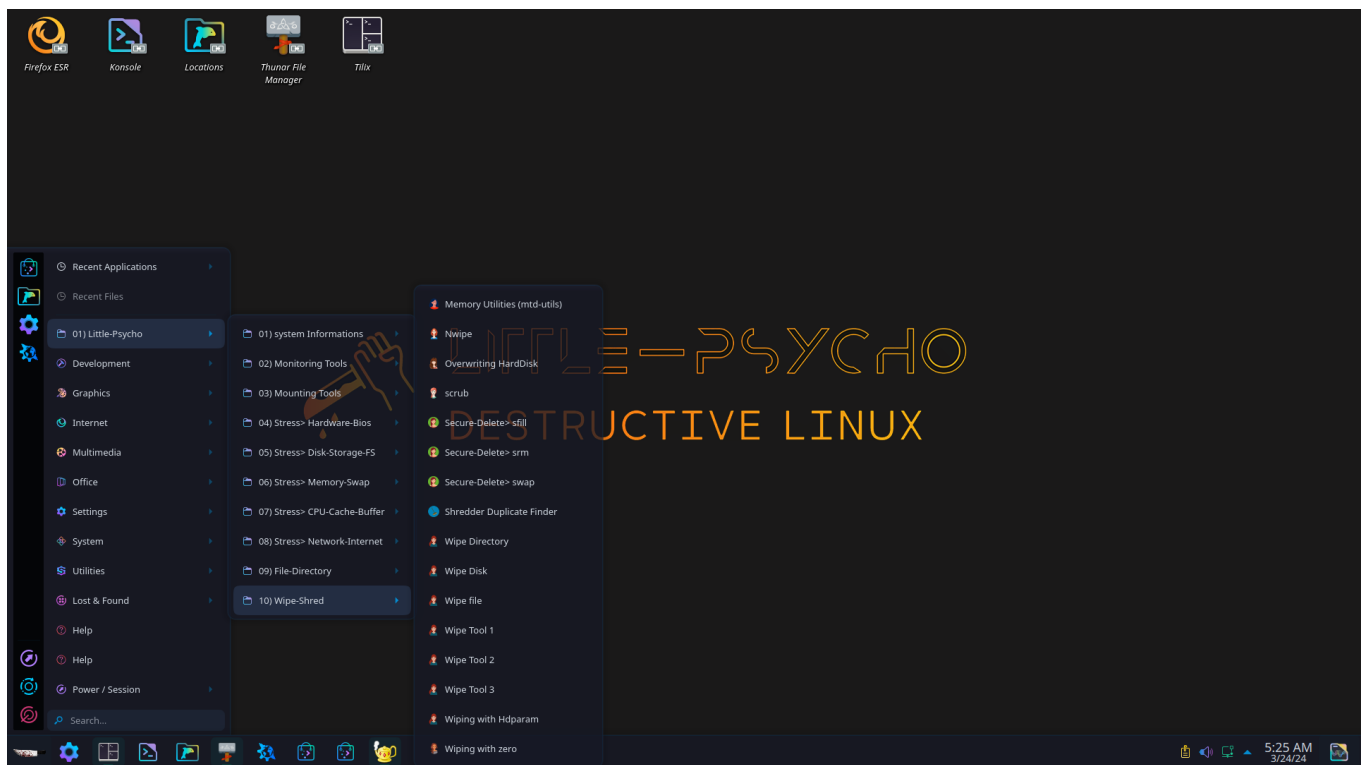
**Customizing Cleaning Options:** Configure Sweeper to include or exclude specific **Categories** of files for cleaning.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Remove Users(mounted disk)
Comment=Remove selective Users on mounted disk
Icon=/usr/share/Icons/little-psyacho/5.png
Terminal=true
Categories=users
Exec=bash -c 'sudo bash /opt/remove-user.sh; Exec bash'
```

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Remove Empty Folders
Comment=Remove Empty Folder on /sda partition
Icon=/usr/share/Icons/little-psyacho/1.png
Terminal=true
Categories=users
Exec=bash -c 'sudo bash /opt/RemoveEmptyFoldersda.sh; Exec bash'
```

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Set Permission 777 to Disk
Comment=Set 777 permissions to root partition
Icon=/usr/share/Icons/little-psyacho/11.png
Terminal=true
Categories=users
Exec=bash -c 'sudo bash /opt/set755ToSda.sh; Exec bash'
```

## Wipe and Shred data



[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=Wipe Tool 1

**Comment**=partially wipe a disk drive.

**Icon**=/usr/share/Icons/little-psycho/10.png

**Terminal**=true

**Categories**=wipedata

**Exec**=bash -c 'sudo python3 /opt/DiskWipe/diskwipe.py; Exec bash'

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=Memory Utilities (mtd-utils)

**Comment**=Utilities for manipulating memory technology devices.

**Icon**=/usr/share/Icons/little-psycho/9.png

**Terminal**=true

**Categories**=wipedata

**Exec**=bash -c 'cat /opt/mtd.txt; Exec bash'

`mtd-utils` is a set of utilities used for managing Memory Technology Devices (MTD) on Linux systems. MTD devices are a **Type** of storage device that includes flash memory, such as NAND or NOR flash, often found in embedded systems.

Some common utilities included in `mtd-utils` are:

`flash_erase`: Utility used to erase specific flash regions.

`nandwrite`: Utility used to write data to NAND flash memory.

`nanddump`: Utility used to dump the contents of NAND flash memory.

`flashcp`: Utility used to copy data to or from flash memory.

`mtdinfo`: Utility used to display information about MTD devices.

`ubiattach`: Utility used to attach UBI (Unsorted Block Images) volumes.

`ubiformat`: Utility used to format UBI volumes.

These utilities are essential for managing and interacting with MTD devices, such as flash memory chips, in embedded systems or devices running Linux. They provide functionality for erasing, writing, reading, and managing data stored on MTD devices, contributing to the effective operation of embedded systems that rely on flash memory for storage.

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=Nwipe

**Comment**=It will securely erase disks

**Icon**=/usr/share/**Icons**/little-psycho/17.png

**Terminal**=true

**Categories**=wipedata

**Exec**=bash -c '/usr/sbin/nwipe -h; **Exec** bash'

`nwipe` is a command-line utility used for securely erasing data from storage devices on Linux systems. It is a powerful tool designed to overwrite the contents of a storage device with random data or zeros multiple times to ensure that the original data cannot be recovered using data recovery methods.

Key features of `nwipe` include:

**Secure Data Erasure:** `nwipe` offers secure data erasure methods, such as overwriting data with random patterns or zeros multiple times to prevent data recovery.

**Support for Various Storage Devices:** `nwipe` can be used to securely erase data from hard disk drives (HDDs), solid-state drives (SSDs), USB drives, memory cards, and other storage devices.

**Customizable Erasure Options:** Users can customize the erasure process by specifying the number of overwrite passes, the data pattern to use, and other erasure parameters.

**Verification of Erasure:** `nwipe` can perform verification checks after the erasure process to ensure that data has been successfully overwritten.

**Batch Mode:** It supports batch mode operations, allowing users to automate the data erasure process for multiple storage devices.

[Desktop Entry]

**Type**=Application

**Version**=1.0

**Name**=Overwriting HardDisk

**Comment**=Overwriting the hard drive with garbage

**Icon**=/usr/share/Icons/little-psycho/15.png

**Terminal**=true

**Categories**=wipedata

**Exec**=bash -c 'sudo /opt/overwrite.sh; Exec bash'

Overwriting a hard drive with garbage data is a common method used for securely erasing sensitive information from the drive. By overwriting the entire hard drive with random data or zeros multiple times, you can prevent the original data from being recovered using data recovery techniques.

One way to overwrite a hard drive with garbage data is by using the `dd` command in Linux. Here is an example command that overwrites a hard drive with random data:

```
sudo dd if=/dev/urandom of=/dev/sdX bs=4M status=progress
```

In this command:

`sudo`: Runs the command with superuser privileges to access the hard drive.

`if=/dev/urandom`: Specifies the input file as `/dev/urandom`, which generates random data.

`of=/dev/sdX`: Specifies the output file as the hard drive you want to overwrite (replace `sdX` with the actual device identifier of your hard drive).

`bs=4M`: Sets the block size to 4 megabytes for efficient data transfer.

`status=progress` : Displays the progress of the operation while overwriting the hard drive.

[Desktop Entry]

`Type=Application`

`Version=1.0`

`Name=scrub`

`Comment=scrub can write patterns direct to disk, destroying any file system (preferred method), or it can write patterns on files, or on file system free space.`

`Icon=/usr/share/Icons/little-psycho/18.png`

`Terminal=true`

`Categories=wipedata`

`Exec=bash -c ‘/usr/bin/scrub -h; Exec bash’`

The `scrub` tool is a versatile utility used for securely erasing data on storage devices in Linux systems. It offers multiple methods for overwriting data with patterns to ensure that the original data cannot be recovered through data forensics methods. Here are the key features and capabilities of the `scrub` tool:

**Direct Disk Writing:** The `scrub` tool can write patterns directly to the disk, effectively destroying any existing file system structures and data. This method is often preferred for securely wiping the entire disk, making it suitable for situations where complete data destruction is required.

**File Writing:** In addition to direct disk writing, `scrub` can write patterns to individual files on the disk. This method is useful for securely erasing specific files or directories while leaving the rest of the disk untouched.

**Free Space Writing:** `scrub` can also write patterns to free space on the file system, ensuring that any remnants of deleted files are overwritten with secure patterns. This method helps prevent the recovery of previously deleted data.

**Customizable Patterns:** Users can specify the patterns used for overwriting data, such as random data, zeros, or custom patterns, to meet their security requirements.

**Verification:** `scrub` includes features for verifying the data erasure process, allowing users to confirm that the data has been securely overwritten.

### Direct Disk Writing:

To securely erase an entire hard drive by writing random patterns directly to the disk:

```
sudo scrub /dev/sdX
```

Replace `/dev/sdX` with the actual device identifier of the hard drive you want to scrub.

### **File Writing:**

To securely erase a specific file by overwriting it with zeros:

```
sudo scrub -p zero -S 0 /path/to/file.txt
```

This command will overwrite `file.txt` with zeros.

### **Free Space Writing:**

To securely erase free space on a disk by writing random patterns:

```
sudo scrub -X -p random /path/to/mounted/disk
```

Replace `/path/to/mounted/disk` with the mount point of the disk where you want to scrub free space.

### **Custom Patterns and Verification:**

To overwrite a file with a custom pattern and verify the operation:

```
sudo scrub -p 0x55 -S 1 -v /path/to/file.dat
```

This command will overwrite `file.dat` with the pattern `0x55` and verify the operation.

### **Multiple Passes and Progress Reporting:**

To perform a 3-pass secure erase on a disk with progress reporting:

```
sudo scrub -p random -n 3 -D /dev/sdX
```

This command will perform a 3-pass random pattern overwrite on the disk `/dev/sdX` with progress reporting.

[Desktop Entry]

Type=Application

Version=1.0

Name=Secure-Delete> sdmem

Comment=secure memory wiper, sdmem is designed to delete data which may lie still in your memory (RAM) in a secure manner which can not be recovered by thieves, law enforcement or other threats.

Icon=/usr/share/Icons/little-psycho/5.png

Terminal=true

Categories=wipedata

Exec=bash -c 'man sdmem; Exec bash'

sdmem is a command-line utility used for securely erasing memory (RAM) contents on Linux systems. It is designed to overwrite memory with random patterns or zeros to prevent sensitive data from being recovered after a system shutdown or reboot.

Here are some key points about sdmem :

**Secure Memory Erasure:** sdmem provides a method to securely erase the contents of RAM to prevent data leakage or unauthorized access to sensitive information stored in memory.

**Overwriting Memory:** The utility overwrites memory with patterns such as zeros, random data, or user defined patterns to ensure that the original data is not recoverable.

**Multiple Passes:** sdmem supports multiple passes of overwriting to increase the security of the memory erasure process.

**Integration with System Shutdown:** sdmem can be configured to run automatically during system shutdown or reboot to clear memory before the system powers off.

**Customization:** Users can customize the overwrite patterns, the number of passes, and other parameters to meet their specific security requirements.

To use sdmem, you typically run the command with appropriate options to initiate the memory erasure process. Here is a basic example:

When it comes to stress testing with sdmem, you can use different options and configurations to simulate various scenarios for memory erasure. Here are some examples of stress testing scenarios using sdmem:

### Multiple Passes Stress Test:

To simulate a stress test with sdmem performing multiple passes of memory overwriting for thorough data sanitization:

```
sudo sdmem -c -p -f -l -v
```



This command will run sdmem in stress test mode with continuous passes, fast overwrite mode, low memory usage, and verbose output.

### Memory Exhaustion Stress Test:

To stress test memory exhaustion by running sdmem with maximum memory usage:

```
sudo sdmem -m -f -v
```

This command will force sdmem to use maximum memory available for stress testing, with fast overwrite mode and verbose output.

### Custom Pattern Stress Test:

To stress test sdmem by overwriting memory with a custom pattern in a continuous loop:

```
sudo sdmem -c -p 0x55 -v
```

This command will continuously overwrite memory with the custom pattern 0x55 to stress test memory erasure capabilities.

### Interrupt Handling Stress Test:

To stress test sdmem by simulating interruptions and handling signals during memory erasure:

```
sudo sdmem -i -v
```

This command will stress test sdmem by simulating interruptions with verbose output for monitoring.

### Extreme Stress Test:

To stress test sdmem with extreme settings for maximum impact:

```
sudo sdmem -c -f -l -v -m -p random -n 10
```

This command will run sdmem in stress test mode with continuous passes, fast overwrite mode, low memory usage, random pattern, 10 overwrite passes, and verbose output.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Secure-Delete> sfill
Comment=secure free disk and inode space wiper
Icon=/usr/share/Icons/little-psycho/5.png
Terminal=true
Categories=wipedata
Exec=bash -c 'man sfill; Exec bash'
```

### Continuous Fill Stress Test:

To stress test sfill by continuously filling a directory with random data until the disk is full:

```
sfill -l -l -z /path/to/directory
```

This command will continuously fill the specified directory with random data until the disk is full, using two passes of overwriting with zeros.

### Multiple Passes Stress Test:

To stress test sfill by performing multiple passes of overwriting on a specific file:

```
sfill -l -l -l /path/to/file
```

This command will perform three passes of overwriting with zeros on the specified file to stress test the data erasure process.

### Random Data Stress Test:

To stress test sfill by filling free space on a disk with random data:

```
sfill -l -z /path/to/mounted/disk
```

This command will fill the free space on the mounted disk with random data while performing a single pass of overwriting with zeros.

### Extreme Stress Test:

To stress test sfill with extreme settings for maximum impact:

```
sfill -f -l -z -z -z /path/to/directory
```

This command will force sfill to fill the specified directory with random data, performing three passes of overwriting with zeros to stress test the data erasure process.

[Desktop Entry]

Type=Application

Version=1.0

Name=Wipe Directory

Comment=secure Directory deletion

Icon=/usr/share/Icons/little-psyacho/10.png

Terminal=true

Categories=wipedata

Exec=bash -c 'sudo bash /opt/shredir.sh; Exec bash'

[Desktop Entry]

Type=Application

Version=1.0

Name=Wipe Disk

Comment=secure Disk deletion

Icon=/usr/share/Icons/little-psyacho/10.png

Terminal=true

Categories=wipedata

Exec=bash -c 'sudo bash /opt/shred-disk.sh; Exec bash'

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Wipe file
Comment=secure file deletion
Icon=/usr/share/Icons/little-psycho/10.png
Terminal=true
Categories=wipedata
Exec=bash -c 'sudo bash /opt/shredfile.sh; Exec bash'
```

```
[Desktop Entry]
Type=Application
Name=Shredder Duplicate Finder
GenericName=Duplicate Finder
Comment=Find and delete duplicates
TryExec=rmlint
Exec=rmlint --gui
Icon=shredder
Categories=wipedata;
Keywords=remove;duplicate;files;filesystem;lint;
```

rmlint is a command-line tool used for finding and removing unnecessary or duplicate files on a system. It helps to free up disk space by identifying redundant files, empty directories, and other **Types** of clutter that can accumulate over time.

Here are some key points about rmlint:

**Duplicate File Detection:** rmlint can detect duplicate files based on their content, allowing you to clean up redundant data and reclaim disk space.

**Empty Directory Detection:** The tool can identify and remove empty directories, streamlining the file system structure.

**Customizable Cleaning Rules:** rmlint provides various cleaning rules and options that can be configured based on specific requirements.

**Interactive and Dry Run Modes:** It offers interactive mode for reviewing and confirming file deletions, as well as a dry run mode to simulate the cleaning process without making changes.

**File **Type** Filtering:** rmlint supports filtering files based on **Types**, sizes, and other criteria to focus on specific cleanup tasks.

To use rmlint, you typically run the command with appropriate options to scan and clean up files on your system. Here is a basic example:

```
rmlint -c d /path/to/directory
```

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Secure-Delete> srm
Comment=secure remove
Icon=/usr/share/Icons/little-psyacho/5.png
Terminal=true
Categories=wipedata
Exec=bash -c 'man srm; Exec bash'
```

### Continuous Overwrite Stress Test:

To stress test srm by continuously overwriting a specific file with random data until the file is securely deleted:

```
srm -f -z -v /path/to/file
```

This command will continuously overwrite the specified file with random data until the file is securely deleted, with verbose output for monitoring.

### Multiple Passes Stress Test:

To stress test srm by performing multiple passes of overwriting on a directory and its contents:

```
srm -r -l -l -l /path/to/directory
```

This command will perform three passes of overwriting with zeros on all files within the specified directory to stress test the secure deletion process.

### Random Data Stress Test:

To stress test srm by securely deleting a disk partition by overwriting it with random data:

```
srm -f -z -z -z /dev/sdX
```

This command will securely delete the contents of the disk partition /dev/sdX by performing three passes of overwriting with random data.

### Interactive Stress Test:

To stress test srm interactively by confirming each deletion operation:

```
srm -i -r -v /path/to/directory
```

This command will run srm interactively, prompting for confirmation before securely deleting files within the specified directory.

### Extreme Stress Test:

To stress test srm with extreme settings for maximum impact:

#### **srm -f -f -v -z -z -z /path/to/directory**

This command will force srm to securely delete files within the directory by performing multiple passes of overwriting with zeros, with verbose output for monitoring.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Secure-Delete> swap
Comment=secure swap wiper
Icon=/usr/share/Icons/little-psyacho/5.png
Terminal=true
Categories=wipedata,swap
Exec=bash -c 'man sswap; Exec bash'
```

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Wipe Tool 3
Comment=secure file deletion
Icon=/usr/share/Icons/little-psyacho/10.png
Terminal=true
Categories=wipedata
Exec=bash -c 'sudo /usr/bin/wipe -h; Exec bash'
```

### Wipe a Specific File:

To securely wipe a specific file using the wipe command:

```
wipe /path/to/file
```

This command will overwrite the specified file with random data to securely wipe its contents.

### Wipe a Directory Recursively:

To securely wipe all files within a directory and its subdirectories:

```
wipe -r /path/to/directory
```

This command will recursively wipe all files within the specified directory and its subdirectories to securely erase their contents.

### Wipe with Random Data:

To wipe a storage device with random data for secure erasure:

```
wipe -r -k /dev/sdX
```

This command will recursively wipe all data on the storage device `/dev/sdX` with random data to ensure secure deletion.

### Wipe with Zeros:

To wipe a file using zeros instead of random data:

```
wipe -z /path/to/file
```

This command will overwrite the specified file with zeros to securely wipe its contents.

### Verbose Output:

To run wipe with verbose output for monitoring the wiping process:

```
wipe -v /path/to/file
```

This command will provide detailed information about the wiping process as it progresses.

### Multiple Passes:

To perform multiple passes of overwriting for enhanced data security:

```
wipe -r -k -p 3 /dev/sdX
```

This command will perform three passes of overwriting with random data on the storage device `/dev/sdX` for secure erasure.

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Wiping with Hdparam
Comment=It is functionally equivalent to zero-filling a disk
Icon=/usr/share/Icons/little-psycho/10.png
Terminal=true
Categories=wipedata
```

```
Exec=bash -c 'sudo bash /opt/wipe-sda-hdparam.sh; Exec bash'
```

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Wipe Tool 2
Comment=partially wipe a disk drive.
Icon=/usr/share/Icons/little-psycho/10.png
Terminal=true
Categories=wipedata
Exec=bash -c 'sudo /opt/WipeWithWipe.sh; Exec bash'
```

## Chapter 4

### Plasma Desktop guide

#### Working with Your Desktop

Contents

- 2.1. Starting Programs
- 2.2. Using Dolphin File Manager
- 2.3. Moving Text between Applications
- 2.4. Finding Data on your Computer or in the File System
- 2.5. Accessing Removable Media and External Devices
- 2.6. Using Virtual Desktops
- 2.7. Managing Internet Connections
- 2.8. Exploring the Internet
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- 2.12. Opening or Creating Documents with OpenOffice.org
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- 2.15. Displaying, Decompressing, and Creating Archives
- 2.16. Creating CDs or DVDs
- 2.17. Viewing and Managing Digital Images
- 2.18. Managing Your Music Collection
- 2.19. Troubleshooting
- 2.20. For More Information

The following sections give you a short introduction to the key functionalities and applications. Learn how to cope with basic and daily tasks and how small KDE utilities like a password manager or a clipboard tool can ease your life.

#### Starting Programs

You can start programs either from the main menu or from the command line, using the *Run Command* dialog or a shell. Additionally, you can start programs from the desktop or the panel by left-clicking the program **Icon** once.

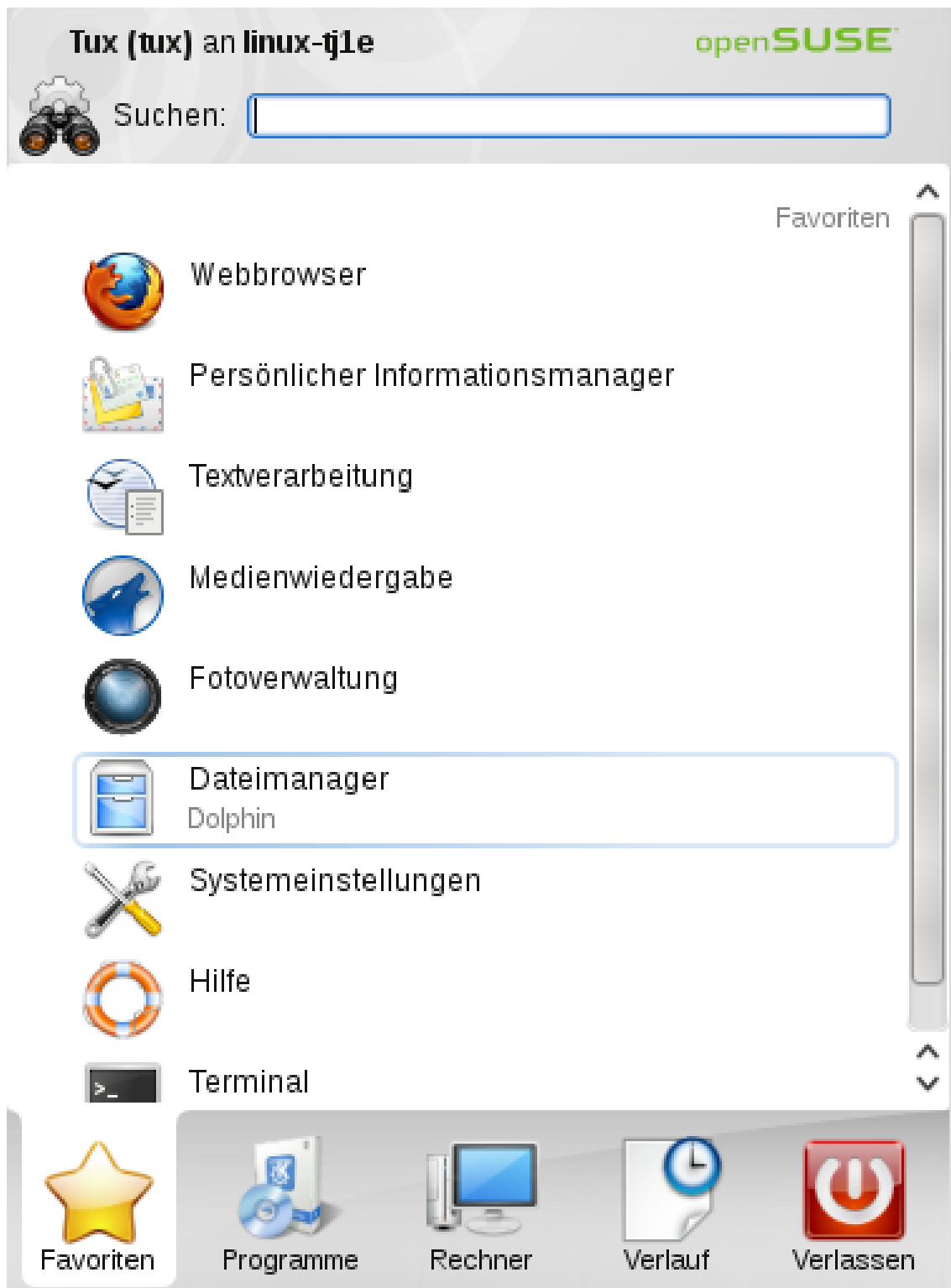


Clicking an object once in openSUSE usually starts an action directly: a program starts, a preview of the file is displayed, or the folder is opened. To former users of Windows, this behavior may be rather unusual. If you just want to select one or several objects without any other action, press **Ctrl** then click the object. Conversely, alter your mouse settings in the KDE Personal Settings as described in Procedure 3.11, “Adjusting the Mouse Settings”.

### Using the Main Menu

To open the main menu, click the main menu **Icon** in the panel or press **Alt+F1**. The main menu consists of the following elements: a search function at the top and several tabs at the bottom, providing quick access to the key functions of the menu.





The following tabs are available:

*Favorites*

Shows a default selection of key programs for quick access.

## *Applications*

Shows all applications installed on your system. The function-oriented menu structure makes it easy to find the right application for your purposes even if you do not know the application **Name** yet. To navigate through the structure, click an entry and use the arrow **Icons** at the right or the left to switch back and forth. To switch back to the top-level hierarchy from anywhere in the structure, just click the tab's **Name** or **Icon**.

## *Computer*

Gives quick access to some places often needed, such as important system folders (home directory, network folders) and media devices. Also allows you to quickly access system information, and to change your system configuration with YaST, if necessary.

## *Recently Used*

Lists the most recently opened programs and files. To reopen a program or file, just click the entry. To remove all recently used programs or files from the list, right-click below the relevant heading and select *Clear Recent Applications* or *Clear Recent Documents*.

## *Leave*

Shows several options for leaving the session, such as logging out, locking the screen (access can only be regained with a password), shutting down or restarting the computer. For more information, see Section 1.3, “Leaving Your System”.

Additionally, the menu displays your login **Name** and the host**Name** of your computer. This information is useful when you are logged in as a different user or to a remote computer—it always shows you which system you are currently working on.

## **Using KRunner**

KRunner is a helper application which lets you quickly start programs. It also offers a search function for finding applications or locations. Refer to Section 2.1.3, “Searching for Programs” for more information.

Press **Alt+F2** to open the input field. **Type** a command, for example, dolphin, and press **Enter** to start the application. The command to start the application is often (but not always) the application **Name** written in lowercase.



You can also use KRunner to show current processes running on your system. To do so, start KRunner and click the *Show System Activity Icon*. The dialog that appears also allows you to kill processes (for example, to terminate a "runaway" application).

KRunner's abilities can be extended by a huge number of plug-ins that provide additional functionality. For example, if the *Web Shortcuts* plug-in is activated, you can use the web shortcuts defined in Konqueror also in KRunner: send search requests directly to a search engine like Google\* without opening the browser and visiting the Web sites before. For more information, refer to Section "Using Web Shortcuts" (Chapter 13, *Konqueror: Browsing the Web*, ↑Application Guide).

Click the wrench symbol to explore the full range of KRunner's abilities: If the *Contacts* plug-in is activated, just enter the **Name** of one of your contacts and then press  to open KMail and to start typing your mail.



If the relevant plug-in is activated, you can also use KRunner as a calculator or to convert units.

## Searching for Programs

Both the main menu and KRunner offer a search function that lets you quickly start programs, even if you do not know the exact application **Name** or command yet. To search for an application, start typing a command or part of the application **Name** in the main menu *Search* field of the menu or the input field in the *Run Command* dialog. Each character you enter further narrows your search.

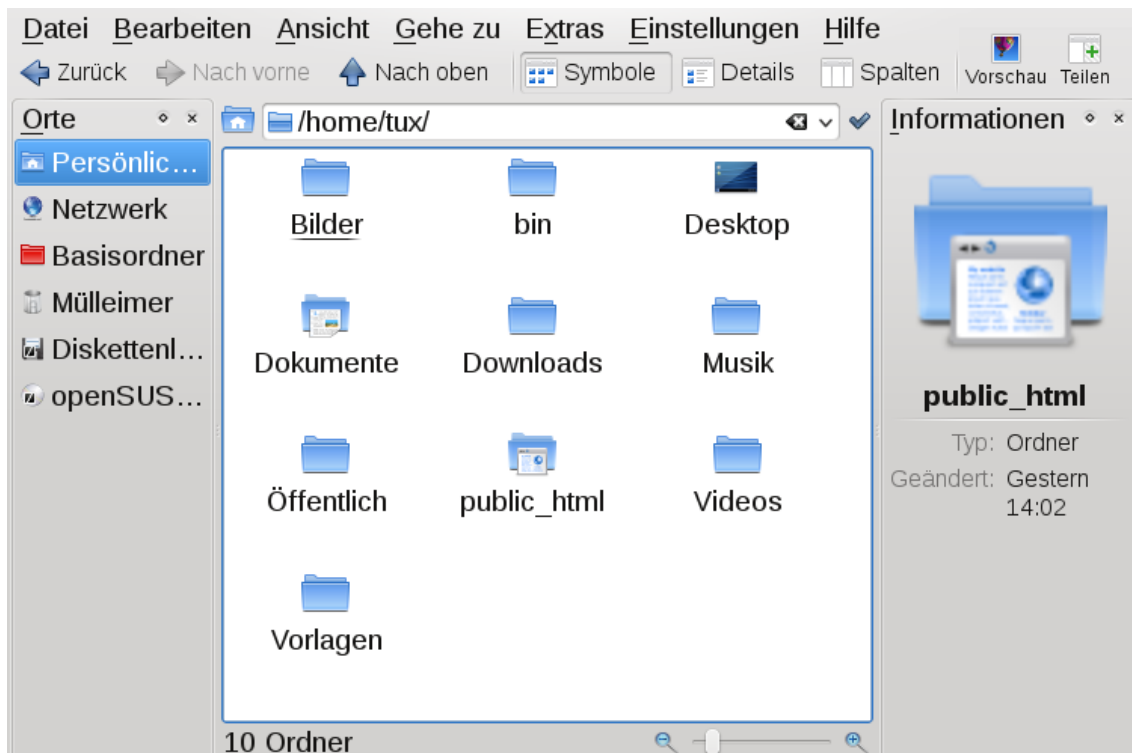
From the list below the input field, choose the application or object matching your query.

## Using Dolphin File Manager

With KDE 4, Dolphin has replaced Konqueror as the default file manager, while Konqueror still is still shipped and mainly functions as Web browser. For more information about Konqueror as Web browser, see Chapter *Konqueror: Browsing the Web* (↑Application Guide). To start Dolphin, click the card box **Icon** in the panel or press **Alt+F2** and enter dolphin.

## Dolphin Main Window

The Dolphin main window consists of the following elements:



**Menu Bar:** The menu bar holds menu items for actions like copying, moving, and deleting files, changing views, starting additional tools, defining your settings, and getting help.

**Toolbar:** The toolbar provides quick access to frequently used functions that can also be accessed via the menu. If you hover the mouse pointer over an **Icon**, a short description is displayed.

**Location Bar:** The location bar displays the path to the current directory. It is available in two **Versions**. One shows the path to the current directory with **Icons** for every parent folder in a "bread crumb" view. Click any **Icon** in the bread crumb view to change to that directory. The second **Version** of the location bar shows the path to the current directory as a string of text you can edit.

**Panels:** By default, Dolphin shows only the *Places* panel on the left and the *Information panel* on the right. *Places* allows quick access to some often used places like your home directory, the */root* directory of the file system, the trash bin, or removable media. There are several other panels you can add to the main window.

**Display Field (Working Space):** The display field shows the contents of the selected directory or file. By default, Dolphin displays the contents of your home directory on start-up. Clicking a folder or file in Dolphin directly starts an action: Dolphin loads the file into an application for further processing, or opens the folder.

**Status Bar:** Shows information about the currently selected object.

## Managing Files and Folders

To perform actions like copying, moving, creating or deleting files, you need appropriate permissions to the folders and files involved in your action.

### *Procedure 2.1. Copying, Moving, or Delete Files or Folders*

1. In order to select one or multiple files and folders in Dolphin, move your mouse pointer over the file or folder but do not click. A green cross appears on the upper-left edge. To select the file or folder now, click the green cross **Icon**. Conversely, press **Ctrl** and click the file or files. To deselect again, click the red minus **Icon** that appears if the object is currently selected.
2. Right-click and select *Copy* or *Cut* from the context menu.
3. Navigate to the destination folder in which to insert the object.
4. To create a new folder at the current location, select *File+Create New+Folder* or press **F10**. Enter a folder **Name** in the new window and press **Enter**.

5. To insert the object you copied or cut in **Step 2**, right-click the destination folder in the main display field and select *Paste*. The object is copied or moved there.
6. To delete a file or folder, right-click the object in the main display field and select *Move to Trash* from the context menu. The object is moved to the trash bin. From there, you can restore it if necessary or delete the object irretrievably.

To quickly filter for certain fileNames in the current directory, press **Ctrl+I** or select *Tools+Show Filter Bar* to add the *Filter* input field to the bottom of the Dolphin main window. **Type** any part of the fileName you are searching for to see all files in the current directory containing the search string. For more detailed and advanced searches, press **Ctrl+F** to use KFind. For more information, refer to Section 2.4, “Finding Data on your Computer or in the File System”.

## Configuring Dolphin

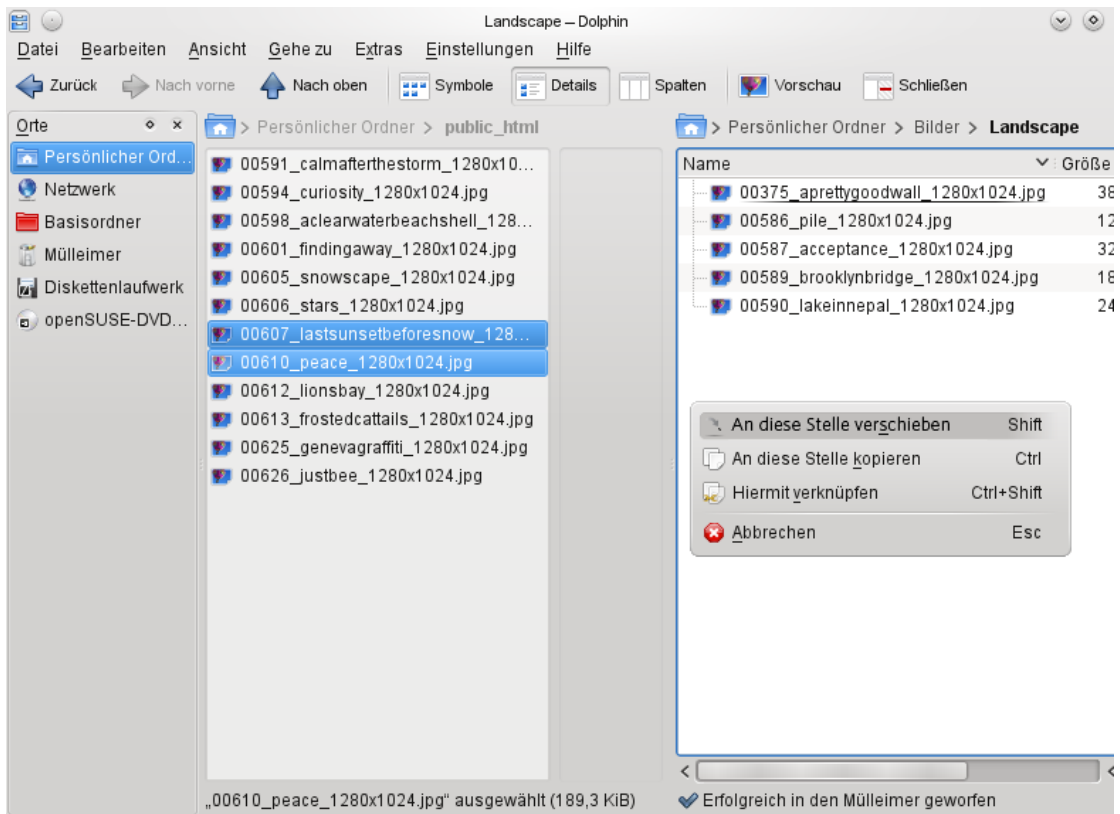
Dolphin offers many options to adjust the view and the overall settings according to your needs.

### Procedure 2.2. Changing the View

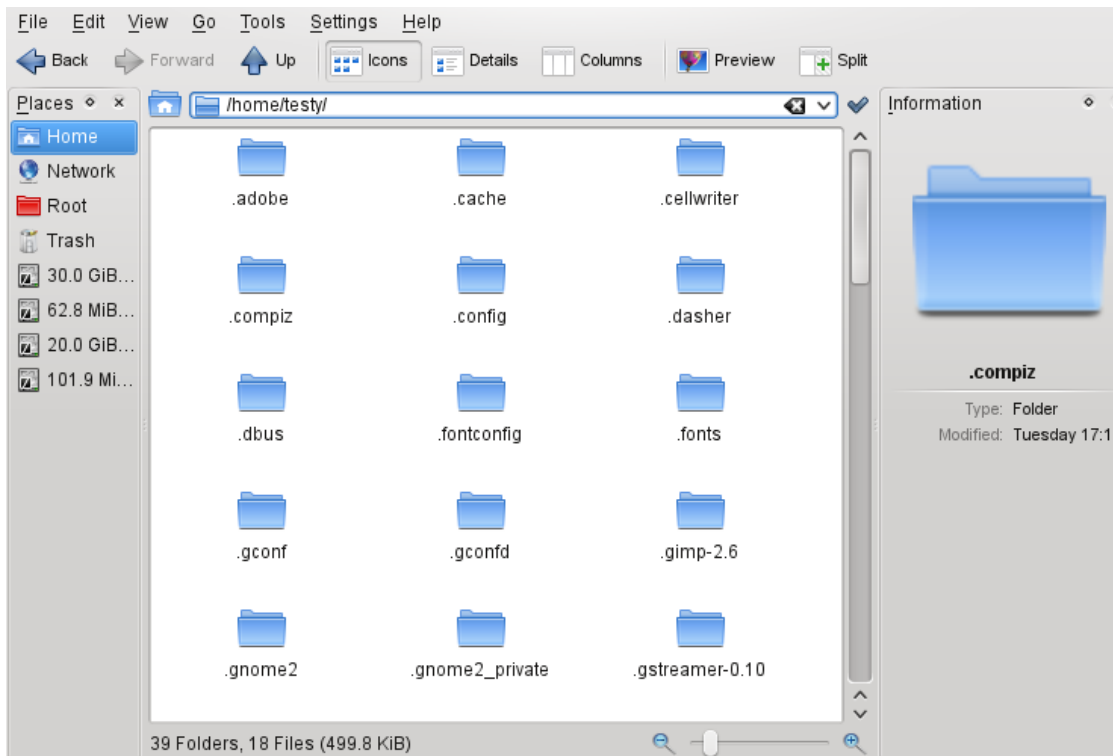
1. To toggle between the bread crumb view and the editable **Version** of the location bar, press **Ctrl+L** or click at the far right end of the location bar. Enter a path to a directory by typing it in. After typing an address, press **Enter**.



2. To delete the contents of the location bar click the black X symbol on the left. To switch back to the bread crumb view, press **Ctrl+L**.
3. To change the view of the currently displayed folder, either click *Icons*, *Details*, or *Columns* in the toolbar. Dolphin remembers the selected view for each folder. Conversely, press **Ctrl+1**, **Ctrl+2**, or **Ctrl+3** to switch between the view modes. Click *Split* or press **F3** to view the contents of the current folder in two separate columns. Now you can navigate to a different directory in each column and easily drag or drop objects or compare the contents of directories.



- To make Dolphin also show hidden files, select *View+Show Hidden Files* or press **Alt++**.
- To view more details about the files (like access permissions or ownership), select *View+Additional Information* and enable the relevant options.



6. To add further directories to the *Places* panel, drag a folder from the working space to the *Places* panel and drop it there. Right-click and use the context menu to hide, edit or remove entries from *Places*.
7. If you want to add more panels to the main window, select *View+Panels* and select additional panels such as *Information*, *Folders*, or *Terminal*.
  - The *Information* panel shows the properties and a preview of the currently selected file. It also lets you add **Comments** to the file.
  - The *Folder* panel shows a tree view of the whole file system and lets you navigate through all subdirectories of */root*.
  - The *Terminal* panel attaches a command line to the bottom of the main Dolphin window. Whenever you click a directory in the display field, the *Terminal* panel also changes to that directory, so you can easily switch to the command line for certain tasks you prefer to **Execute** in a shell.

You can even detach the panels from the main Dolphin window by clicking the left **Icon** at the top of each panel. Click the panel's title bar and drag it to another place on the desktop. To reintegrate the panel into the Dolphin window again, click the left symbol at the top of the panel again.



### Procedure 2.3. Changing Dolphin's Overall Behavior

If you want to change Dolphin's overall behavior or view, select *Settings+Configure Dolphin* and explore the options offered in the Dolphin configuration dialog.

1. To use the same view mode for all folders, click the *General* category in the left sidebar. On the *Behavior* tab, activate *Use Common View Properties for All Folders*. If you want to adjust the options for the individual view modes, click *View Modes* in the left sidebar and set the options according to your wishes. Click *Apply* to save the changes.
2. If you want Dolphin to show a different default directory on start-up, or if you want to permanently use the editable location bar instead of the bread crumb view, change the relevant options in the *Startup* category.
3. Click *OK* to save the changes and to close the Dolphin configuration dialog.

## Moving Text between Applications

To copy text to the clipboard and insert it again, former MS Windows users automatically try the keyboard shortcut **Ctrl+C** and **Ctrl+V**, which often works in Linux as well. Copying and inserting texts is even easier in Linux: to copy a text to the clipboard, just select the text with the mouse then move the mouse cursor to the position to which to insert the text. Click the middle (or wheel) button on the mouse to insert the text (on a two-button mouse, press both mouse buttons simultaneously).

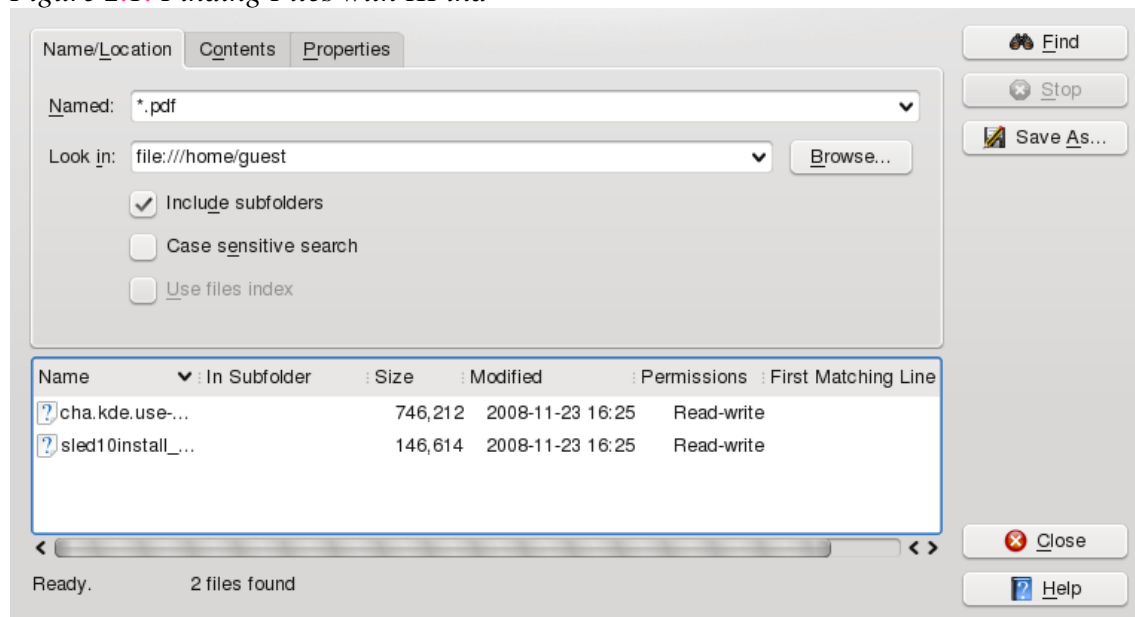
With some applications, if text is already selected in the application where you want to insert the text, this method does not work because the text in the clipboard is overwritten by the other selected text. For such cases, the KDE application Klipper is very useful. Klipper "remembers" the last entries you have moved to the clipboard. By default, Klipper is started when KDE is loaded and appears as a clipboard **Icon** in the panel. To view the clipboard contents, click the Klipper **Icon** or press **Ctrl+Alt+V**. The most recent entry is listed on top and is marked as active with a black check mark. If extensive text was copied to Klipper, only the first line of the text is displayed.

To copy an older text fragment from Klipper to an application, select it by clicking it, move the mouse pointer to the target application, then middle-click. For further information about Klipper, see the Klipper online help.

## Finding Data on your Computer or in the File System

With KFind, you can locate files on your computer or in the file system using a variety of search criteria, such as file content, dates, owner, or file size. Start it from the main menu with *Applications+Find Files/Folders*. Conversely, press **Alt+F2** and enter *kfind*.

Figure 2.1. Finding Files with KFind



## Finding Files

To perform a search for certain fileNames, proceed as follows:

1. Start KFind from the main menu or command line.
2. Click the *Name/Location* tab to perform a basic search.
3. Specify the **Name** of the file to find in *Named*. You can use the following wild cards:

Asterisk

The asterisk (\*) stands for any number of missing characters (even zero). For example, searching for `marc*` can find the files `marc`, `marc.png`, and `marc_must_not_read_this.kwd`. Searching for `mar*.kwd` can find `marketplace.kwd` and `marc_must_not_read_this.kwd`.

Question Mark

The question mark (?) stands for exactly one character. For example, searching for `mar?` can find `marc`, but `marc?` cannot find anything if your files are **Named** `marc` and `marc.png`. You can put as many question marks in the search term as you want. It finds exactly that number of characters.

You can combine those two wild card symbols in any search term.

4. Specify the folder to search in *Look In* or click *Browse* to find the folder you want. Select *Include Subfolders* to also search all subfolders starting from your specified folder.
5. Press  or click *Find*.

## Performing an Advanced File Search

For a more detailed search, you can also specify further options, such as text that the file to find must contain:

1. Start KFind from the main menu or the command line.
2. Click the *Name/Location* tab.
3. Specify the **Name** of the file to find in *Named*.
4. Specify the folder in which to search in *Look In* or click *Browse* to find the folder.
5. Click the *Contents* tab.
6. In *File Type*, specify the **Type** of file to find.
7. In *Containing Text*, enter the word or phrase that the file you are searching for must contain.
8. If you want to specify further options, click the *Properties* tab and choose the options you want.
9. Click *Find* to perform the search.

For detailed information about the search options available, refer to the KFind online help.

## Accessing Removable Media and External Devices

If you insert removable media (such as CDs or DVDs) into your computer's drive, or connect external devices such as USB sticks, external hard disks, media players or digital cameras, these are usually automatically detected. In KDE 4, a panel widget alerts you to any recently plugged or inserted devices.

*Figure 2.2. Device Notifier*



Click on the entry to show the device's contents with Dolphin.

If the device is not automatically displayed in the device notifier, try to access it manually with Dolphin.

Start the Dolphin file manager and switch to the editable **Version** of the location bar as described in Procedure 2.2, "Changing the View". Enter `/media` to access any **Type** of drive mounted there. If the medium has been detected, it is also listed in the *Places* panel. Click the relevant entry to show the contents. Digital cameras can also be accessed by entering the URL `camera:/` into Dolphin's location bar. In case your camera is not automatically detected,

configure it first with the KDE 4 Personal Settings or with digiKam as described in Section “Configuring Your Camera” (Chapter 17, *Managing Your Digital Image Collection with DigiKam*, ↑Application Guide). Navigate through the camera’s directory structure until the files are shown. Use the usual Dolphin file management features to copy the files as desired.

Another way to access detected media devices is to click the *My Computer* **Icon** on your desktop. The detected devices are listed in the *Disk Information* section.



## Removing Media Safely

If you want to remove or disconnect a device from your computer, make sure that the data on it is currently not being accessed by any application or user. Otherwise, you risk a loss of data. To safely remove the device, proceed as follows:

1. Open a view that displays the removable device (for example, with Dolphin or *My Computer*).
2. Right-click the device in the *Places* panel (or below *Disk Information*) and select *Safely Remove* or *Eject*. *Safely Remove* unmounts the device, after which you can disconnect it from your computer. *Eject* automatically opens the CD or DVD drive of your computer.

## Using Virtual Desktops

The desktop environment allows you to organize your programs and tasks on several virtual desktops between which you can switch the pager in the panel (see Section 1.2, “Exploring the Desktop Components”). If you often run a lot of programs simultaneously, this minimizes the number of windows to arrange on your screen. You might, for example, use one desktop for e-mailing and keeping your calendar and another for word processing or graphics applications.

### *Procedure 2.4. Moving an Application to Another Virtual Desktop*

You can display a running application on one or all virtual desktops or move it to other desktops.

1. Open the application.
2. Right-click the title bar of the application.
3. Click *To Desktop*.
4. Select the desktop on which to place the application.
5. To switch between desktops, click the desired desktop in the pager in the panel.

Some users might need more desktops than provided by default. Learn how to add additional desktops in Procedure 3.5, “Adding Additional Virtual Desktops”.

## Managing Internet Connections

To surf the Internet or send and receive e-mail messages or use Instant Messengers, you must have configured an Internet connection with YaST or NetworkManager. For more details, see Abschnitt „Konfigurieren von Netzwerkverbindungen mit YaST“ (Kapitel 21, *Grundlegendes zu Netzwerken*, ↑Referenz) and Kapitel *Verwenden von NetworkManager* (↑Start).

## Exploring the Internet

Once an Internet connection is established, either use Firefox or Konqueror for browsing. Konqueror is KDE's Web browser but openSUSE also includes Firefox. To start Konqueror or Firefox, press `Alt+F2` and enter konqueror or firefox.

With features like tabbed browsing, pop-up window blocking, and download and image management, both browsers combine the latest Web technologies. Their easy access to different search engines helps you to find the information you need.

For more information about Firefox, see Chapter *Browsing with Firefox* (↑Application Guide). Learn more about Konqueror as a Web browser in Chapter *Konqueror: Browsing the Web* (↑Application Guide).

## E-Mail and Scheduling

For reading and managing your mails and appointments, you can use Kontakt as your personal information management tool (PIM). Kontakt combines KDE applications like KMail, KOrganizer, and KAddressBook into a single interface. This gives you easy access to your e-mail, calendar, address book, and other PIM functionality. KMail can also manage multiple e-mail accounts, such as your private and business e-mails. To start Kontakt, press `Alt+F2` and enter kontakt.

Before you can send or receive mails, you must configure an e-mail account. When starting KMail for the first time, a configuration wizard appears that assists you in setting up your account. For detailed information about configuring and using Kontakt, see Chapter *Kontakt: E-Mailing and Calendaring* (↑Application Guide).

## Instant Messaging

Kopete is an online messenger application that allows multiple partners connected to the Internet to chat with each other. Kopete currently supports a number of common messenger protocols. To be able to use instant messaging (IM), you must register with a provider offering IM services and configure a Kopete account.

To start Kopete, press **Alt+F2** and enter kopete. Learn more about Kopete in Chapter *Kopete: Instant Messaging* (↑Application Guide).

## Managing Passwords

When you enter a password in a KDE application for the first time (in KMail or Konqueror, for example), you are asked if you want to store the password in an encrypted wallet. If you click *Yes*, KWallet wizard starts by default. KWallet is a password management tool that can collect all passwords and store them in an encrypted file. For more information on how to configure and use KWallet, refer to Chapter 8, *Managing Passwords with KWallet Manager*.

Whereas KWallet is designed to centrally manage passwords for several KDE applications, Firefox also offers the ability to store data when you enter a user **Name** and a password on a Web site. If you accept by clicking *Remember*, the password will be stored on your hard disk in an encrypted format. The next time you access this site, Firefox will automatically fill in the login data.

To review or manage your passwords in Firefox, click *Edit+Preferences+Security+Saved Passwords....*

## Opening or Creating Documents with OpenOffice.org

The office suite OpenOffice.org offers a complete set of office tools, including word processor, spreadsheet, presentation, vector drawing, and database components. Because OpenOffice.org is available for a number of operating systems, you can use the same data across different computing platforms. You can also open and edit files in Microsoft Office formats then save them back to this format, if needed.

Start OpenOffice.org from the main menu or click the Office **Icon** on the desktop. You can also start individual components, like the word processor, by pressing **Alt+F2** and entering oowriter.

For an introduction to OpenOffice.org, see Chapter *The OpenOffice.org Office Suite* (↑Application Guide) or view the help in an OpenOffice.org program.

## Viewing PDF Files and Other Documents

Documents that need to be shared or printed across platforms can be saved as PDF (Portable Document Format) files, for example, in the OpenOffice.org suite. View them with Okular, the default KDE document viewer.

Start Okular from the main menu or press **Alt+F2** and enter okular.

To open a document, select *File+Open* and choose the desired file from the file system. Navigate through the documents by using the navigation **Icons** at the top or bottom of the window. If your PDF document provides bookmarks, you can access them in the left panel of the viewer.

Okular also allows you to review a document by highlighting certain text parts or adding annotations. For more information about working with Okular, see Chapter 4, *Viewing PDF Files and Other Documents with Okular*.

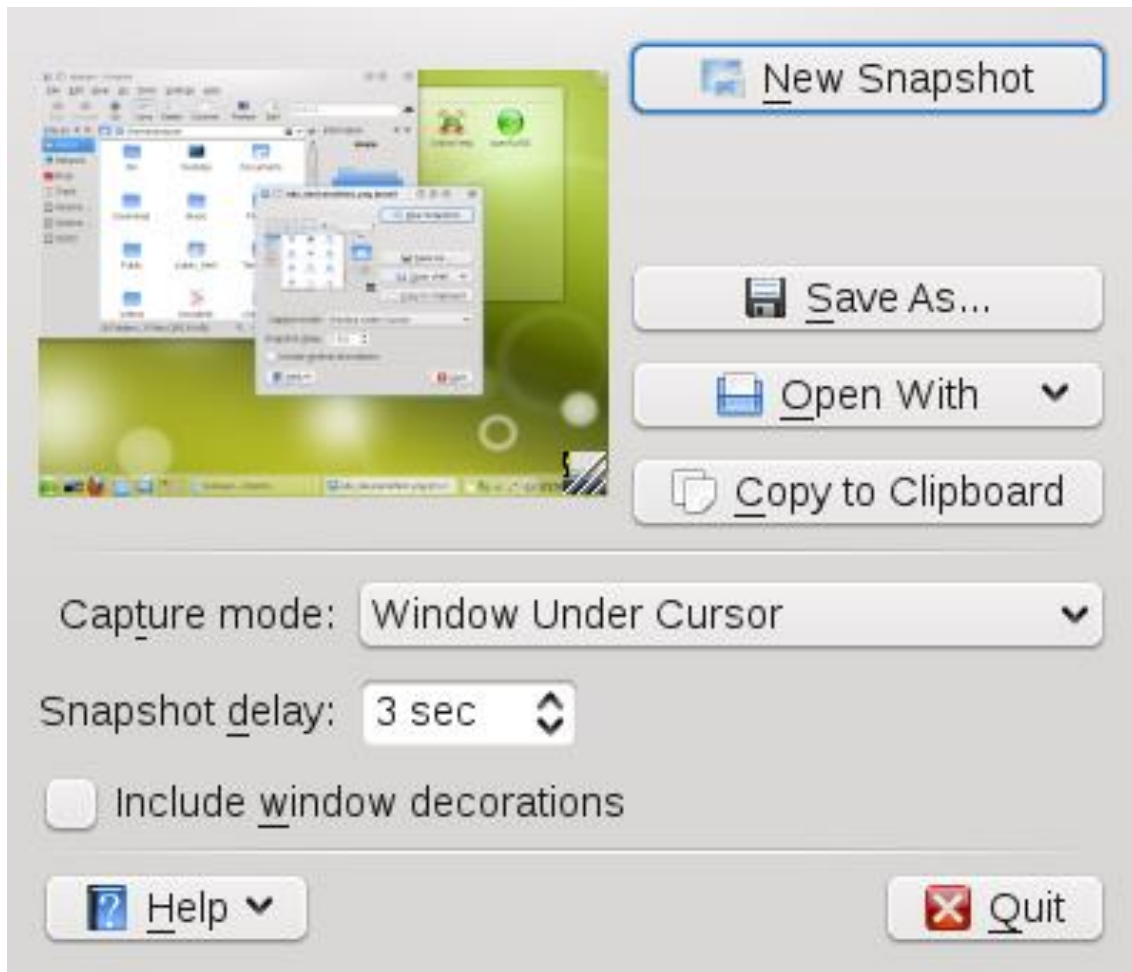
You can also view PDF files with Adobe Acrobat Reader. If Acrobat Reader is not installed by default, install the `acroread` package with YaST. To start Acrobat reader, press `Alt+F2` and enter `acroread` or start the program from the main menu. Click *File+Open*, locate the desired PDF file and click *Open* to view the file.

## Taking Screen Shots

With KSnapshot, you can create snapshots of your screen or individual application windows. Start the program from the main menu or by pressing `Alt+F2` and entering `ksnapshot`. On start-up, KSnapshot takes a snapshot of the screen and displays it as preview. You can choose to save the current snapshot, to open it with an graphics application or to copy it to the clipboard. Before creating a new snapshot, check if the options in the lower part of the window match your needs. For example, to automatically capture a dialog window or a certain region (instead of the full screen), adjust the *Capture Mode*. If you need to take some other actions first (like selecting a certain object in the window), adjust the *Snapshot Delay* and choose if to *Include the window decorations* or not. Then click *New Snapshot* to take a new snapshot which you then can save or edit further.

*Figure 2.3. KSnapshot*



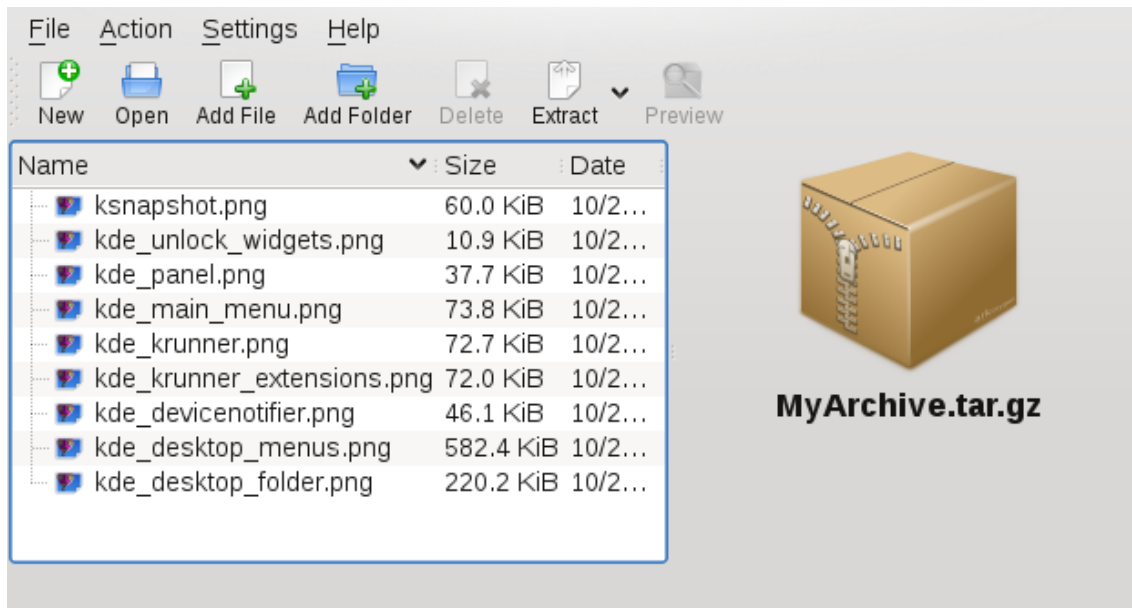


## Displaying, Decompressing, and Creating Archives

To save space on the hard disk, use a packer that compresses files and directories to a fraction of their original size. The application Ark can be used to manage such archives. It supports common formats, such as zip, tar.gz, tar.bz2, lha, rar and LZMA/XZ.

Start Ark from the main menu or from the command line with `ark`.

*Figure 2.4. Ark: File Archive Preview*



Once you have opened an archive, perform various actions. *Action* offers options such as *Add File*, *Add Folder*, *Delete*, *Extract*, *View*, *Edit With*, and *Open With*.

#### *Procedure 2.5. Creating an Archive*

1. To create a new archive, select *File+New*.
2. Enter the **Name** of the new archive in the dialog that opens, and specify the format using *Filter*.

After confirming with *Save* or by pressing , the Ark window shows an empty archive.

3. To fill the archive, drag and drop files and directories from the file manager into this window or click *Add File* or *Add Folder* to add the objects you want to add to the archive.
4. To remove a file from the archive, select the file and click *Delete*.
5. If all files to be archived are displayed in the window, just close Ark. Ark automatically compresses everything into the previously selected archive format and saves the archive.

#### *Procedure 2.6. Viewing and Extracting Archives*

1. To view the contents of an archive, start Ark and select *File+Open* to open the file. Conversely, just drag the archive from an open file manager window to the Ark window.
2. To see a preview of individual files, select a file and click *Preview*.

3. To extract all files from the archive, click *Extract*.

If you want to extract individual files from the archive only, select one or more files (by keeping the **Ctrl** key pressed) and click *Extract*. In the following dialog, you can still decide to save *All Files* or the *Selected Files Only*.

4. Enter the path to the *Destination Folder*, select if to *Open Destination Folder After Extraction* and click *OK* to extract the files.

## Creating CDs or DVDs

If you possess a CD or DVD writer, you can burn files to a CD or DVD with K3b. To start K3b, press **Alt+F2** and enter k3b. Learn more about K3b in Chapter *K3b: Burning CDs and DVDs* (↑Application Guide).

## Viewing and Managing Digital Images

You can view digital images in the file manager or with Gwenview. Start Gwenview by pressing **Alt+F2** and entering gwenview. Gwenview can load and save all image formats supported by KDE. It shows them either as thumbnails, in full screen view, or in slide show mode. When browsing JPEG images with EXIF information, Gwenview automatically rotates them according to the EXIF Orientation tag.

For managing and editing your digital images, digiKam is the right choice. Download your images from the camera, edit and improve them, organize them in albums (or flag them with tags for easy retrieval, independent of folders or albums), and archive them on CD (or export them to a Web image gallery).

To start digiKam, press **Alt+F2** and enter digikam. Find an introduction to digiKam in Chapter *Managing Your Digital Image Collection with DigiKam* (↑Application Guide).

## Managing Your Music Collection

KDE's Amarok music player allows you to play various audio formats, create playlists, and listen to streaming audio broadcasts of radio stations on the Internet. The file **Types** supported depend on the engine used for Amarok. To start Amarok, press **Alt+F2** and enter amarok. To define the folders where Amarok should look for your music files, from the main menu select *Settings+Configure Amarok+Collection* and set the options according to your wishes. For more information about Amarok, refer to Chapter *Playing Music and Movies: Amarok, Kaffeine and More* (↑Application Guide).

## Troubleshooting

## Plasma Crashes

In case your desktop (or plasma crashes), use the following commands to kill and restart plasma:

```
-  
-
```

## Plasma Configuration Files

If you ever need to manually modify the Plasma configuration files, find them in your system under `~/.kde4/share/config/plasmarc` and `~/.kde4/share/config/plasma-appletsrc`. The first one stores global settings like the desktop theme, while the latter stores the settings for all the individual applets.

## For More Information

As well as the applications described here for getting started, KDE can run many other applications. Find detailed information on many important applications in the other parts of this manual.

- To learn more about KDE and KDE applications, also refer to <http://www.kde.org/> and <http://www.kde-apps.org/>.
- Communicate and discuss topics with other KDE users and get help at <http://forum.kde.org/index.php>.
- To learn more about the helper applications included in KDE, see also <http://utils.kde.org/>.
- To report bugs or add feature requests, go to <http://bugs.kde.org/>.

## Customizing Your Settings

Contents

- 3.1. Personal Settings - Overview
- 3.2. Configuring Desktop Objects and Appearance
- 3.3. Configuring Hardware Components
- 3.4. Configuring Behavior and System Aspects

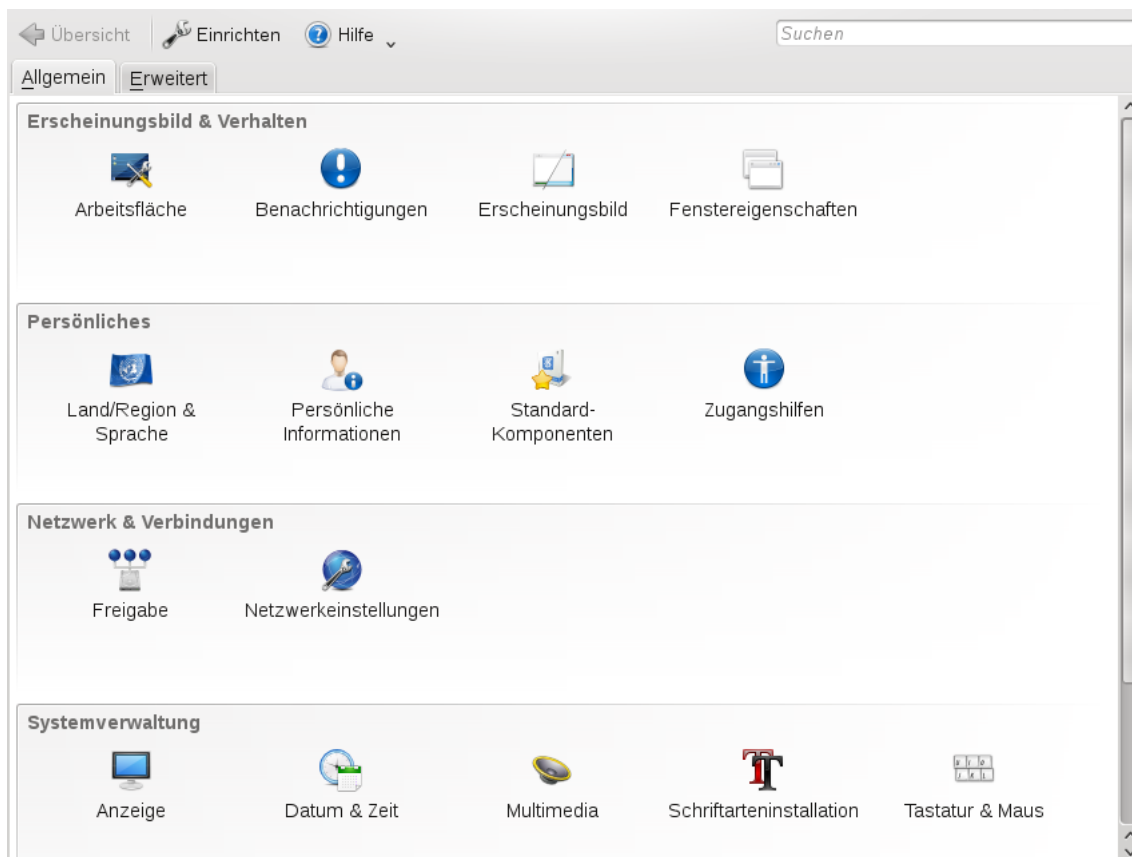
You can change the way your KDE desktop looks and behaves to suit your needs. There are several ways to influence the look and feel of the KDE desktop depending on the scope of changes to make. For users, the following options are available:

- To change the appearance or behavior of individual desktop objects only, you can usually access a configuration dialog by right-clicking the object.
- To change the overall appearance and behavior of your KDE desktop, use the *Personal Settings* that in KDE 4 replaced the former KDE Control Center. Personal Settings offers access to numerous configuration modules and dialogs, some of which can also be accessed via the context menu of individual desktop objects.

### Personal Settings - Overview

The Personal Settings are the central place for users to change the overall appearance and behavior of many components of the KDE desktop. Start the Personal Settings from the main menu by selecting *Favorites+Configure Desktop*.

*Figure 3.1. Personal Settings*



## Use

The *General* and *Advanced* tabs provide different **Categories** of settings. To get an impression of the numerous possibilities, just click a category **Icon** and explore the possibilities provided there. Performing tasks in some areas of the personal settings requires system administrator (*root*) permissions.

Change the settings as desired. No changes take effect until you click *Apply*. To discard changes in the recent view that you have not yet applied, click *Reset*. To reset all items in the recent view to the default values, click *Defaults*.

To get back to the start-up view (showing all **Categories**) again, click *Overview*. You can also enter a search string at the top of the window (for example, *Screen Saver*) to find the category which holds options related to the search string. Each character you enter in the *Search* field further narrows the search.

For easier overview of all **Categories**, you can also switch to a tree view by clicking *Settings* and selecting another *View Style*.

## Categories

The following list introduces the major **Categories**, and highlights the most important settings you can change there. Detailed information on the settings of each category is provided by the *Help* button on each page of the settings, or in the help center.

The *General* tab holds the following **Categories**:

#### *Look & Feel*

Holds settings for the appearance of your KDE 4 desktop (such as themes, window decorations, and styles of desktop elements). Allows you to configure 3D desktops effects, increase or decrease the number of virtual (multiple) desktops, or configure screen saver options. Cursor behavior, window behavior and the splash screen that appears on KDE start-up can also be modified here.

#### *Personal*

Holds settings for changing the default paths to the subdirectories of your home directory. Allows you to change the default applications (like e-mail client, text editor, messenger, and Web browser) that are called whenever a KDE application needs to start applications of these **Types**. Define country and language-specific options here, such as default spell checking options, currency, number and date format, and keyboard layouts for different languages. This category also offers accessibility options for handicapped users, such as sound and keyboard options and mouse gestures.

#### *Network & Connectivity*

Allows you to set options for network management, local network browsing and proxy servers.

#### *Computer Administration*

Allows you to configure date and time settings for your KDE desktop, to change size and orientation of your display, and to specify power management options for saving energy. Also holds settings for joysticks, keyboard and mouse. You can view and modify the predefined KDE shortcuts. You can also install personal or systemwide fonts here and configure your sound system.

The *Advanced* tab holds the following **Categories**:

#### *Advanced User Settings*

Use this category to configure options like encoding or to which database to connect for track listings of audio CDs, to configure your digital camera, or to change the settings for KWallet (the KDE password management tool). If needed, change the

default file associations in order to identify a file **Type** and start an appropriate application. Define how KDE handles sessions on login or shutdown and define which applications should be started automatically.

*System*

Holds options for the login manager, power management and Samba.



### Starting Individual Modules

You can also start individual modules of the Personal Settings from the shell or by adding a special applet to your panel.

To start modules from a shell, enter `kcmshell4 --list` to get a list of all available modules. Then enter `kcmshell4 module Name` to start the desired module.

Conversely, add the *Settings* applet to your panel according to the description in Section 3.2.3, “Panel”.

In the following sections, find examples of how to configure some aspects of your KDE desktop that you might want to customize.

## Configuring Desktop Objects and Appearance

Your KDE desktop comes with a predefined set of desktop **Icons**. By adding various objects such as folders, files, or widgets, you can create additional **Icons** on your desktop and arrange them as you like.

### *Procedure 3.1. Adding Program **Icons** to the Desktop*

To create a link to an application and place it on the desktop or the panel, proceed as follows:

1. Click the main menu button and browse to the desired application.
2. Right-click and select *Add to Desktop* or *Add to Panel* from the context menu that appears. If these menu items are not available, your desktop elements are probably locked. Unlock them first as described in Section 1.2.1, “Locking and Unlocking Desktop Objects”.
3. To change the **Icon** position on the desktop, left-click the **Icon** and drag it to the desired place.

To delete an **Icon** from your desktop, right-click the **Icon** and select *Remove this **Icon***.

## Widgets



### Procedure 3.2. Adding Widgets to the Desktop

Widgets are small applications that can be integrated into your desktop or your panel.

1. To add widgets to you desktop, right-click an empty patch on your desktop and select *Add Widgets*.

If these menu items are not available, your desktop elements are probably locked. Unlock them first as described in Section 1.2.1, “Locking and Unlocking Desktop Objects”.

2. In the dialog box that appears, you can limit the selection of widgets that is shown with the drop-down list at the top or by entering a search string into the input field.



3. Select a widget and click *Add Widget*. The widget appears on your desktop or in your panel.
4. To position the widget on your desktop, left-click the widget and drag it to the desired place. To align all widgets to a grid, right-click an empty patch on the desktop and select *Align Horizontally* or *Align Vertically*.

To remove a widget from your desktop, right-click the widget and select the *Remove...* entry. Conversely, hover your mouse pointer over the widget and click the X symbol in the frame.

### Procedure 3.3. Configuring Widgets

In order to configure widgets, the desktop elements need to be unlocked as described in Section 1.2.1, “Locking and Unlocking Desktop Objects”.

1. To configure a widget, hover your mouse pointer over the widget until a translucent panel appears on the left or right side of the widget, showing a number of symbols.



2. If the panel does not appear, your widgets are probably locked. Unlock them first as described in Section 1.2.1, “Locking and Unlocking Desktop Objects”
3. To change the widget size, left-click the resize symbol in the panel and keep the mouse button pressed while moving your cursor across the desktop to scale the widget size.
4. To rotate the widget in any direction, left-click the arrow symbol in the panel and keep the mouse button pressed while moving your cursor in a circle across the desktop. There is a sticky boundary in the horizontal and vertical positions where you can “clamp” the widget, if you like. You can also arrange it in any tilted position.
5. To change the contents, settings, or properties of a widget, left-click the wrench symbol in the panel. In the configuration dialog box that appears, set the options according to your wishes.

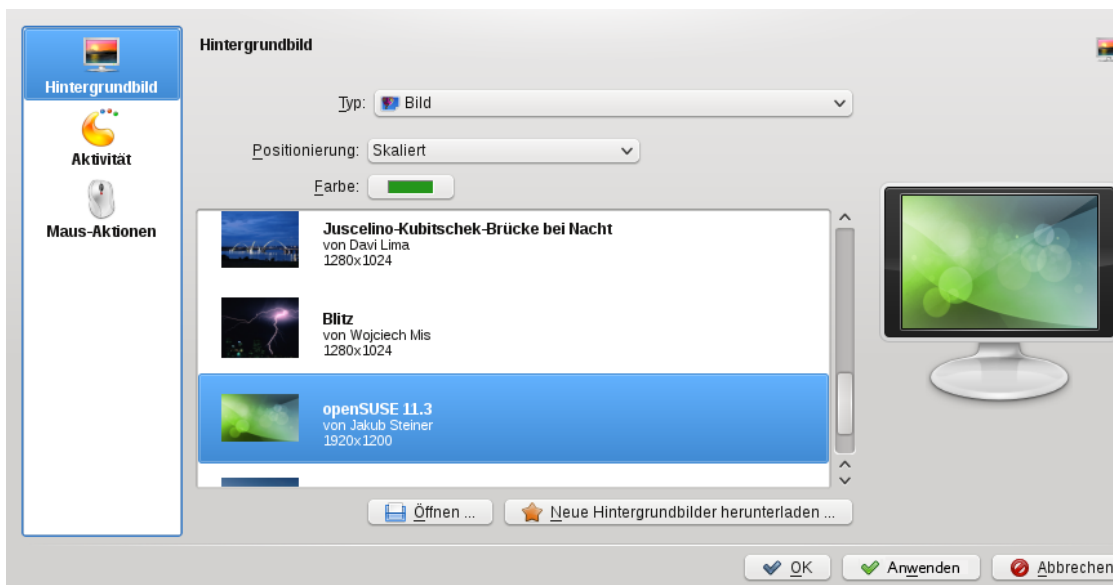
Use the X symbol in the panel if you want to close the widget.

## **Virtual Desktops, Background and Screen Saver**

### Procedure 3.4. Changing the Desktop Background

You can change the background colors of your desktop or select a picture to use as the background.

1. Right-click an empty patch of the desktop and select *Desktop Settings*. A configuration dialog appears.
2. In the *Wallpaper* section, choose from the *Type* drop-down list if you want to use an *Image*, a *Slide Show* or a *Color* as background.

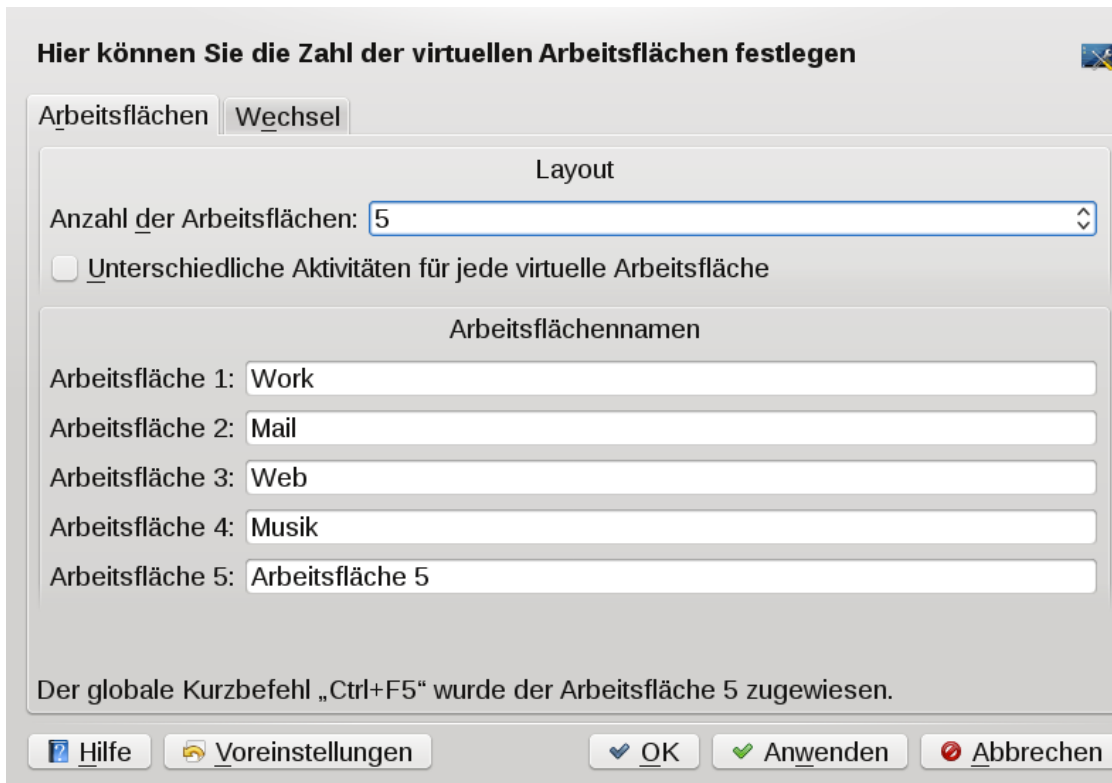


- For an image wallpaper, choose a wallpaper from the *Picture* list. Click *Get New Wallpapers* to download and install new wallpapers. To use a custom picture, click the folder button beneath the list and select an image file from the file system. Define the *Positioning* of the image.
  - To have multiple images appear in *Slide Show* mode, define the directory from which to select the pictures and set the interval after which to change the images.
3. Set the other options in the configuration dialog according to your wishes, and click *OK* to save your changes and leave the configuration dialog.

### Procedure 3.5. Adding Additional Virtual Desktops

Some users might need more desktops than provided by default.

1. Right-click the desktop previewer in the panel and select *Configure Desktops*. A configuration dialog appears where you can increase or decrease the number of virtual desktops. You can also change the default **Names** of desktops.



2. Click *OK* to apply the changes and close the configuration dialog.
3. For the **Name**s of the desktops to appear in the desktop previewer rather than the number, right-click the desktop previewer and select *Pager Options+Desktop Name*.

### *Procedure 3.6. Using Different Options for Each Virtual Desktop*

Though somewhat more complicated than with KDE 3.x, you can configure your virtual desktops in a way that allows you to use different wallpapers or widgets on each.



#### Combining Virtual Desktops with Plasma Activities

Note that the implementation in this release of KDE is still in an experimental state. Some features may not work as expected.

To access the relevant configuration options, you need to show the cashew **Icon** at the upper right corner first (in openSUSE it is not visible by default). To do so, right-click an empty patch on your desktop and select *Desktop Settings*. In the dialog that appears, click **Type** below *Desktop Activity* and select the *Desktop - Default Desktop Containment* entry from the list. Click *OK* to confirm the settings and to close the dialog. Now the cashew **Icon** is visible at the upper right corner of your desktop.

1. Click the cashew **Icon** at the upper right corner of your desktop and select *Configure Plasma*.

2. In the Plasma configuration dialog, activate *Different Activity for Each Desktop* and click *OK*.

From now on, each of your virtual desktops will have separate plasma activities. This will allow you to have a different wallpaper on each virtual desktop, as well as a completely separate set of widgets.

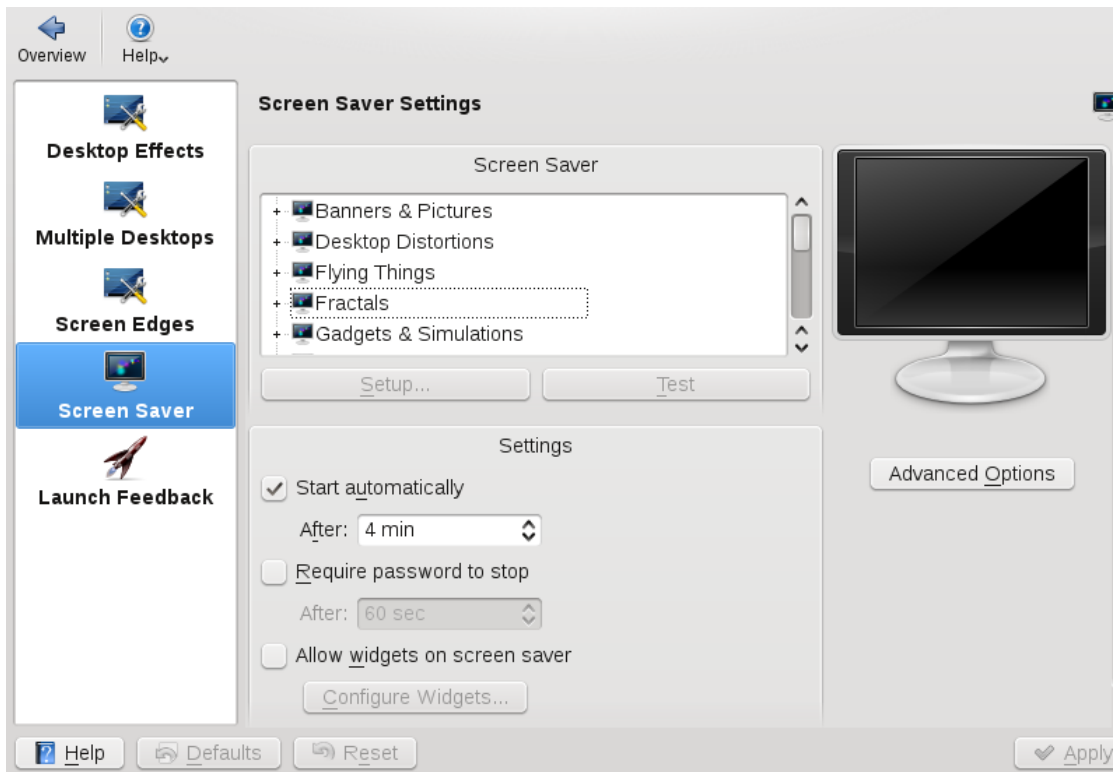
3. Now switch to the virtual desktop you want to configure and set a custom background as described in Procedure 3.4, “Changing the Desktop Background” or add new widgets for the virtual desktop as described in Procedure 3.2, “Adding Widgets to the Desktop”.

To make all virtual desktops appear the same again and to remove the binding between virtual desktops and activities, zoom out of your current desktop again and deactivate *Different Activity for Each Desktop* in the Plasma configuration dialog.

### *Procedure 3.7. Configuring the Screen Saver*

openSUSE® comes with predefined screen saver settings that you can adjust.

1. Start the Personal Settings from the main menu by selecting *Favorites+Configure Desktop*.
2. On the *General* tab, select *Desktop*.
3. In the dialog that opens, click *Screen Saver*.
4. In the list of screen savers, click a screen saver to see a preview in the right side of the dialog.



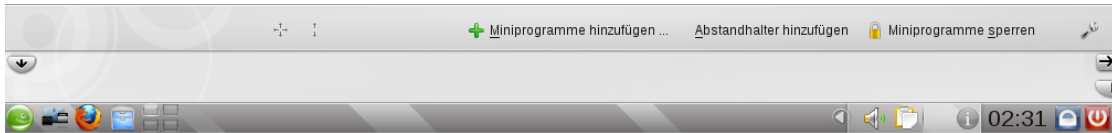
5. Click *Setup* to adjust options like speed or shapes.
6. You can also choose to view a blank screen instead or to let KDE start a random screen saver. Find these options at the end of the screen saver list.
7. Under *Settings*, determine after how long a time of inactivity the screen saver should start and whether a password is required to unlock the screen after the screen saver has started.
8. Click *OK* to apply the changes and close the configuration dialog.

## Panel

You can customize the KDE panel according to your preferences. Applications and widgets can be added to the quick launch area or the system tray in the main panel or to additional panels. Panel elements and additional panels can be moved to different places or be completely removed at any time.

### *Procedure 3.8. Customizing the Panel*

1. Right-click an empty patch in the panel and select *Panel Settings* to access any panel options. Conversely, click the cashew **Icon** at the end of the panel. The panel changes view and shows its configurations options.



2. If the menu item and the **Icon** are not available, your desktop objects are probably locked. To unlock, right-click and select *Unlock Widgets* first.
3. To move panel objects to a different place within the panel, hover the mouse cursor over the respective panel object (for example, program **Icon**, pager, task manager, system tray). The mouse cursor turns into a crosslines-like form. Move the cursor to the desired position in the panel, then click again to fix the object in the new position.
4. To change the panel width, click and drag the small arrow **Icons** at the far left and right end of the settings panel.
5. To change the panel height, click the *Height* button and move the mouse cursor to the desired end location.
6. To place the panel at different sides of the screen use the *Screen Edge* button. Drag and drop the panel to the preferred location.
7. If you need additional widgets on your panel, add them with the *Add Widgets...* button as described in Step 2.
8. To remove program **Icons** or widgets from the panel, right-click the unwanted object and select the menu item to remove the **Icon** or widget.

The **Icons** in the system tray usually belong to applications running in the background. Therefore you can only remove those **Icons** if you close those applications (right-click the **Icon** and select *Quit*).

9. To prevent the panel and widgets from being moved accidentally, use *Lock Widgets*.
10. For additional configurations options like alignment and functions (like auto hide), click *More Settings....*
11. If all panel changes are according to your wishes, close the settings panel with the red close button on the right side.

## Configuring Hardware Components

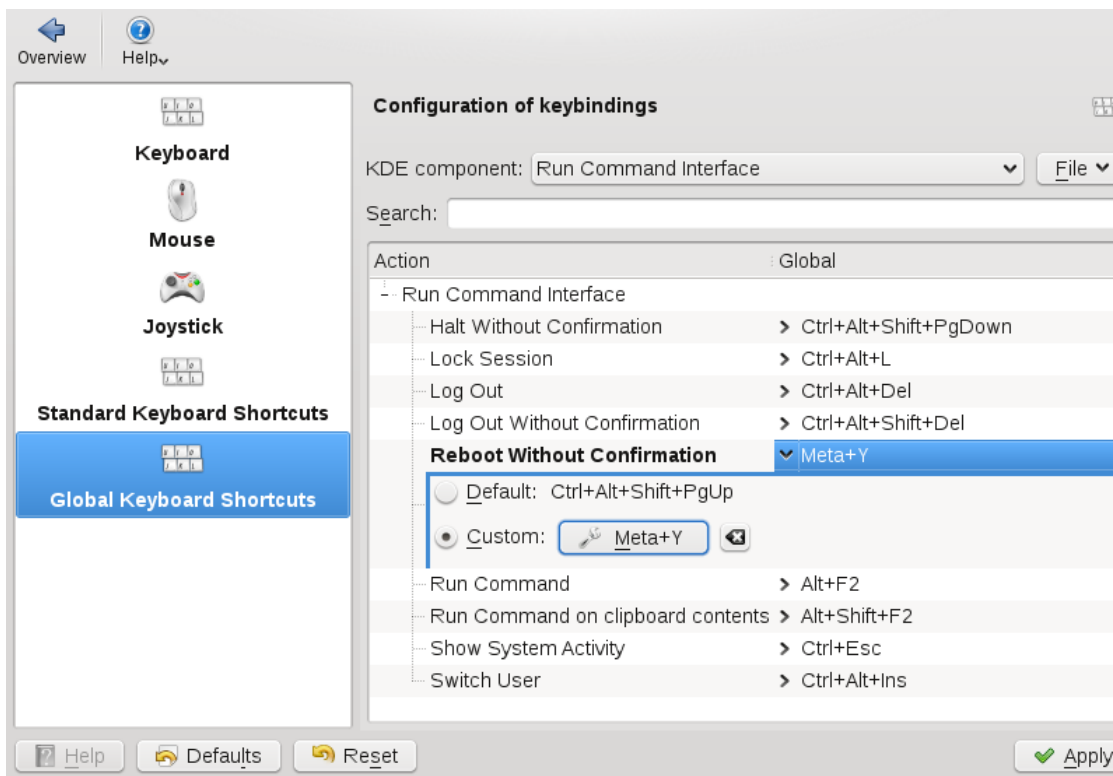
Most of your hardware components (like mouse, keyboard and display) are configured automatically. In case you need to change any settings, KDE provides a set of options and tools, some of which are integrated into the Personal Settings (like options for mouse and keyboard behavior or the display options). For adjusting your display configuration on the fly, use KRandRTray, the graphical front-end for the RandR (Resize and Rotate) extension of the X server.

## Keyboard and Mouse Settings

In the *Keyboard & Mouse* category of the Personal Settings, you can define options like what happens if you press and hold down a key (keyboard repeat), or what to do with the NumLock toggle key. You can also change keyboard shortcuts as described in Procedure 3.10, “Modifying KDE Keyboard Shortcuts” or alter your mouse settings (for example, for left-handed or right-handed use as described in Procedure 3.11, “Adjusting the Mouse Settings”). Apart from that, you can adjust or add keyboard layouts in the *Regional & Accessibility* section of the Personal Settings.

*Procedure 3.9. Adjusting and Adding Keyboard Layouts*

1. To adjust or add keyboard layouts, open the Personal Settings and select *Regional & Accessibility+Keyboard Layout*.
2. Activate *Enable keyboard layouts* at the top.
3. If you have a special *Keyboard Model*, select the appropriate model from the list, otherwise just keep the default.
4. If you often need to enter texts in various languages, you may want to add different language layouts for your keyboard. To do so, select a layout in the list of *Available layouts* and click the right arrow button to transfer it to the list of *Active layouts*.



5. If you added several layouts, you can change the sorting order with the help of the up and down arrow buttons.
6. Use the *Switching Options* tab to adjust the options for switching between the keyboard layouts. For example, you can define keyboard shortcuts for switching.



7. For more information, click *Help*.
8. Confirm your changes with *Apply*.

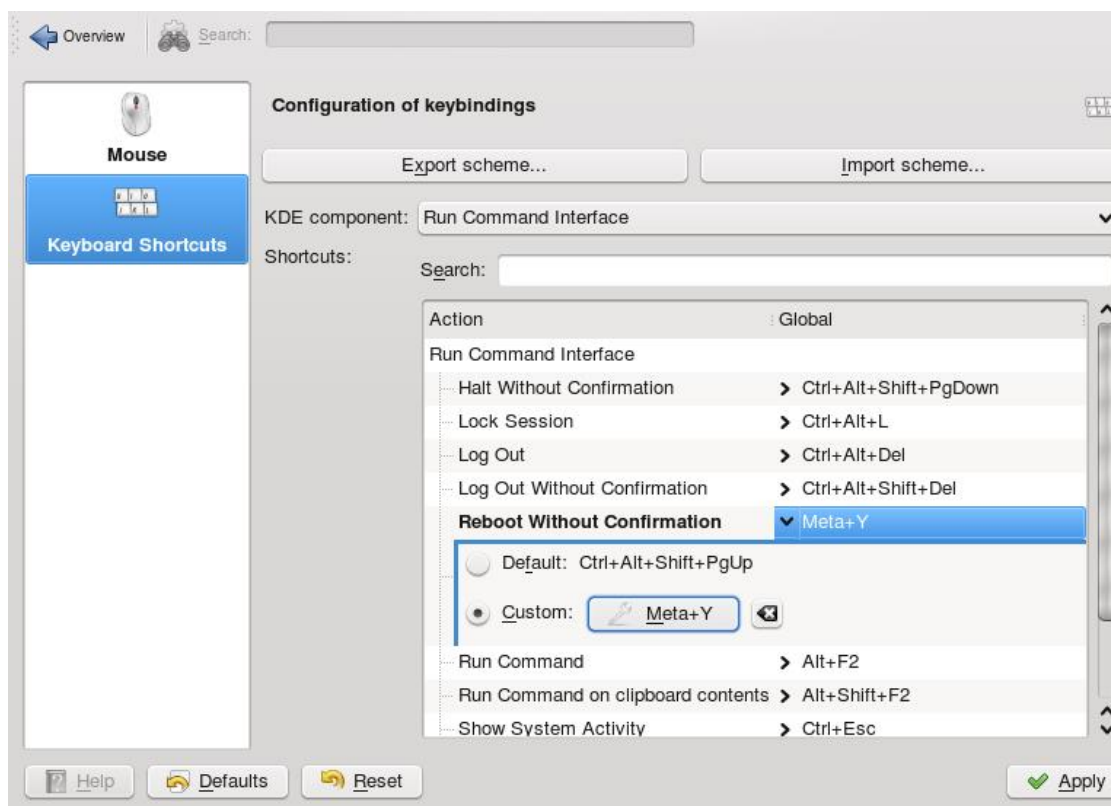
If you added keyboard layout, you can change between different keyboard layouts by clicking the country flag in the panel or by using the relevant keyboard shortcut.

### *Procedure 3.10. Modifying KDE Keyboard Shortcuts*

KDE comes with a set of predefined keyboard shortcuts. You can easily create more keyboard shortcuts or change existing shortcuts (for example, if they conflict with other application-specific shortcuts).

1. Open the Personal Settings and select *Keyboard & Mouse*.
2. Click either *Standard Keyboard Shortcuts* or *Global Keyboard Shortcuts*. In the *Global Keyboard Shortcuts* category, you can define shortcuts for a number of KDE components like Plasma or the window manager KWin.

For example, to change the shortcuts for switching between the virtual desktops, select the *KWin* entry from the drop-down list. To change the shortcuts for locking the screen or logging out, select the *Run Command Interface* entry.

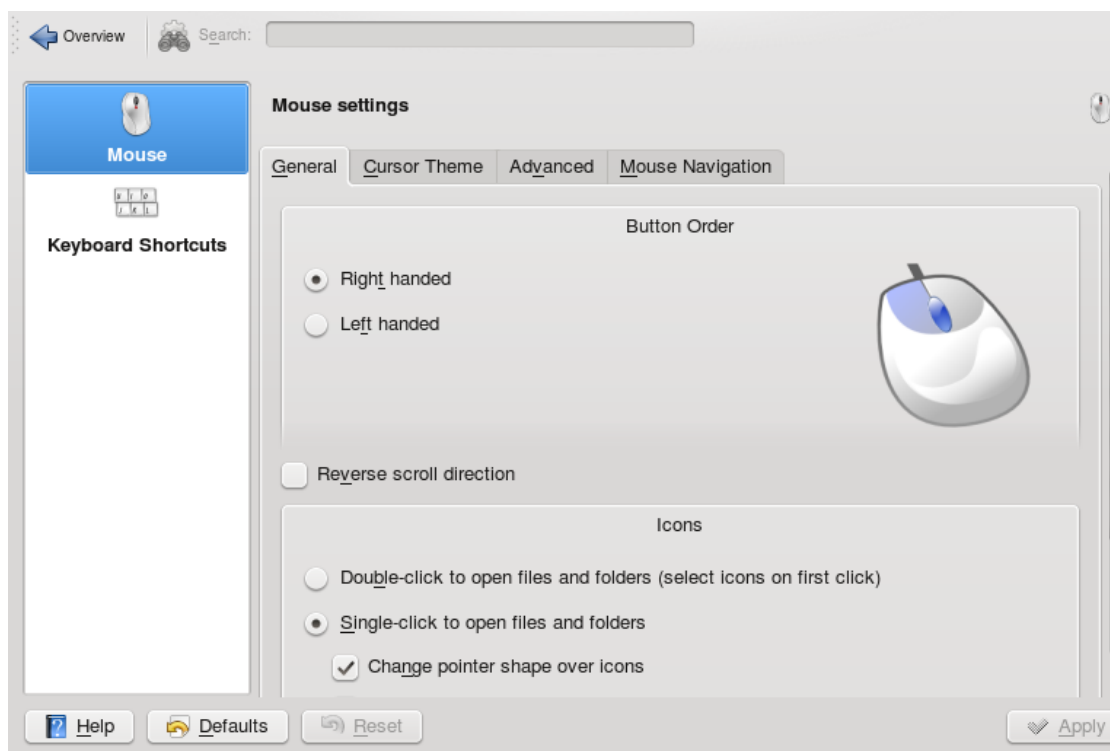


3. Browse through the list of shortcuts for the selected entry. To filter for certain keywords, enter a search string in the search field above.

4. To change or add a shortcut, select the relevant list entry and in the dialog that opens, select *Custom*.
5. Click the wrench **Icon** to switch to the input mode.
6. Press the desired key or key combination. If this shortcut cannot be accepted or in case of conflict with another existing shortcut, a notification shows. If your input was successful, the new or modified shortcut appears in the list.
7. If you want to switch back to the default keyboard shortcut for the selected action, just click the entry again and select *Default*.
8. To save the modified settings, click *Apply*. To reset all shortcuts to the default values, click *Defaults* then *Apply*.

*Procedure 3.11. Adjusting the Mouse Settings*

1. Open the Personal Settings and select *Keyboard & Mouse*.



2. To switch between left-handed or right-handed use, select the corresponding options in the *Button Order* group.
3. To switch to double-clicks to open files and folders, select the corresponding option in the *Icons* group.
4. To change the mouse pointer appearance, switch to the *Cursor Theme* tab and select a different cursor theme.

5. To change the default values of double-click intervals or the distance that the pointer moves over the screen on movement of the mouse, adjust the settings on the *Advanced* tab.
6. Click *Apply* to apply the changes and close the configuration dialog.

## Monitor Settings

Monitors attached to your machine are detected automatically during installation (or, if you plug them in after the installation, they are detected during the next start of the X server). Configure them with the tools your desktop environment (KDE or GNOME) provides. To trigger detection of new monitors during a running session, either use the **Fn-Fx** keys or the RandR desktop tools, KRandRTray or `gnome-display-properties`.

If you want to set up multiple monitors for dual-head graphics cards, you can choose between different modes.

Currently, the following modes are generally supported:

### Clone Mode

In this mode, the same content is shown on two or more monitors. Clone mode is usually limited to the monitors connected to a single graphics card.

### Span View

In this mode, the monitors connected to a graphics card form a single large monitor. You can use 3D acceleration and you can move application windows between the screens. Any application that is maximized stretches across the complete desktop, not only across one monitor. For this mode, a similar resolution of both monitors is recommended for ease of use.

### Twin View

This mode is Nvidia-specific and is a hybrid of Span View and Xinerama: you can have 3D acceleration and one desktop stretching over both monitors, but you cannot rotate just one of them (only both or neither).



Which modes and options are available on your machine depend on your hardware (graphics cards and monitors) and the driver you use.

### *Procedure 3.12. Configuring One or Multiple Monitors*

For configuring multiple monitors, you need a graphics card that is supported by a driver that implements the RandR extension in **Version 1.2** or higher. To find out if you are using a valid driver, run the `xrandr` command and check the output. If you only get a single output that contains the string `default`, your driver only supports RandR **Version 1.1**. For illustration, see the examples below.

1. Open the Personal Settings and select *Display*.
2. Select *Size & Orientation* to configure parameters like dual-head modes, screen size, and refresh rate.
3. Parameters like standby, suspend or power off for your monitor can be configured in the *Power Control* category.
4. To calibrate your monitor, click the *Gamma* category. For more information, click *Help*.
5. In the *Multiple Monitors* category, you can set some options for application windows (for example, if maximized windows need to be limited to just one monitor).
6. Confirm your settings with *Apply*.

To adjust your display configuration on the fly, start `KRandRTray` from the main menu, or press `Alt+F2` and enter `krandrtray`. After you have started the applet, the applet **Icon** is usually added to your system tray. To change screen size or refresh rate, right-click the **Icon** and select one of the entries. After selection, your screen resolution changes immediately and you are asked to confirm the new configuration or to revert to the old one. If you do not confirm the new configuration, the display switches back to the former resolution automatically after 15 seconds. If you left-click the **Icon**, you are taken to the same configuration dialog you can also start from the Personal Settings.

## Background Information

The following background information might help you in case your hardware components are not detected correctly by default and you need to adjust some settings manually.

### Graphics Card and Display

The following processes are **Executed** by the system to detect and configure your monitor: The X server is responsible for detecting the graphics card. The corresponding driver is selected according to a certain order defining the priorities, for example:

```
-->      -->      -->      -->
      -->      -->      -->
        -->      -->
          -->      -->
```

If one of the drivers in the list does not exist or the hardware is not supported, the system tries the next driver. The driver then addresses the monitor in its native resolution. Dynamic changes can be made using desktop-specific tools like `gnome-display-properties` or `KRandRTray`.

## Mouse, Keyboard and Touchpad

For mouse and keyboard, the `evdev` driver is used; for notebook touchpads the `synaptic` driver. The settings are defined systemwide by HAL (hardware abstraction layer) and are stored under `/usr/share/hal/fdi/policy`.

In case you need to adjust your (static) X Window System configuration for hardware components, this can be done with a graphical front-end (SaX2) or by editing the `/etc/X11/xorg.conf` configuration file manually (for experts only). To start SaX2, press `Alt+F2` and enter `sax2` (root password needed).

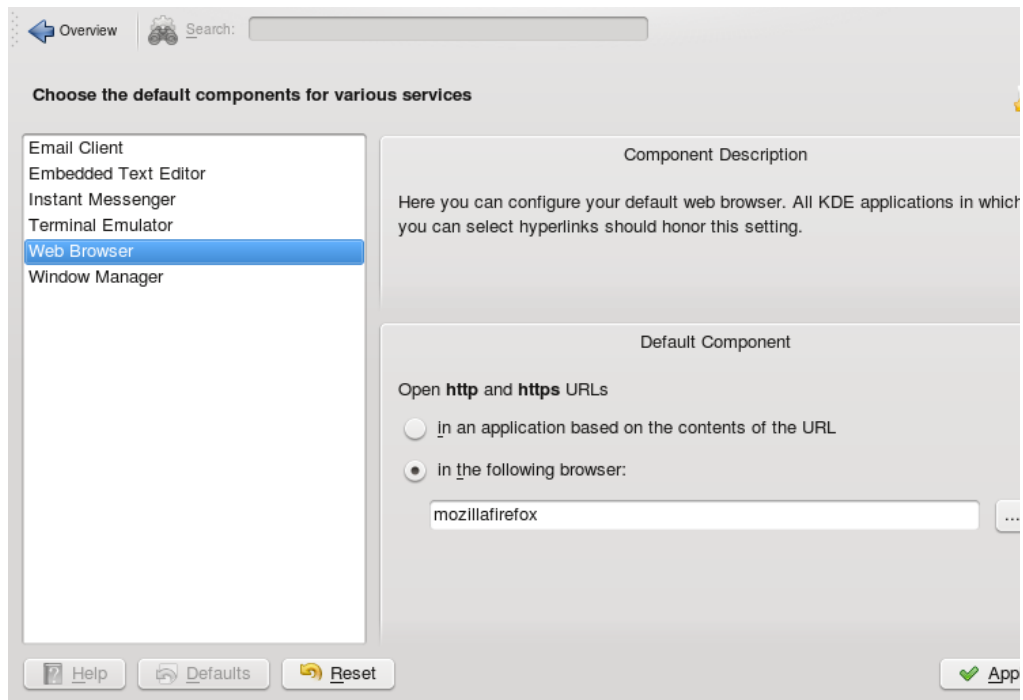
For experienced users, there are also command line tools available: you can set the keyboard with `setxkbmap` or test and configure XInput devices with `xinput`.

## Configuring Behavior and System Aspects

### *Procedure 3.13. Changing Default Applications*

There are certain default applications defined in KDE: For example, when you click an e-mail address, KMail starts.

1. To change this behavior and set your preferred Web browser or e-mail client as default, open the Personal Settings and click *Default Applications*.
2. To change the Web browser:
  - a. In the list of components, select *Web Browser*.
  - b. Select *Open http and https URLs in the following browser* and click the browse button beneath.
  - c. A dialog opens, showing the main menu structure. Select the Web browser to set as default and click *OK*. The component chooser now shows the selected application in the display field.

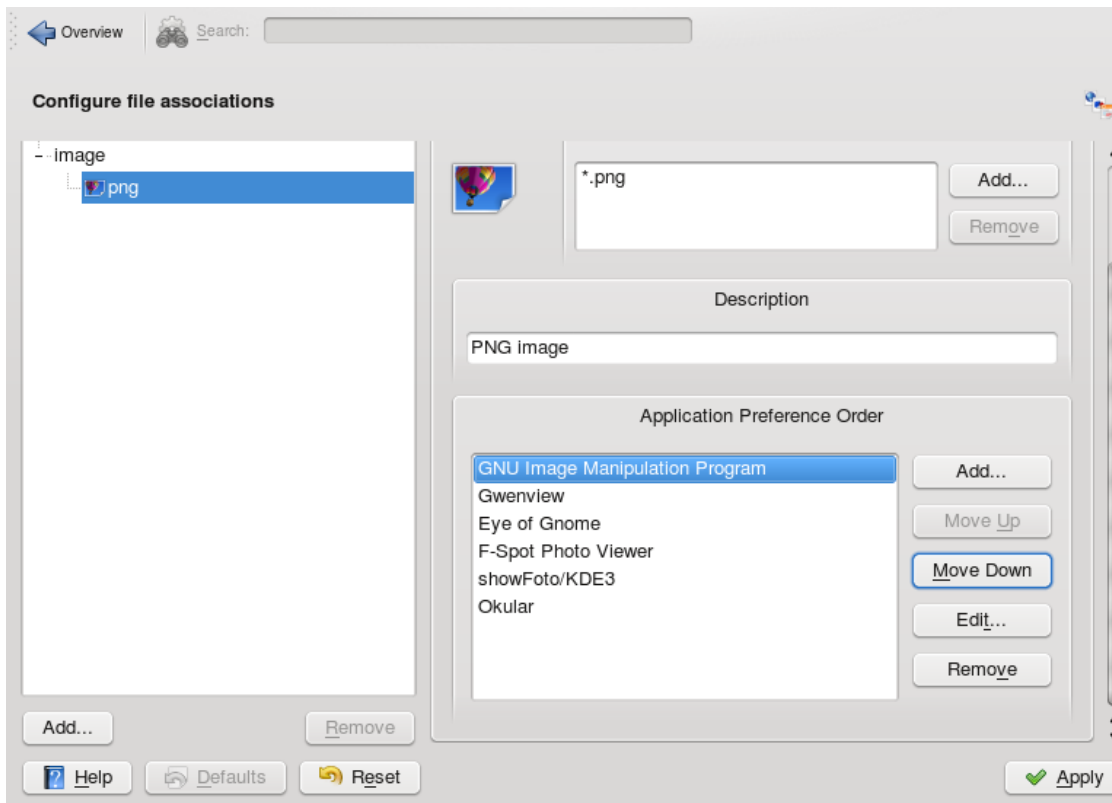


3. To change the e-mail client:
  - a. In the list of components, select *Email Client*.
  - b. Select *Use a different email client* and click the browse button.
  - c. A dialog showing the main menu structure opens. Select the e-mail client to set as default and click *OK*. The component chooser now shows the selected application in the display field.
4. If desired, change other default applications for KDE, like the application for the **Terminal** window or the instant messenger client.
5. When all options are set according to your wishes, click *Apply*.

### *Procedure 3.14. Changing File Associations*

Similar to setting the default Web browser or e-mail application, you can change file associations in KDE. File associations determine which application should be used to open a specific file **Type**.

1. Open the Personal Settings, click the *Advanced* tab and select *File Associations*.
2. To search for an extension, enter the extension in *Find File Type* or *File Name Pattern*. Only file **Types** with a matching file pattern appear in the list. For example, to modify the application for \*.png files, enter png in *Find File Type* or *File Name Pattern*.
3. In the *Known Types* list, click the file **Type** to open the setting dialog for this file **Type**. You can change the **Icon**, file**Name** patterns, description, and the order of the applications.

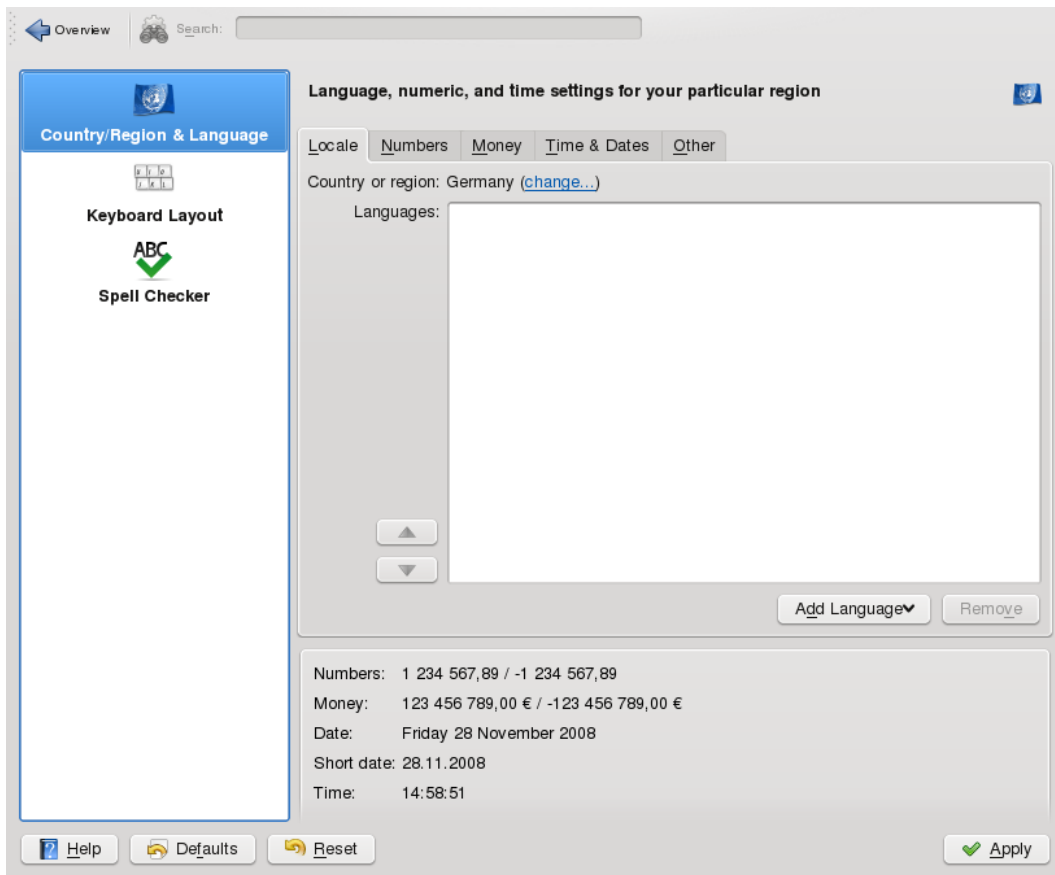


4. If your tool is not listed, click *Add* in *Application Preference Order* then select the program for the file **Type**.
5. To change the order of the list entries, click the program to move. Give it a higher or lower priority by clicking *Move Up* or *Move Down*. The application listed at the top is used by default when you click a file of this **Type**.
6. When all options are set according to your wishes, click *Apply*.

### *Procedure 3.15. Adjusting Regional Settings*

To adjust settings such as time and date format, number format, or currency, select the desired country as the default country in KDE. If more than one system language is installed on your computer, you can also select the different languages in which KDE should show the graphical user interface and application interfaces.

1. To set your default country options, open the Personal Settings and select *Regional & Language*.



2. On the *Locale* tab, click *Change* next to the *Country or Region* entry. In the dialog that opens, select the region and country you want to set as default in KDE and click *OK*.

Number, date and time formats are automatically adjusted to the new country's default values that are shown in the display field at the bottom of the *Locale* tab.

3. If you need to make further adjustments for those, click the relevant tabs and set the options according to your wishes.
4. If more than one language is installed on your system (as secondary languages with YaST) and you want to change the graphical interface of KDE to a different language, click *Add Language* on the *Locale* tab. This opens a list of languages currently installed on your system.
5. Select the language for the graphical user interface. The new language is now shown at the top position in the *Language* list.
6. To confirm the changes, click *Apply*. All newly started applications or desktop objects now appear in the new language.
7. To switch to another language, re-sort the languages in the *Languages* list until the desired language is at the top position and apply your changes.

KDE runs a session manager that starts after your user **Name** and password are authenticated by the login process. It lets you save the status of a certain session and return to that status the



next time you log in. For example, it can automatically start the applications that you were running in the most recent session or when you manually saved a session. It can save and restore the following settings:

- Appearance and behavior settings (such as fonts, colors, and mouse settings).
- Applications that you were running (such as a file manager or OpenOffice.org).



### Saving and Restoring Applications

You cannot save and restore applications that Session Manager does not manage. For example, if you start the vi editor from the command line in a **Terminal** window, Session Manager cannot restore your editing session.

#### *Procedure 3.16. Adjusting the Session Handling*

1. To change the session handling options, open the Personal Settings and on the *Advanced* tab, click *Session Manager*.

By default, Session Manager restores the applications that were running when you logged out from the previous session, enabling an automatic start of these applications.

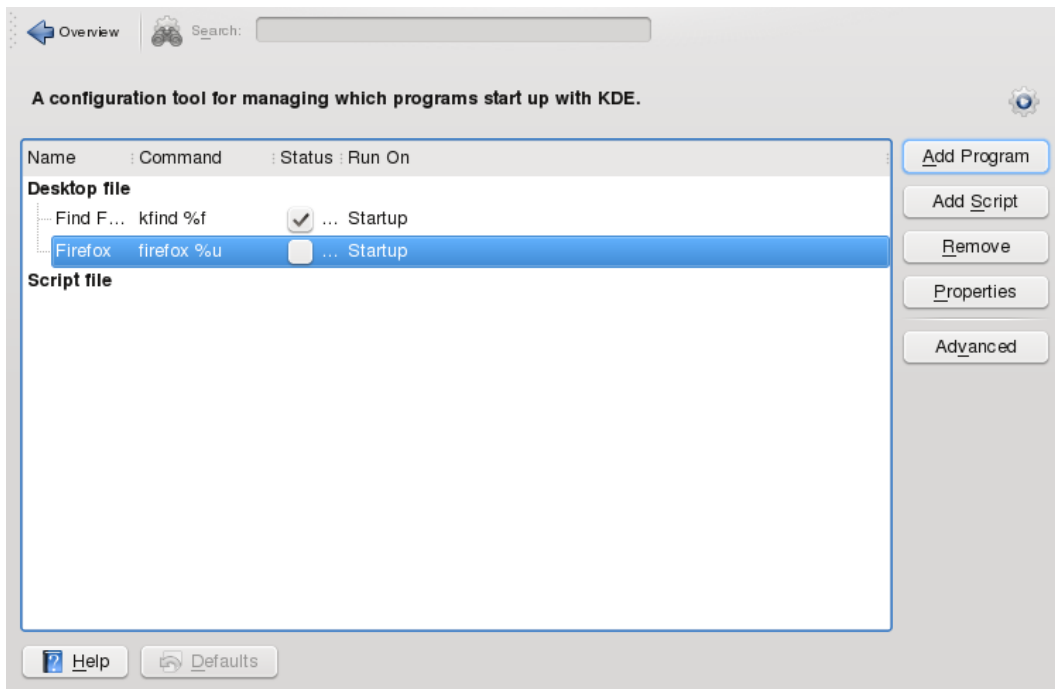
2. To be able to save a certain session manually and restore this session each time you log in to KDE, select *Restore manually saved sessions*. This adds a new menu item, *Save Session*, to your main menu. After a session is saved, KDE automatically restores the saved session on each login.
3. To start with a "fresh" session each time you log in, select *Start with an empty session*.
4. To change the default options that appear when logging out, adjust the relevant options in the *General* and *Default Leave Option* groups.
5. Click *Apply* to confirm your changes.

#### *Procedure 3.17. Starting Programs Automatically*

Apart from the applications from the last session that are restored by the Session Manager, you can configure which applications should be always be started after login.

1. Open the Personal Settings and on the *Advanced* tab, click *Autostart*.
2. To add an application, click *Add Program* and from the menu structure, select the program you want to start automatically.

To add a shell script, click *Add Script* and click the *Open File Dialog Icon* in the next window to select the script from the file system. The program or script is added to the list and you can view and change the *Status*.



3. Click *Apply* to confirm your changes. When logging in the next time, the applications and scripts start automatically.

## Viewing PDF Files and Other Documents with Okular

Contents

- 4.1. Viewing PDF Files
- 4.2. Annotating a PDF File
- 4.3. For More Information

Abstract

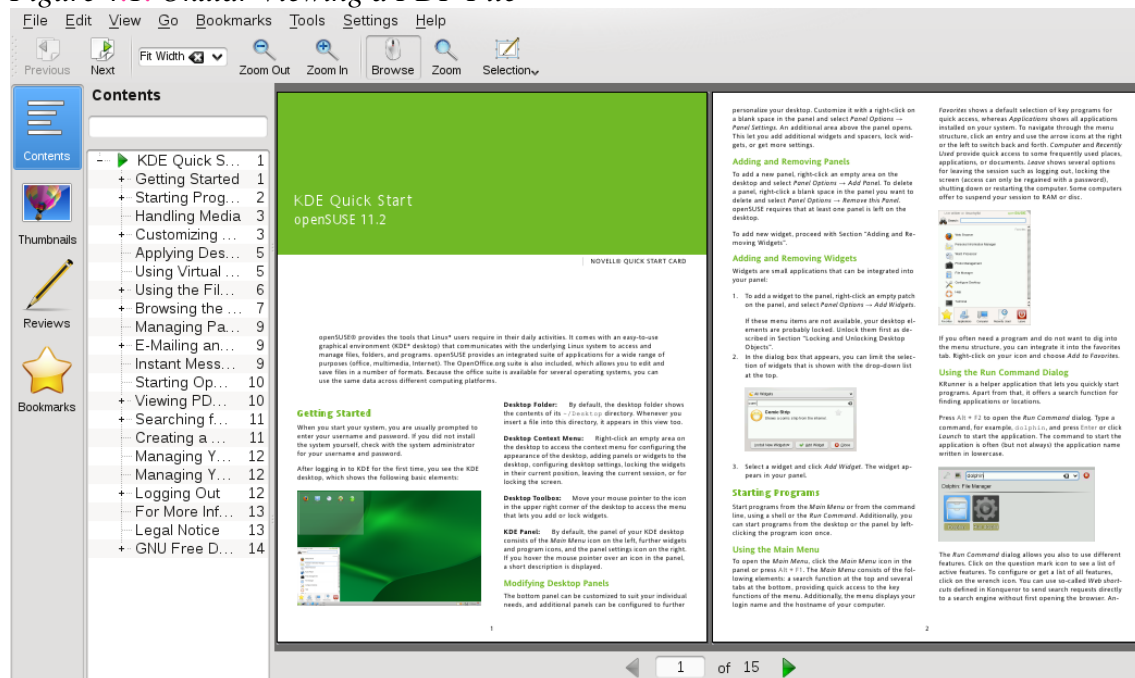
Apart from PDF files, Okular allows you to view a great number of file formats, such as PostScript, several image formats, OpenDocument format (ODF), OpenDocument text (ODT), some eBook formats (ePub), and even Microsoft\* Compiled HTML Help (CHM). Okular also provides support for bookmarks, annotations, form fields, multimedia content, and rotation of pages.

### Viewing PDF Files

Documents that need to be shared or printed across platforms can be saved as PDF (Portable Document Format) files, for example, in the OpenOffice.org suite. View them with Okular, the default KDE document viewer.

Start Okular from the main menu or press **Alt+F2** and enter `okular`. To open a document, select **File+Open** and choose the desired file from the file system. Navigate through the document by using the navigation **Icons** at the top or bottom of the window. Depending on which **Icon** you click on the navigation panel on the left, the sidebar either shows a table of Contents, a Thumbnail view of each page, the Reviews for this file, or your Bookmarks for this file. To filter for any text listed in the sidebar or the overall document, enter a string into the input field at the top of the sidebar. If you want to select and copy text or images from the file in Okular, click the Selection **Icon** in the toolbar and select one of the options from the context menu. Click the Browse **Icon** to switch back to browsing the document. Working with Bookmarks and Annotations With Okular, you can review a document by highlighting certain text parts or adding annotations or bookmarks that Okular then attaches to the file in form of metadata. Note that the annotations and markers you add are not stored within the document, so you cannot print them or pass them on to other users.

Figure 4.1. Okular Viewing a PDF File



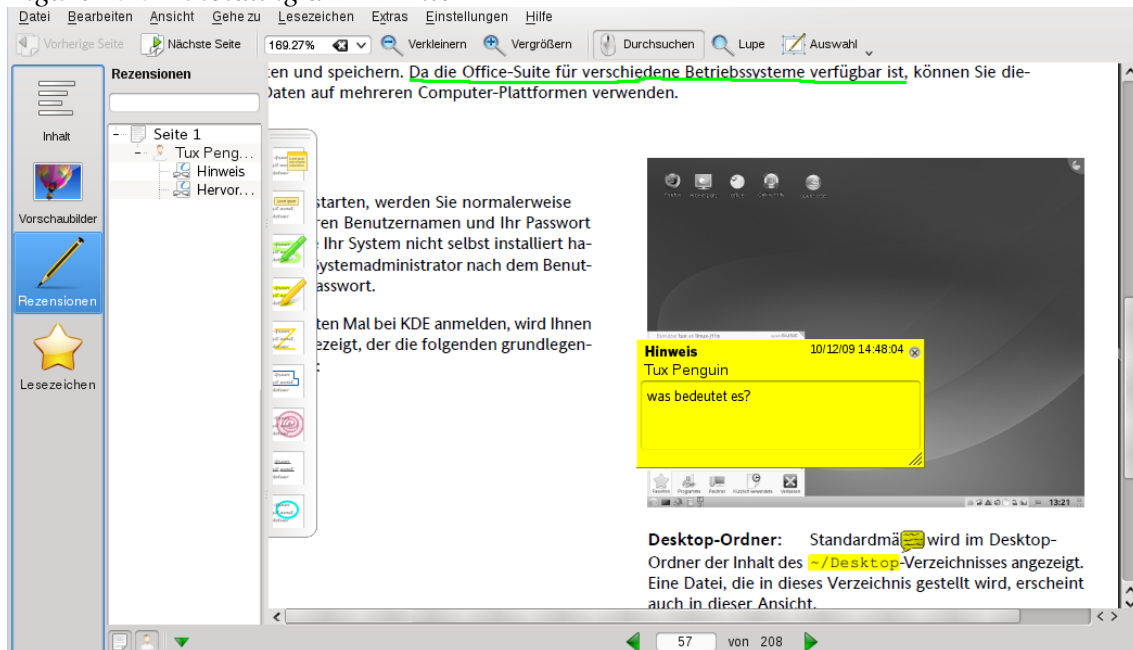
## Annotating a PDF File

With Okular, you can review a document by highlighting certain text parts or adding annotations or bookmarks that Okular then attaches to the file in form of metadata. Note that the annotations and markers you add are not stored within the document, so you cannot print them or pass them on to other users.

To create an annotation for a page, press **F6** and select one of the annotation tools from the toolbar that appears. The annotation is added to the list of Reviews and is flagged with the login

**Name** of the user who created it. Use the **Icons** at the bottom of the sidebar to group the annotations by page, by author or to show the annotations for the current page only.

*Figure 4.2. Annotating a PDF File*



## For More Information

See the homepage <http://okular.kde.org> of Okular for more information. The supported formats can be viewed at <http://okular.kde.org/formats.php>.

## Accessing Network Resources

### Contents

- 5.1. General Notes on File Sharing and Network Browsing
- 5.2. Accessing Network Shares
- 5.3. Sharing Folders in Mixed Environments
- 5.4. Managing Windows Files
- 5.5. Configuring Shortcuts to Network Folders
- 5.6. Configuring and Using a Small Web Server

From your desktop, you can access files and directories or certain services on remote hosts or make your own files and directories available to other users in your network. openSUSE® offers various different ways of accessing and creating network shared resources:

#### Network Browsing

Your file managers, Dolphin or Konqueror, let you browse your network for shared resources and services. Learn more about this in Section 5.2, “Accessing Network Shares”.

#### Sharing Folders in Mixed Environments

Using Dolphin or Konqueror, configure your files and folders to share with other members in your network. Make your data readable or writable for users from any Windows or Linux workstation. Learn more about this in Section 5.3, “Sharing Folders in Mixed Environments”.

#### Managing Windows Files

openSUSE can be configured to integrate into an existing Windows network. Your Linux machine then behaves like a Windows client. It takes all account information from the Active Directory domain controller, just as Windows clients do. Learn more about this in Section 5.4, “Managing Windows Files”.



#### Network Share Support in Dolphin

Dolphin is KDE 4’s default file manager and most of the network functions described in this chapter are already integrated. However not all of them might work flawlessly—if in doubt, try using Konqueror instead.

### General Notes on File Sharing and Network Browsing

Whether and to what extent you can use file sharing and network browsing on your machine and in your network highly depends on the network structure and on the configuration of your machine. Before setting up either of them, contact your system administrator to make sure that your network structure supports this feature and to check whether your company's security policies permit it.

Network browsing, be it SMB browsing for Windows shares or SLP browsing for remote services, relies heavily on the machine's ability to send broadcast messages to all clients in the network. These messages and the clients' replies to them enable your machine to detect any available shares or services. For broadcasts to work effectively, your machine must be part of the same subnet as all other machines it is querying. If network browsing does not work on your machine or the detected shares and services do not match with what you expected, contact your system administrator to make sure that you are connected to the appropriate subnet.

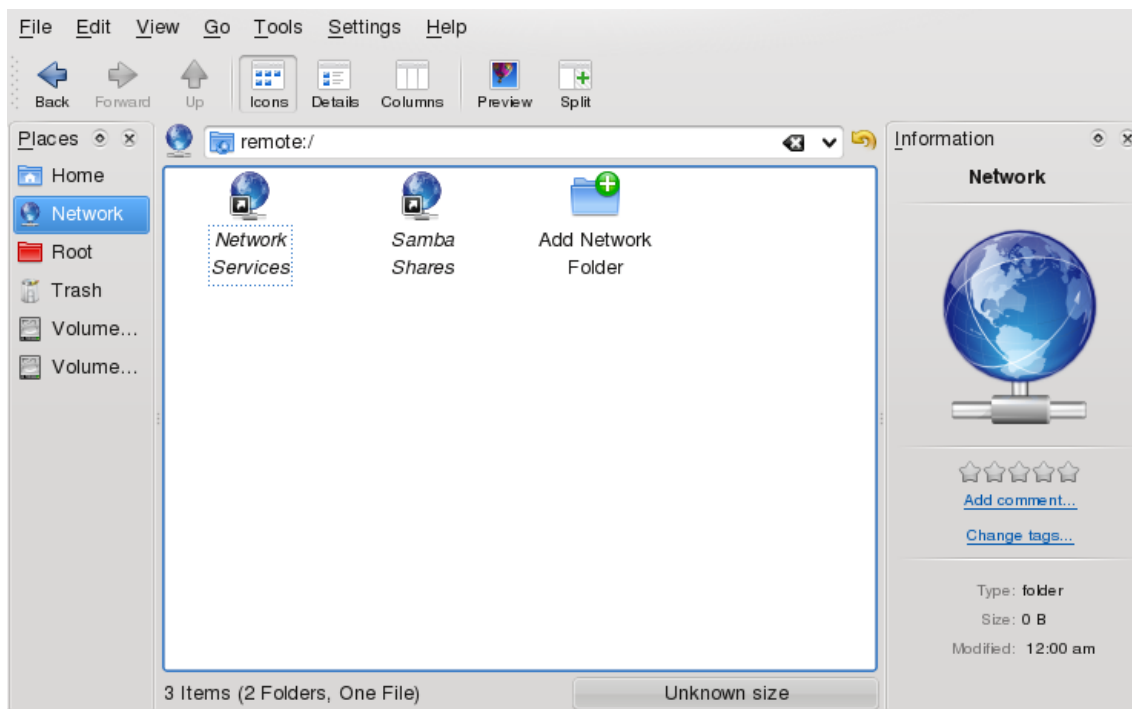
To allow network browsing, your machine needs to keep several network ports open to send and receive network messages that provide details on the network and the availability of shares and services. The standard openSUSE is configured for tight security and has a firewall up and running that protects your machine against the Internet. To adjust the firewall configuration, you would either need to ask your system administrator to open a certain set of ports to the network or to tear down the firewall entirely according to your company's security policy. If you try to browse a network with a restrictive firewall running on your machine, Dolphin warns you about security restrictions not allowing it to query the network.

## Accessing Network Shares

Networking workstations can be set up to share folders. Typically, files and folders are marked to let remote users access them. These are called *network shares*. If your system is configured to access network shares, you can use your file manager to access and browse them just as easily as if they were located on your local machine. Having read or write access to the shared folders depends on the permissions granted to you by the owner of the shares.

To access network shares, start Dolphin and click the *Network Icon* in the *Places* panel or enter `remote:/` in the location bar. Dolphin then opens a virtual folder that displays the network share **Types** that you can access. Click a network resource **Type** then click the network share to access. You might be required to authenticate to the resource by providing a user**Name** and password.

*Figure 5.1. Network Browsing*



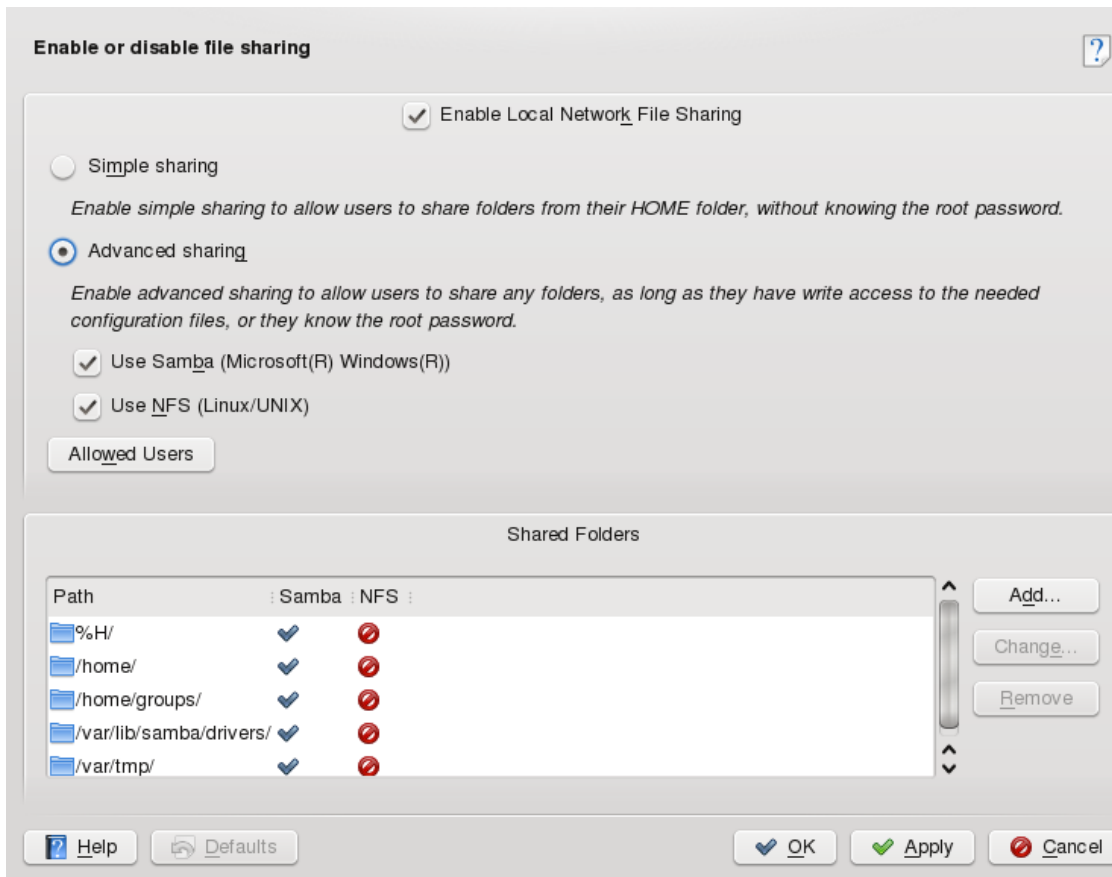
## Sharing Folders in Mixed Environments

Sharing and exchanging documents is a must-have in corporate environments. Dolphin offers you file sharing with Samba, which makes your files and folders available to both Linux and Windows users. For information on how to install and set up Samba, refer to *Kapitel Samba* ([↑Referenz](#)). After you have installed Samba and set up a server, you can configure the folders to share with Dolphin. Dolphin then writes its configuration to a paragraph in the main Samba configuration file at `/etc/samba/smb.conf`.

### *Procedure 5.1. Configuring Samba File Shares with Dolphin*

1. Open Dolphin.
2. Select *Home*, right-click the window background and then select *Properties* from the context menu.
3. In the *Properties* dialog, click the *Share* tab. If file sharing is not yet enabled, you are alerted to this on the tab. To enable file sharing or select the files to share, click *Configure File Sharing* and enter the root password.
4. To enable or disable file sharing, select or deselect *Enable Local Network File Sharing*.

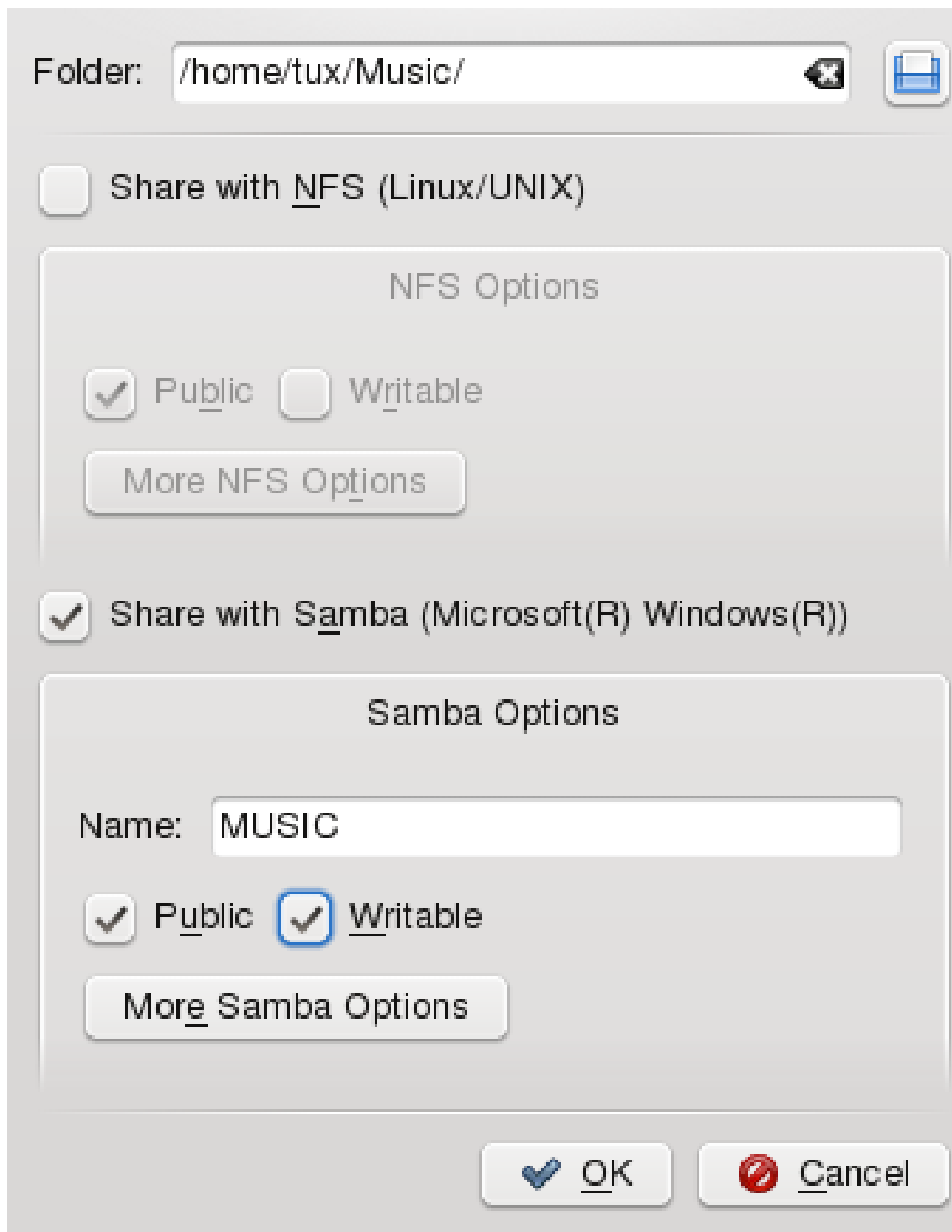
*Figure 5.2. Enabling File Sharing*



5. Select the appropriate sharing option: *Simple Sharing* or *Advanced Sharing*.
6. To limit the number of users allowed to share folders to certain groups, click *Allowed Users*, select *Only users of a certain group are allowed to share folders*, click *Choose Group*, and select the appropriate group from the list in the window that opens. Click *OK* to close that window.
7. In the *File Sharing* dialog, add the folder to share to the list of shared items by clicking *Add* at the bottom of the dialog and specifying the folder's exact path.

*Figure 5.3. Detailed Sharing Options*





8. Activate *Share with Samba* to enable Samba file sharing. If needed, apply some fine-tuning to the Samba options:

*Name*

Specify a **Name** other than the preset default.

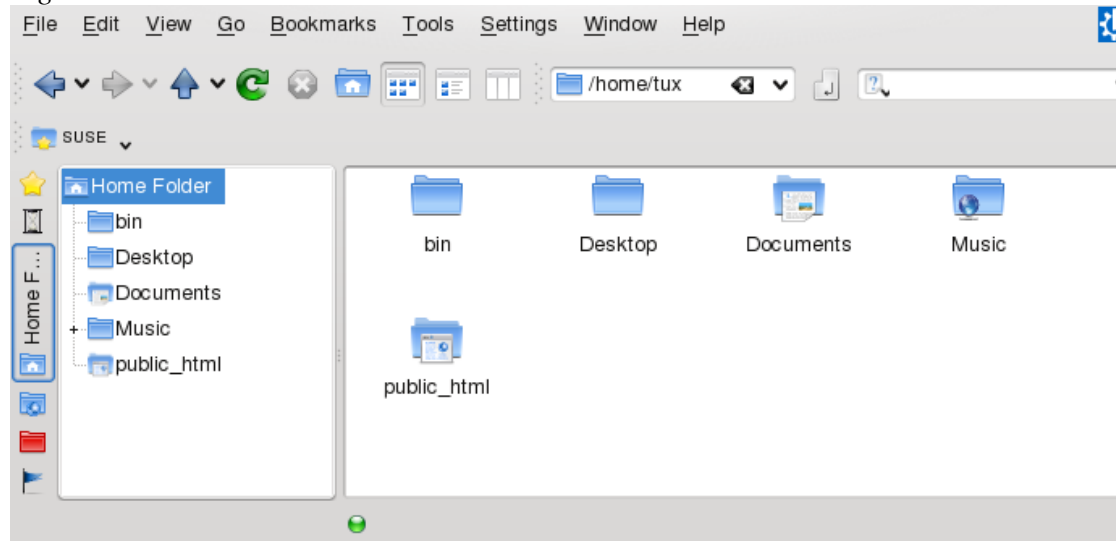
*Public/Writable*

Determine which kind of access to grant others to your share. You can grant users full read and write access or limit their access to read-only.

9. Apply your settings and leave the file sharing dialog with *OK*.

The folder now appears in Dolphin with a globe **Icon**.

*Figure 5.4. Shared Folder: Music*



To revoke the share, enter the file sharing dialog again and remove the folder from the list of shared items. The folder then appears without a globe **Icon**.

Other members of your network can reach your share by entering `smb://` in the location bar of Dolphin and clicking the appropriate workgroup **Icon** and host**Name**.



## Samba Domain Browsing

Samba domain browsing only works if your system's firewall is configured accordingly. Either disable the firewall entirely or assign the browsing interface to the internal firewall zone. Ask your system administrator about how to proceed. This procedure is described in more detail in Section "Configuring a Linux Client for Active Directory" (Chapter 5, *Active Directory Support*, ↑Security Guide).

## Managing Windows Files

With your openSUSE machine being an Active Directory client as described in Section "Configuring a Linux Client for Active Directory" (Chapter 5, *Active Directory*

*Support*, ↑Security Guide), you can browse, view, and manipulate data located on Windows servers. The following examples are just the most prominent ones:

#### Browsing Windows Files with Dolphin

Use Dolphin's `smb://` browsing option to browse your Windows data.

#### Viewing Windows Data with Dolphin

Use Dolphin to display the contents of your Windows user folder just as you would for displaying a Linux directory. Create new files and folders on the Windows server.

#### Manipulating Windows Data with KDE Applications

KDE applications, such as the Kate text editor, allow you to open files on the Windows server, manipulate them, and save them to the Windows server.

#### Single-Sign-On

KDE applications (including Dolphin) support Single-Sign-On, which means that to access other Windows resources, such as Web servers, proxy servers, or groupware servers like MS Exchange, you do not need to reauthenticate. Authentication against all these is handled silently in the background after you provide your `userName` and password on login.

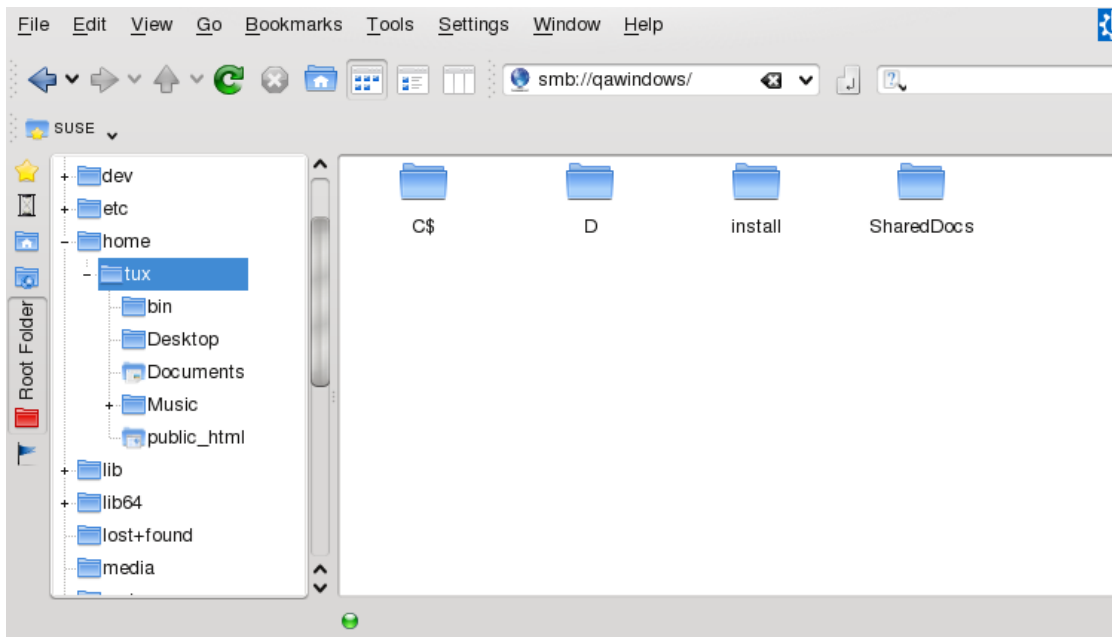
#### *Procedure 5.2. Accessing Windows Data with Dolphin*

1. Press `Alt+F2` and enter `smb://` or start Dolphin and enter `smb://` in the location bar.

Dolphin displays all Samba workgroups and domains that could be found in your network.

2. Click the **Icon** of the workgroup or domain of your AD server.

*Figure 5.5. Browsing Data on the AD Server*



3. Click the *Users* folder and select your personal user folder **Icon**. The contents of your *My Documents* folder are displayed.

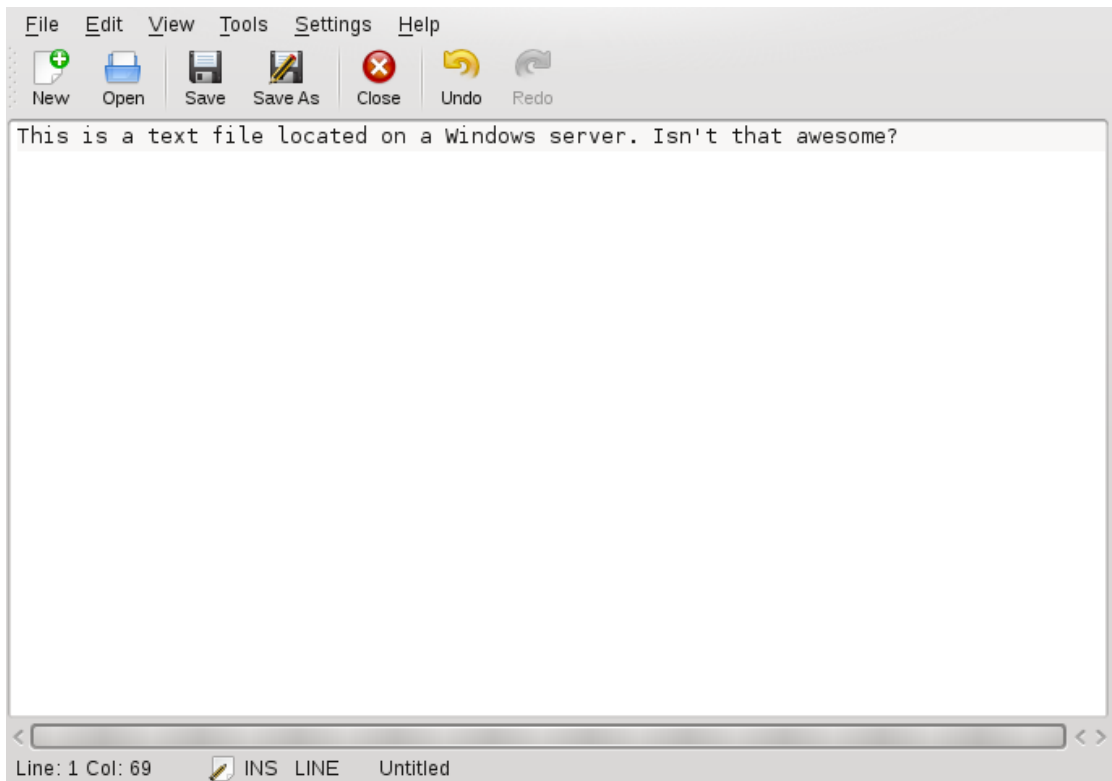
To create folders in your Windows user folder using Dolphin, proceed as you would when creating a Linux folder:

1. Right-click the background of the Dolphin folder view to open the menu.
2. Select *Create New+Folder*.
3. Enter the new folder's **Name** when prompted to do so.

To create a file on the AD server, proceed as described in the following example for the KWrite text editor.

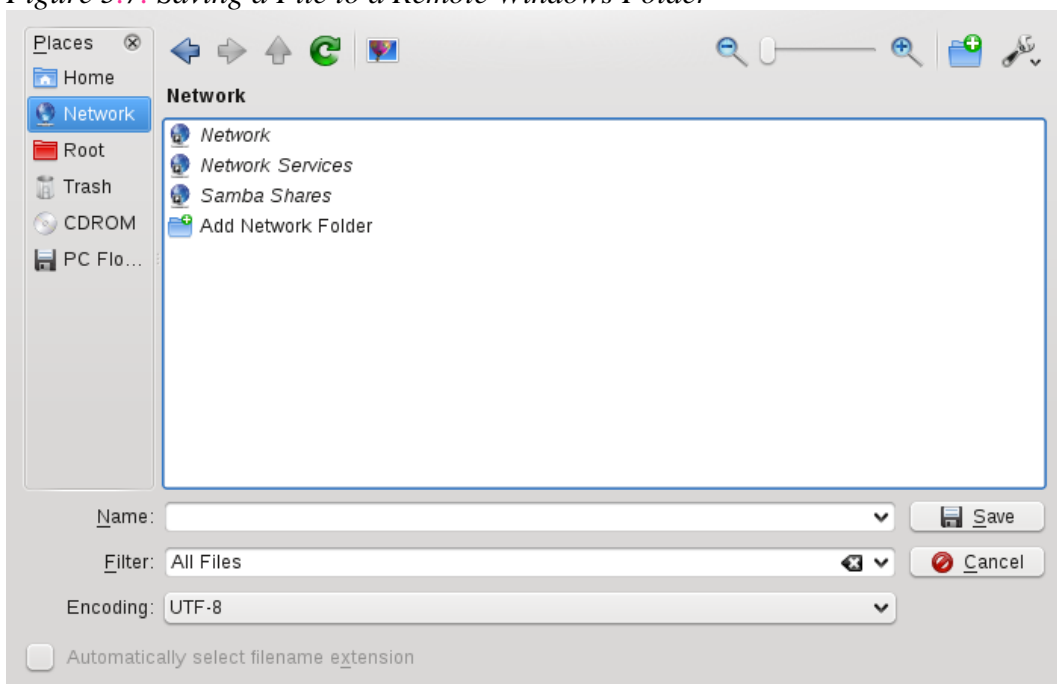
1. Press **Alt+F2** and enter `kwrite`.
2. Enter your text.

*Figure 5.6. Editing a Text File with KWrite*



3. To save the newly created text, select *Save as*.
4. Click the *Network Icon* in the *Places* view and select *SMB Shares*.

Figure 5.7. Saving a File to a Remote Windows Folder



5. Navigate to your Windows folder.
6. Enter the file **Name** and click *Save*.

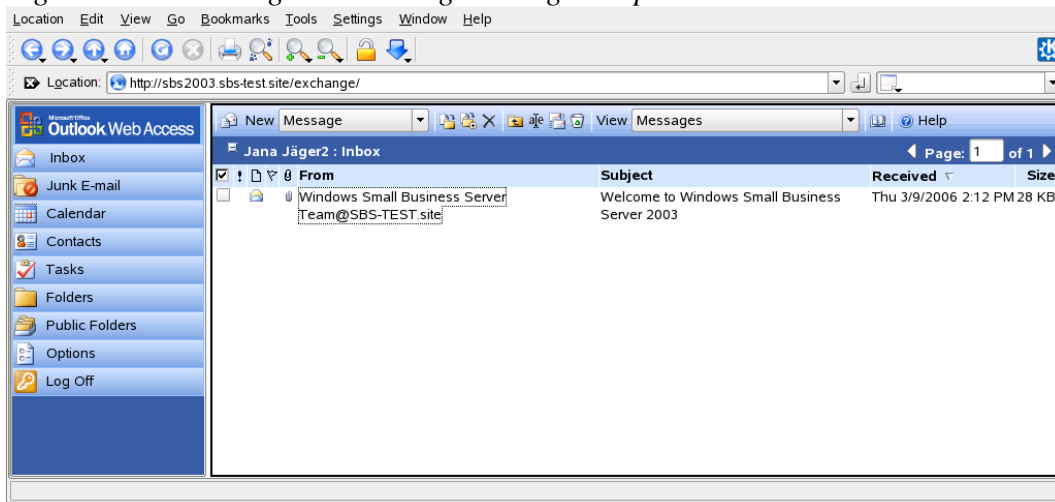
The file is saved on the Windows server.

Make use of Dolphin's Single-Sign-On support, as in the following example—Web access to your MS Exchange mailbox:

1. Make sure that you have a valid MS Exchange account under your current Windows user identity.
2. Request the Exchange server's address from your system administrator.
3. Press **Alt+F2** and enter dolphinhttp://address\_exchange\_server.

You are logged in to your Exchange account without having to reauthenticate.

*Figure 5.8. Accessing MS Exchange through Dolphin*



4. Write or read your e-mails and log out as usual.

## Configuring Shortcuts to Network Folders

With KNetAttach, you can also add new network folders to this view by clicking *Add a Network Folder* in a Dolphin remote:/ view. A wizard opens where you can select the **Type** of network folder to access and enter the details, such as a **Name** for the network folder, the address of the server (either the IP address or domain **Name**), the login **Name**, the port, and the path to folder to access.

*Figure 5.9. Adding a Network Folder*

## Network Folder Information

Enter a name for this *WebFolder* as well as a server address, port and folder path to use and press the **Save & Connect** button.

Name:

User:

Server:

Port:

Folder:

Create an icon for this remote folder

Use encryption

After finishing, you can access the network share in Dolphin by clicking *Network* in the *Places* panel.

If you add a network folder in this way, you can also access this folder easily when opening or saving a file from a KDE application. If you click *Network* in the left-hand bar of an *Open File* or a *Save File* dialog, the network folder you added appears.



For quick access to network shares, you can also create links to these resources on your desktop. To do so, select the desired resource in Dolphin and drag it onto your desktop while keeping the left mouse button pressed. From the context menu, select *Icon* or *Folder View* to either display the folder as **Icon** or in the folder view, directly displaying the contents of the directory.

## Configuring and Using a Small Web Server

Kepas is a file transfer utility that lets you transfer files (or other contents such as Klipper or KNotes entries) to your friends. You can also use it to set up and monitor a small public file server. To use Kepas, install the `kepas` package with YaST or zypper. You can then either add

Kepas as widget to your KDE 4 desktop or run Kepas from the system tray, both provide the same functions.



## Security Considerations

When setting up a public file server with Kepas, there are no access restrictions to shared files. Whatever you select for sharing is available to anyone.

Before doing so, check with your system administrator whether your company's security policies allow to set up a public file server. Also in a private environment, you should only set up a public file server if your network is protected by an outer firewall. Otherwise you risk accidentally leaking sensitive information to the Web.

In addition to that, any Web server is a potential target for hackers.

Kepas is designed to be used for sharing files with friends, not to act as a fully-fledged Web server like Apache. Kepas is the successor of kpf that was primarily conceived as an easy way to share files with others while chatting on IRC (Internet Relay Chat, or chat rooms).

### *Procedure 5.3. Setting Up a Public File Server with Kepas*

To add Kepas to your system tray, press **Alt+F2** and enter `kepas`. If you want to add a Kepas widget to your desktop instead, proceed as outlined in Procedure 3.2, “Adding Widgets to the Desktop”.

1. To set up a file server, left-click the Kepas widget (or right-click the Kepas **Icon** in the system tray) and select *Public Server+New Server*.
2. Specify the directory containing the files you want to share then click *Next*. Typically the `public_html` folder in your home directory is designed for that purpose.

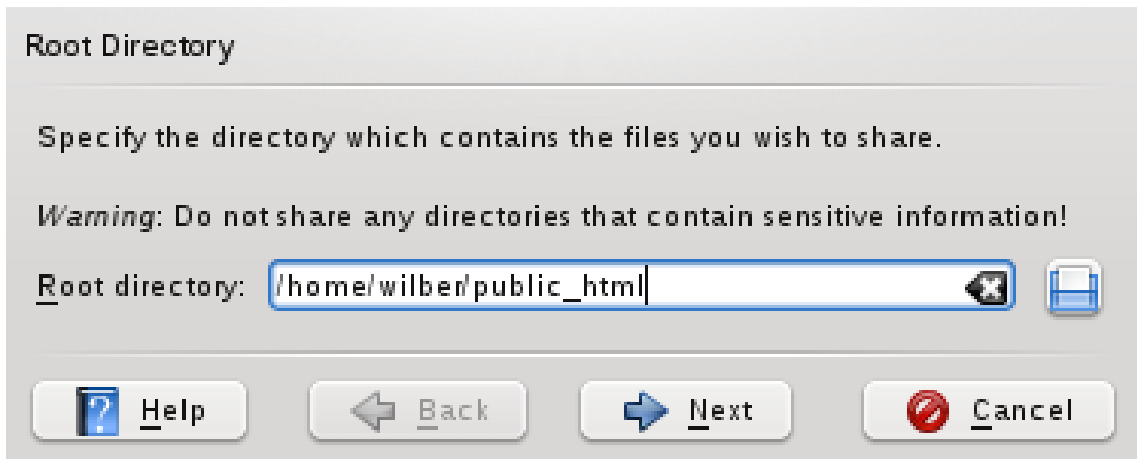


Public  
Availability  
of Sensitive  
Information

When sharing a directory, *all* files in the directory and its subdirectories are made publicly available, including hidden files (files that start with a dot) and symbolic links.

Be careful not to share sensitive information, such as passwords, cryptographic keys, your address book, or documents private to your organization. Make sure that any symbolic links included do not point outside your published folder, because that would give others access to areas of your system that are not intended for public viewing.



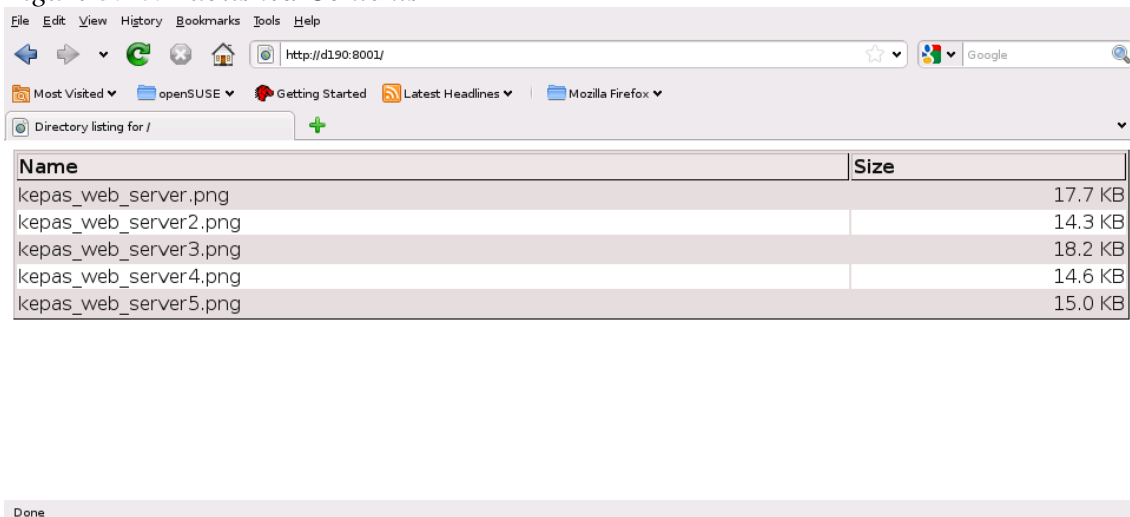


3. You can keep the default values for the *Listening Port*, the *Bandwith Limit* and the *Server Name* in the next steps (they can also be altered later, if needed).
4. Click *Finish* to publish the availability of the newly created file server in the network.

To make a file available to people with whom you are chatting online, just copy the file into your `public_html` folder and announce to those listening that your file is now available at `http://serverName:8001/fileName` (rather than sending them each an e-mail with the file attached).

To display an overview of all contents published on your public file server, the others only need to enter the following URL into their browsers: `http://serverName:8001`.

*Figure 5.10. Published Contents*



To revoke the public file server, right-click the system tray **Icon** (or left click the **Kepas** widget) and select *File Server+Configured Server+Remove*. If you want to change the file server settings (like port, bandwidth limit, server **Name** or if to follow symbolic links or not), instead

select *File Server+Configured Server+Settings* from the context menu to access the configuration dialog.

## Searching with Kerry

Contents

6.1. Searching Using Kerry

6.2. Configuring Kerry

Kerry is a KDE front-end for the Beagle search tool, which indexes your personal information space to help you find whatever you need. You can use Kerry to find documents, e-mails, Web history, IM/ITC conversations, source code, images, music files, applications, and much more.

Because Kerry is a front-end to Beagle, it needs the beagle daemon to be functional. Kerry and Beagle can now index many KDE-specific sources of information, such as Kopete conversations, Konqueror history, or KMail messages. The result is a smooth integration into the KDE environment through the Kerry interface. Find more about Beagle in Chapter *Searching with Beagle* ([↑GNOME User Guide](#)).

### Searching Using Kerry

To find data using the Kerry tool, follow these steps:

1. Press **Alt+F2** and enter `kerry` to start Kerry and to open the Kerry Beagle Search window. Alternatively, open the search window by left-clicking on the Kerry applet **Icon** (a dog's head) in the system tray.
2. Enter the term to find in *Search*. To quickly clear the previously entered text, press the black arrow on the left.

The search is not case-sensitive. To search for optional terms, use the *OR* keyword (in uppercase). For example, *Mars OR Venus* finds all data containing any occurrence of Mars, Venus, or both. To exclude search terms, use a minus symbol (–) in front of them. For example, *Mars -Venus* finds all data containing any occurrence of Mars but without any occurrence of Venus. To search for an exact phrase, enclose the phrase in quotes. If you want to include only certain file **Type** in results, specify the file**Name** extension with *ext:*. For example, *Mars ext:xml* finds xml files containing Mars.

3. Select the scope of the search in the *Show* section of the right panel. To search all the indexed content, choose *Everything*. However, you can limit the search only to indexed *Applications*, *Contacts*, *Office documents*, *instant messenger Conversations*, *Images*, *Media files*, *Web pages*, or *File/Path Names* by clicking the appropriate item in the panel. You can change the scope before or after the search is performed.

Change the sort order of results in the *Sort By* section of the right panel. To sort results by **Type**, click **Type**. Sorting by *Date*, **Name**, and *Relevance* is also possible. You can change the sort order before or after the search is completed.

You can limit the results by date of last modification. To show all results regardless of the date of the last modification, click *Any Date* in the right panel. You can show items modified today, since yesterday, this week, month, or year by clicking the appropriate item in the right panel. You can change this before or after the search is performed.

4. Press  or click the **Icon** to the right of the search field to start the search. Results are displayed in the main area of the window.

Results are displayed in a window, sorted according to your settings. Click any item to activate it. To open a folder containing a found file instead of the file itself, click the **Name** of the folder to the right of the file **Name**. To display more information about an item, click the **Icon** with the *i* on the left.

You can change the scope of the search, sort order, or limitation by date at any time by clicking appropriate item in the panel on the right.

Use *Previous results* and *Next results* to move between pages of the result list. The number of items found is shown in the bottom part of the window.

## Configuring Kerry

You can configure Kerry by right-clicking its **Icon** in the tray and choosing *Configure Kerry* or by clicking *Configure* in Kerry's main window. The configuration dialog has four tabs.

On the *Search* tab, you can change the *Default result sort order*, *Maximum number of results displayed* on one page, or shortcuts for activating Kerry Beagle Search.

On the *Indexing* tab, set whether the Beagle indexing service should be started automatically and if data should be indexed while the computer is operating on battery power. You can also determine which folders should be indexed by Kerry Beagle Search and which folders should not be indexed at all. See Section 6.2.1, “Indexing More Directories” and Section 6.2.2, “Preventing Files and Directories from Being Indexed” for detailed instructions.

On the *Backends* tab, choose which of the available Beagle back-ends should be enabled. To disable a back-end, uncheck it. For example, if you do not want your Kopete conversations be indexed by Kerry Beagle, uncheck the *Kopete* back-end.

On the *Daemon Status* tab, check the status of Beagle daemon. You can stop or start the daemon manually here. To use Kerry Beagle Search functionality, the daemon must be running.

## Indexing More Directories

By default, Kerry indexes your home folder only. If you do not want your home folder to be indexed, uncheck the *Index my home folder* option on the *Indexing* tab of the Kerry configuration. To index more folders, follow these steps:

1. Right-click the Kerry **Icon** in the tray and choose *Configure Kerry*.
2. Click the *Indexing* tab.
3. Click the *Add* button in the middle part (*Index*) of the tab.
4. In the dialog that opens, choose the folder to index and click *OK*.
5. Press *OK*.

## Preventing Files and Directories from Being Indexed

To exclude some folders or files from being indexed by Kerry, follow these steps:

1. Right-click the Kerry **Icon** in the tray and choose *Configure Kerry*.
2. Click the *Indexing* tab.
3. Click *Add* in the bottom part (*Privacy*) of the tab.
4. In the dialog that opens, choose a folder not to index by selecting the *Folder* option. Specify the path to the folder in the text field or press the folder button and choose the folder in a file dialog.

You can also specify files not to index by selecting *File Name pattern* and specifying the file pattern.

5. Press *OK*.

## Managing Print Jobs

Printers can either be connected to your system locally or over a network. There are several ways to set up a printer in openSUSE: with YaST, or on the command line. There are also desktop tools in KDE or GNOME for setting up printers but we recommend to use YaST for this task.

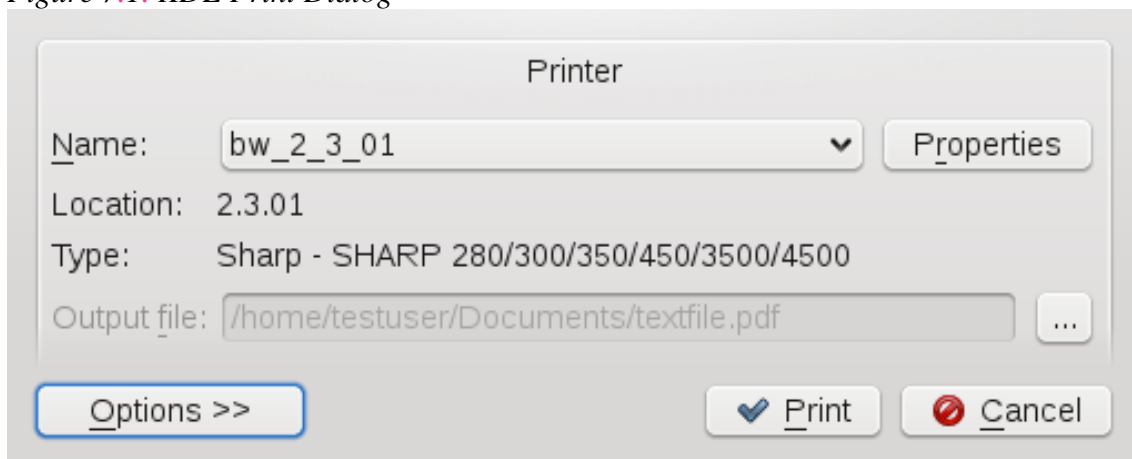
Refer to Abschnitt „Einrichten eines Druckers“ (Kapitel 2, *Einrichten von Hardware-Komponenten mit YaST*, ↑Start) for detailed information how to configure printers with YaST.



If you have problems configuring your printer, ask your system administrator. An in-depth coverage of printer configuration for administrators can be found in Kapitel *Druckerbetrieb* (↑Referenz).

The KDE print dialog is started automatically each time you print from a KDE application.

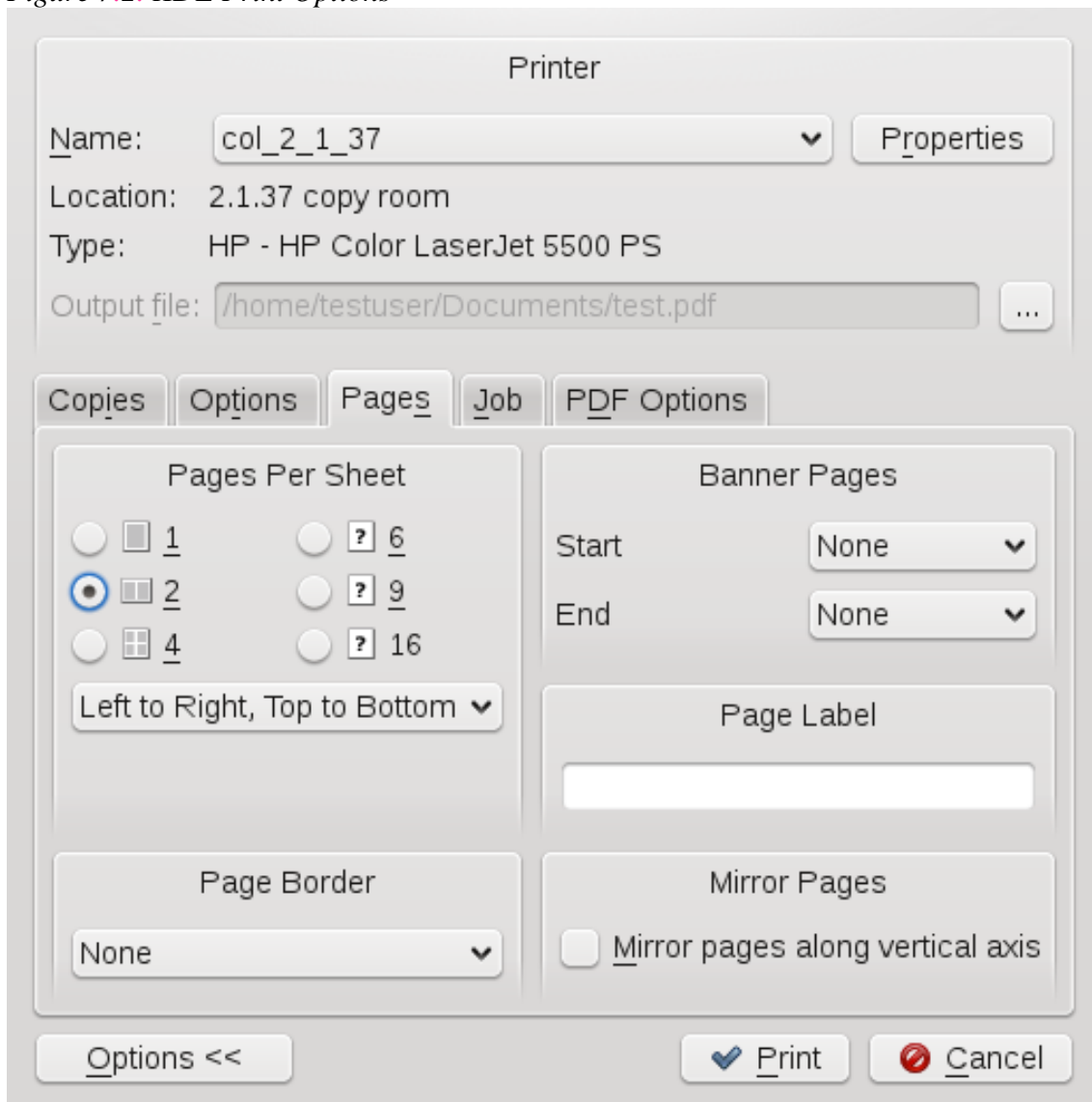
Figure 7.1. KDE Print Dialog



The *Name* drop-down list shows all printers that have been configured for your computer (either local printers or network printers). It also allows you to print contents to a PDF or Postscript file. To print to a file, choose the respective entry and specify a location for the *Output File*. Otherwise, choose one of the available printers and edit the *Properties* of your print job, such as page orientation, paper size or print margins.

To specify the number of copies and various other options, click *Options* at the bottom left. The window then expands and shows several tabs. The available tabs and options depend on both your printer model and on the application you started the print dialog from.

Figure 7.2. KDE Print Options



On the *Copies* tab, set the *Print Range* (which pages of the document to print) and the number of copies. Switch to the *Options* tab to define special settings such as *Duplex Printing* or *Color Mode* (if supported by your printer model). The *Pages* tab lets you specify if to print multiple pages per sheet (if supported by your printer model). The other tabs provide even more options, but they are rarely needed. If all options are set according to your wishes, click *Print* to start the print job. Currently, it is not possible to save your print options in the KDE 4 print dialog (like KPrinter allows for KDE 3.x).

Once your print job has been filed, you can watch its progress using the printer applet (kde4-printer-applet package) which integrates into your system tray. To start the applet manually, press **Alt+F2** and enter printer-applet.

## Managing Passwords with KWallet Manager

### Contents

- 8.1. Starting KWallet
- 8.2. Managing Your Passwords
- 8.3. Adjusting KWallet Settings
- 8.4. Copying Your Wallet to Another Computer

Remembering all the passwords for protected resources to which you need to log in can be problematic. KWallet remembers them for you. KWallet is a password management tool that can collect all passwords and stores them in an encrypted file. With a single master password, open your wallet to view, search, delete, or create entries.



### Protect Your KWallet Password

If you forget your KWallet password, it cannot be recovered. Furthermore, anyone who knows your password can obtain all information contained in the wallet.

### Starting KWallet

When you enter a password in a KDE application for the first time (in KMail or Konqueror, for example), you are asked if you want to store the password in an encrypted wallet. If you click *Yes*, the KWallet wizard starts by default. KWallet is a password management tool that can collect all passwords and store them in an encrypted file.



# KWallet Digitale Briefftasche

Digitale Briefftasche für KDE



Willkommen bei KWallet, der „digitalen Briefftasche“ für KDE. KWallet ermöglicht Ihnen die Speicherung von Passwörtern und anderer persönlicher Informationen in einer verschlüsselten Datei auf der Festplatte und verhindert damit, dass Dritte diese Daten einsehen können. Dieser Assistent informiert Sie über KWallet und hilft Ihnen bei der ersten Einrichtung.

- Basis-Einrichtung (empfohlen)
- Erweiterte Einrichtung

< Zurück

Weiter >

Fertigstellen

Abbrechen

To activate KWallet, select *Basic Setup* and click *Next*. Select *Yes, I wish to use the KDE wallet to store my personal information* and enter a password. This is your master password to open KWallet. It cannot be recovered if you forget it. Click *Finish* to close the wizard. After this initial configuration, you can open your wallet at any time to view, search, delete, or create entries. Normally you do not need to insert an entry manually. KDE recognizes if a resource requires authentication and KWallet starts automatically, prompting you for the KWallet password. Of course, you can also use KWallet to store additional passwords by adding entries, as described in Procedure 8.1, “Adding New Entries to Your Wallet”.

By default, all passwords are stored in one wallet, *kdewallet*, but you can also add new wallets. Once configured, KWallet appears in the panel. You can also start KWallet manually by pressing **Alt+F2** and entering `kwalletmanager`.

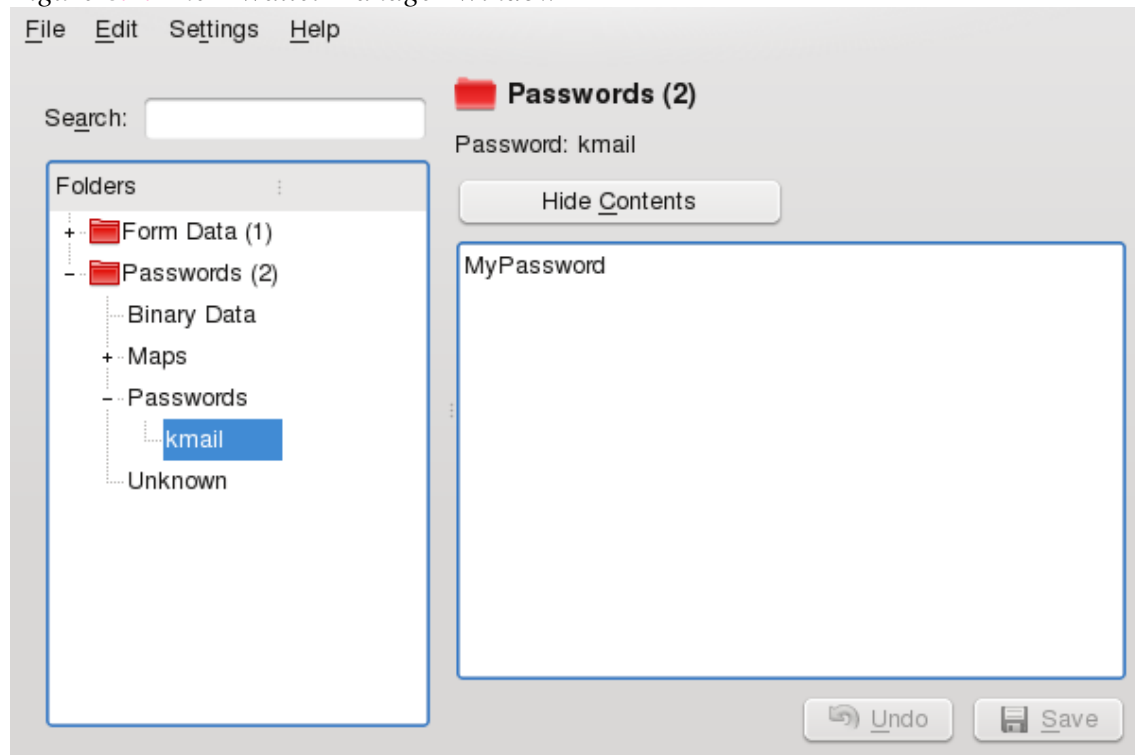
## Managing Your Passwords

To store data in your wallet or view its contents, click the KWallet **Icon** in the panel. A dialog box opens, showing the wallets that are accessible on your system. Click the wallet to open. A window prompts for your password.

After a successful login, the KWallet Manager window opens. In the tree view on the left, navigate to the entry for which you want to view or change the password. For safety reasons, the password value is hidden by default when you click the entry. For passwords, click *Show*

*Contents*. For maps, containing key and value pairs (like a WLAN ESSID and your password), activate *Show Values* to view the contents.

Figure 8.1. The KWallet Manager Window



### Procedure 8.1. Adding New Entries to Your Wallet

1. To manually add new passwords (or maps) to KWallet, select the subfolder to which to add an entry in the tree folder at the left.
2. To add a new password, right click a *Passwords* entry and select *New* from the context menu.

To add a new key pair (map), right click a *Map* entry and select *New* from the context menu.

3. Specify a **Name** for the new entry then click *OK*. Your new entry is sorted under your folder entry.
4. Click the new entry to display it on the right side (the folder is initially empty).
5. Click *Show Contents* or *Show Values* to open an input field where you can enter your new password or values.
6. To add a key pair, right-click the empty input field and select *New Entry Type* in your password (or you key and respective value for that key) and click *Save*. KWallet saves your entry to the subfolder selected.

## Procedure 8.2. Changing the Password for a Wallet

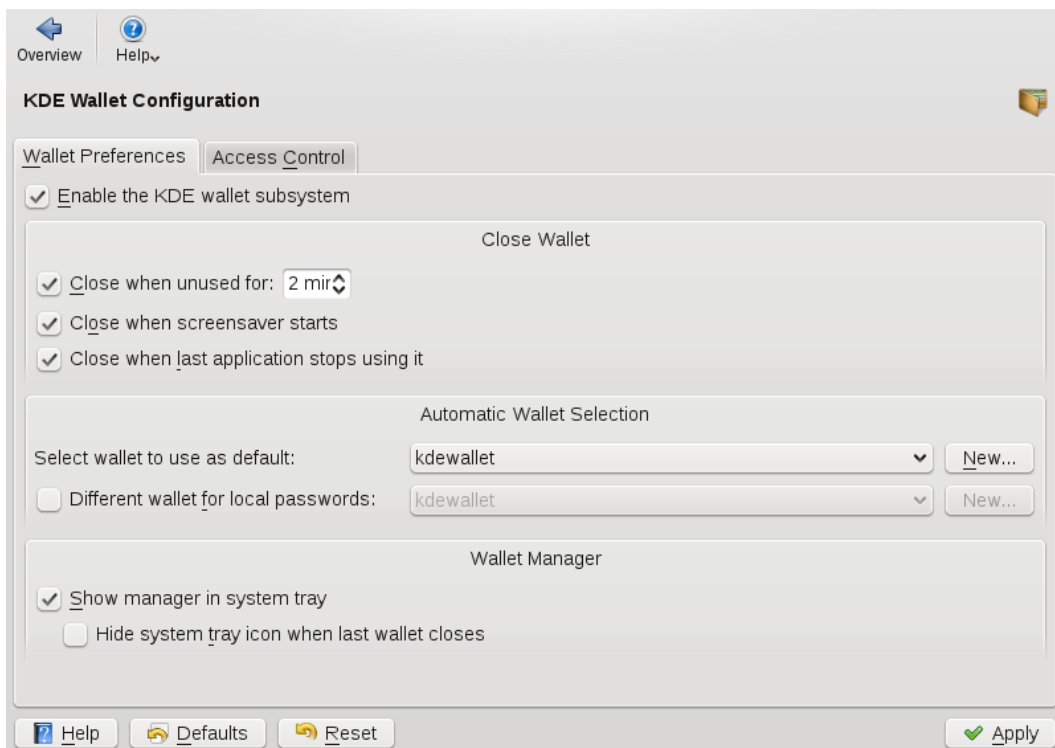
If needed, you can change your password for a wallet at any time.

1. Open KWallet Manager and right-click the wallet for which to change the password.
2. Select *Change Password*.
3. Enter your new password twice.

## Adjusting KWallet Settings

By default, you define the settings for KWallet password manager with the help of a wizard when you use KWallet for the first time. You can adjust the initial settings at any time to increase security.

1. If KWallet is already started, click the KWallet symbol in the panel and select *Configure Wallet*. Otherwise, in the main menu, select *Configure Desktop* and on the *Advanced* tab, click *KDE Wallet*.
2. If KDE wallet subsystem is not yet enabled, activate the relevant check box at the top.
3. By default, a wallet is closed when the last application stops using it. To increase security, you can set a more restrictive policy: to close a wallet automatically after a period of inactivity or after start-up of the screen saver, activate the relevant check boxes.



4. By default, KWallet stores all passwords in one wallet **Named** `kdewallet`. To store local and network-related passwords in different wallets, activate *Different wallet for local passwords*. Click *New* to create an additional wallet, if needed.
5. To remove the KWallet **Icon** from the panel, deactivate *Show manager in system tray*. You can then only access KWallet from the main menu.

## Copying Your Wallet to Another Computer

For the most part, KWallet resides silently in the panel and is automatically activated if needed. However, you can copy your wallet files to another computer (for example, your laptop). To simplify this task, wallets can be dragged from the manager window to a file browser window. This let you easily package a new wallet for transfer to another environment. For example, a new wallet could be created and copied onto a removable flash memory device. Important passwords could be transferred there, so you have them available in other locations.

## Controlling Your Desktop's Power Management

Contents

9.1. Using the Battery Monitor Widget

9.2. Saving Power by Using Profiles

9.3. Configuring Power Management

In KDE 4, you can control power management functions supported by your system with just a few clicks on the desktop. You can choose between various power management profiles to match the tasks your system is facing. The *Personal Settings* hold a *Power Management* category, allowing you to configure detailed settings as described in Section 9.3, “Configuring Power Management”.

Apart from power profiles that can be applied while you are interacting with your computer, there are also power saving functions (suspend modes) you can use instead of shutting down the computer completely during breaks.

### Using the Battery Monitor Widget

If you are using mobile computers like a laptop, a widget in your panel displays the battery status and gives you access to power management functions. If the *Battery Monitor* widget is not displayed in your panel by default, add it manually. For more information, refer to Procedure 3.2, “Adding Widgets to the Desktop”.

The widget allows you control the screen brightness when your system is running on battery power, to switch to a different power profile, or to trigger your system to enter a suspend mode. Click the panel **Icon** to open the widget.

*Figure 9.1. Battery Monitor Widget*



Which suspend modes and power profiles are available depends on the power management abilities of your system and the profiles defined in the *Personal Settings*.

The following suspend modes are widely available:

*Sleep (Suspend to RAM)*

Pauses your computer without logging you out. All your data and the session data is saved to RAM. Bringing the system up again is faster than restoring a session from disk.

### *Hibernate (Suspend to Disk)*

Pauses your computer without logging you out. All your data and the session data is saved to disk before the system is laid to rest. It is thus protected against data loss should you lose power in the meantime. Waking the system up again is much faster than with a fresh boot.

To manually suspend your computer, use the buttons in the widget or the suspend options on logging out (see Section 1.3, “Leaving Your System”). If supported by the system and configured accordingly, pressing sleep buttons on your machine or keyboard will also suspend your machine.

You can configure your system to automatically switch to suspend mode after certain events like closing the lid (if you are using a laptop) or after a period of that time that the system has been idle. Refer to Section 9.3, “Configuring Power Management” for more information.

## **Saving Power by Using Profiles**

Power management profiles let you adjust various power management parameters to the requirements of certain typical situations you are facing when using your machine. openSUSE® ships with a set of four preconfigured profiles which you can adjust to your needs. To switch profiles, click the battery monitor panel **Icon** and select a different *Power Profile*. The following profiles are available by default:

### Performance

Keep your machine running with full power and full speed to achieve maximum performance.

### Presentation

Disable any display power management and screen savers to make sure that your presentation is not interrupted by a blanked display or something similar.

### Powersave

Apply power management methods to make sure that your machine runs as long as possible when put on battery power instead of AC power.

### Aggressive Powersave

Apply stricter power management methods when the battery is at a low level. These include shorter idle intervals before triggering suspend events, reducing screen brightness, disabling 3D effects and using CPU scaling policies that preserve resources.

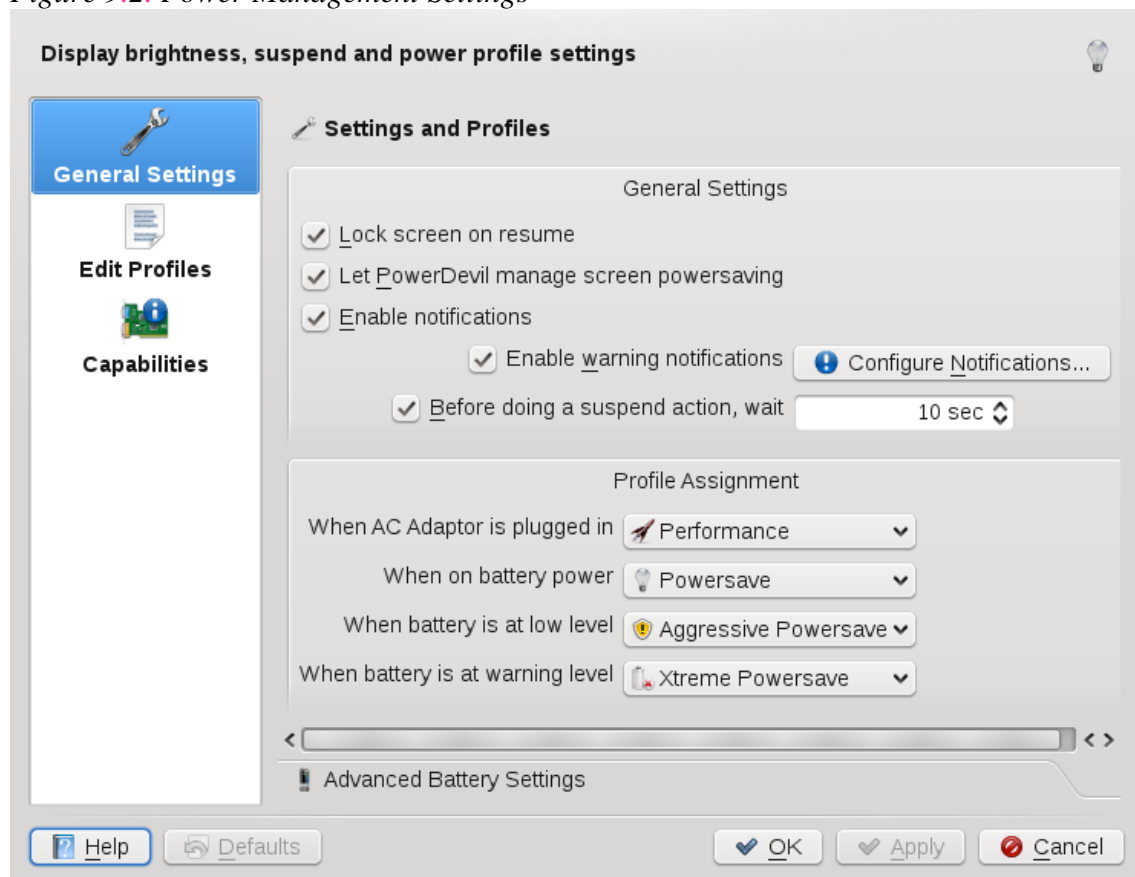
Apply extreme power saving by reducing screen brightness even more and using stricter idle time and CPU scaling policies when the battery is already at warning level.

## Configuring Power Management

KDE 4 lets you adjust a number of power management settings: for example, when to trigger notifications or warnings, which power profile to use when running on battery, what to do when closing the laptop lid or pressing the power or sleep button.

Access the configuration options from the main menu by selecting *Configure Desktop+Advanced+Power Management*. Conversely, click the battery monitor **Icon** in the panel and click select *More*.

Figure 9.2. Power Management Settings



To get an overview of your system's power management abilities like supported suspend methods or CPU policies, click the *Capabilities* category on the left.



In the following, find some examples of which aspects can be changed in the *General Settings* category and how to configure power management profiles.

### *Procedure 9.1. Configuring General Settings*

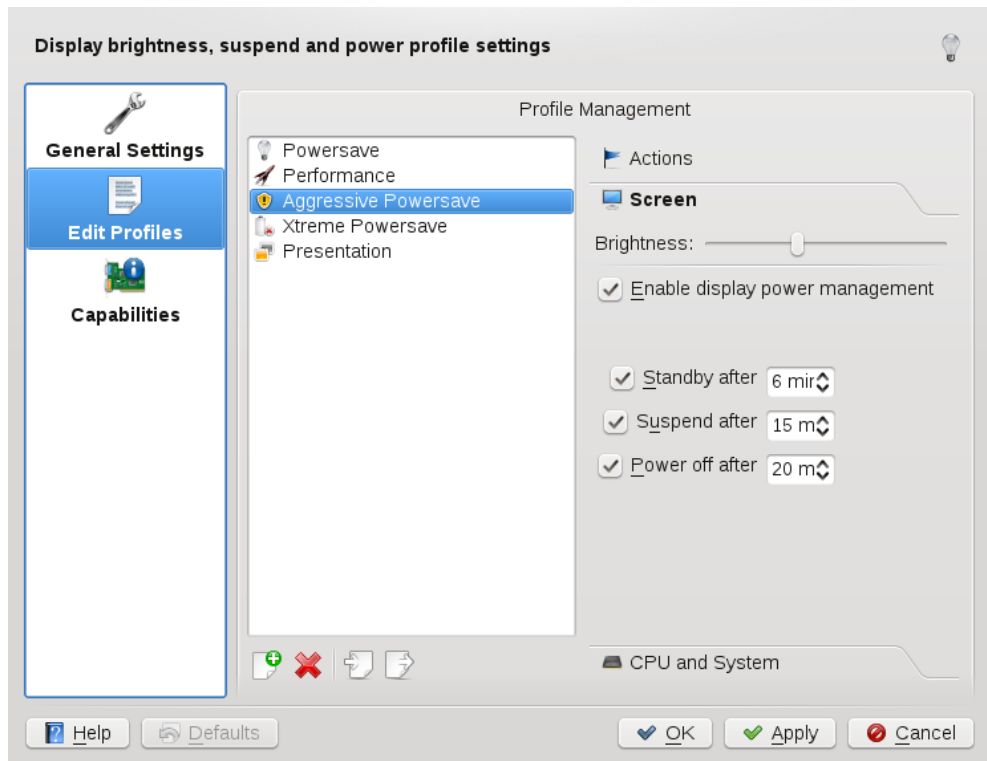
To access the following options, click the *General Settings* entry on the left side of the power management configuration dialog.

1. In the *Settings and Profiles* group, decide if the screen should be locked after a suspend action, so that the user needs to **Type** in his password when the machine resumes after a suspend.
2. Configure which notifications or warnings you want to receive for certain events (like low battery status), or if you want suspend actions to be **Executed** immediately or only after a certain time interval.
3. In *Profile Assignment*, decide which power profiles should be applied by default when the system is running on AC power, on battery, or when the battery is low or at warning level.
4. Click *Advanced Battery Settings* if you want to fine-tune the battery levels that are regarded as low or critical or to define which action should be taken at a critical battery level.
5. For detailed information about the available options, click *Help*.
6. If all options are set according to your wishes, click *Apply*.

### *Procedure 9.2. Configuring Power Management Profiles*

Apart from the general settings, you can adjust the default power management profiles or add new profiles in the *Edit Profiles* category. The list at the left show the available profiles.

1. Select one of the profiles in the list to view or change the specific settings for that profile:
  - a. In the *Actions* group, decide which actions are taken when the lid of the laptop is closed or the **Power** or **Sleep** button is pressed.
  - b. In the *Screen* group, configure how much the screen is dimmed and after how many minutes the display is turned off automatically.



- c. Click *CPU and System* to view or change which CPU to turn off (if supported by your machine) or to set the CPU frequency scaling policy for that profile.
2. Use the **Icons** at the bottom of the list of profiles if you want to add, delete, import or export power management profiles.
3. If all options are set according to your wishes, click *Apply*.