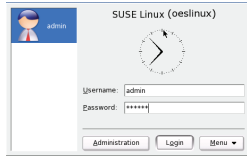


Login

N

Linux requires local users to Login
Depending on the configuration, OES offers a graphical or a command line login



Enter:

- Username
- Password

© 2005 Novell Inc. All Rights Reserved

Virtual Consoles

N

You can log in on a virtual (text) console even when the graphical login is offered:

- Press **Ctrl+Alt+F1** (or **Ctrl+Alt+F2 to F6**)
- Enter username and password

It is possible to be logged in on each of the six virtual consoles; switch between consoles using Alt+Fx

To return to the graphical login, press **Alt+F7**

© 2005 Novell Inc. All Rights Reserved

Logout

N

When done with your work, log out again

From the virtual console, use:

- **exit**

From the graphical interface:

- Right-click on the desktop background
- Select Logout username
- Select Logout

Do not forget to log out from **all** virtual consoles when leaving your computer.

© 2005 Novell Inc. All Rights Reserved

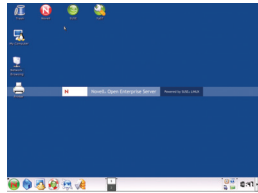


Use the Linux Desktop (KDE)



The main components of the Linux Desktop are:

- The KDE Control Panel (kicker)
- Desktop icons
- Desktop background



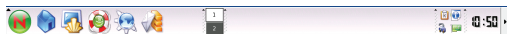
© 2005 Novell Inc. All Rights Reserved

Use the Linux Desktop (KDE)



The KDE control panel (Kicker)

- KDE Menu to launch common programs, configure KDE, lock the screen, etc
- Icons to start the file and web browser Konqueror, a terminal window, the SUSE HelpCenter and the email client KMail
- Control field to switch between virtual desktops
- Task manager area where you can switch between running programs
- An area for mini programs like the clipboard or volume control
- A clock



© 2005 Novell Inc. All Rights Reserved

Use the Linux Desktop (KDE)

N

Desktop icons

- After installation, there are desktop icons to start YaST, to access the CDROM and floppy drive (My Computer), the printer dialog, the trash can, and a view others, like a link to the Novell web site
- You can add desktop icons by dragging entries from the KDE Menu to the desktop
- You can add desktop icons by right-clicking on the desktop, selecting Create New and choosing what you need
- By default, programs are started by a **single click on an icon**

10 © 2005 Novell Inc. All Rights Reserved

Use the Linux Desktop (KDE)

N

Desktop background

- Right-clicking on the background gives access to a context menu where you can configure various aspects of the desktop, lock the screen, or log out
- Middle-clicking on the background opens a context menu where you can unclutter or cascade windows and switch between programs
 - Right-clicking on the background and selecting the Windows menu item can also be used

11 © 2005 Novell Inc. All Rights Reserved

Use the Linux Desktop (KDE)

N

The KDE Control Center

You launch the KDE Control Center via the KDE Menu

It is used to configure all aspects of KDE, like

- Language and Keyboard layout
- Desktop
- Appearance
- Security and Privacy

You can start YaST from the KDE Control Center as well

12 © 2005 Novell Inc. All Rights Reserved



Locate and Use Help Resources



- The SUSE HelpCenter
- Manual Pages
- Info Pages
- HOWTOs
- Manuals and Books
- Web sites

Locate and Use Help Resources



- The SUSE HelpCenter is a portal to various resources, like
- The SUSE Linux Enterprise Server 9 Administrator's Guide
 - Application manuals of different software packages
 - Linux Documentation, like manual and info pages
 - Documentation on various libraries and tools, like the Bash Reference Manual
 - Links to SUSE online resources

Locate and Use Help Resources

N

Manual Pages

Manual pages are organized in sections, like section 1 for commands, section 5 for configuration file formats

To view manual pages in a terminal window:

man command

man 5 command show manual page from section 5

man -f string lists all manual pages for string

man -k string lists all manual pages where string appears in the part NAME of the man page

Locate and Use Help Resources

N

Manual Pages (contd.)

The program used to display manual pages is less

Page up, Page down scrolls half a page

space, b scrolls a full page

/string searches for string;
n finds next, N finds previous occurrence

q quits the program less

Locate and Use Help Resources

N

To view Manual Pages in Konqueror:

Use URL: **man:ls**

Practice:

man ls

man crontab

man 5 crontab

view the manual page of crontab in Konqueror

Locate and Use Help Resources



Info Pages

- Provide help information with page navigation
- Example: [info ls](#)

Navigation: Move the cursor to a section marked with “*” and press enter to move to the designated section

- u** on level up
- p** previous page
- n** next page
- q** quit

Locate and Use Help Resources



HOWTOs

- Are a more general description of additional topics, like how to print, how networking works, etc.
- Located in [/usr/share/doc/howto/en/html](#)

Use Konqueror to view, the URL

<file:///usr/share/doc/howto/en/html/index.html>

gives an overview of the available HOWTOs

Up-to-date HOWTOs are available at

- <http://www.tldp.org>

Locate and Use Help Resources



Manuals and Documentation

- The SUSE Linux Enterprise Server Administration Manual is available online via the SUSE HelpCenter
- OES Documentation is available online:
 - <http://www.novell.com/documentation/oes/>

Use the Linux Shell and Command Line



Bash comes with many features that make work easier:

Command-Completion (Tab key):

- Type a few letters of a command and press **Tab** once (or twice) to complete the command or get a list of possible completions

History:

- **Up and Down Arrows** can be used to find previously issued commands
- Type a few letters and use **Page Up and Down** to find commands previously issued starting with those letters

28 © 2005 Novell Inc. All Rights Reserved

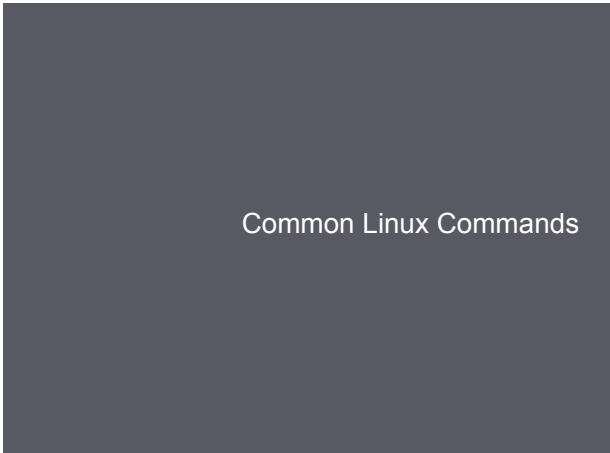
Use the Linux Shell and Command Line



Bash is not only a shell, but also a programming (scripting) language

- Shell scripts help to automate tasks
- if, while, for, until are available, as are variables and shell functions

28 © 2005 Novell Inc. All Rights Reserved



Common Linux Commands

Common Linux Commands

N

Some frequently used commands:

- ls** list directory content
- ls** lists the content of the current directory
- ls /directoryA** lists the content of directoryA
- ls -l** lists more information on files
- ls -a** lists hidden (.*) files too
- ls -R** lists directories recursively
- ls -i** lists the inode number for each file

28 © 2005 Novell Inc. All Rights Reserved

Common Linux Commands

N

Some frequently used commands:

- cd** change directory
- cd** changes to the home directory
- cd /dirA** changes to /dirA
- cd -** changes back to the previous working directory
- pwd** print working directory will display the current directory

29 © 2005 Novell Inc. All Rights Reserved

Common Linux Commands

N

Some frequently used commands:

- cp** copy files
- cp fileA fileB** copies fileA to fileB
- cp fileA fileB directoryC** copies files fileA and fileB to directoryC
- cp -a directoryA directoryB** copies directoryA into directoryB
- cp -a directoryA/ . directoryB** copies all files and directories within directoryA to directoryB
- cp -i fileA fileB** copies fileA to fileB, but asks if an existing fileB should be overwritten

30 © 2005 Novell Inc. All Rights Reserved

Common Linux Commands

N

Some frequently used commands:

- mv** move or rename files
- mv fileA fileB** renames fileA to fileB
- mv fileA fileB directoryC**
moves files fileA and fileB to directoryC
- mv -i fileA fileB** renames fileA to fileB, but asks if an existing fileB should be overwritten

31 © 2005 Novell Inc. All Rights Reserved

Common Linux Commands

N

Some frequently used commands:

- rm** remove files or directories
- rm fileA** removes fileA
- rm -i fileA** removes fileA after confirmation only
- rm -f fileA** removes fileA without any question
- rm -r dirA** removes dirA and its content

32 © 2005 Novell Inc. All Rights Reserved

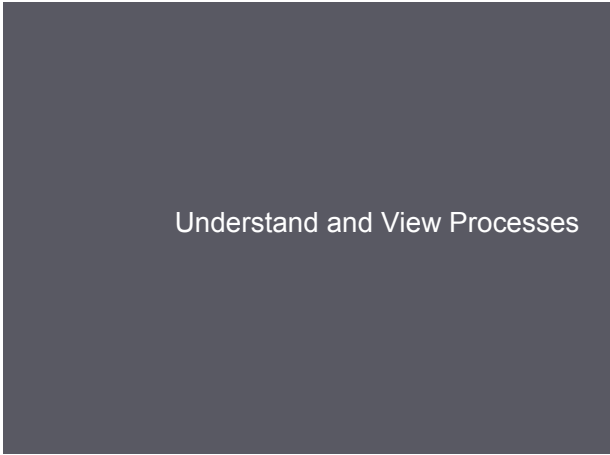
Common Linux Commands

N

Some frequently used commands:

- mkdir** create directories
- mkdir dirA** creates directory dirA
- mkdir -p dirB/subdir/subsubdir**
creates subsubdir and the parent directories if they do not exist
- rmdir** remove empty directories
- rmdir dirA** removes dirA if it is empty
(To remove non-empty directories use rm -r or delete the content first.)

33 © 2005 Novell Inc. All Rights Reserved



Understand and View Processes



Each time a program is started a process is created

Each process is assigned a unique number by the kernel, the **Process ID (PID)**

Users can send signals to processes they started to influence them, for instance to have them read their configuration file again or to stop them

root can send signals to and influence it's own and others processes

Understand and View Processes



Commands to View and Influence Processes:

- ps** view processes
- ps** view own processes that are connected to a terminal
- ps a** view all processes that are connected to a terminal
- ps x** view processes without controlling ttys
- ps aux** view all processes with information on who owns the processes

Understand and View Processes

N

Commands to View Processes:

- top** view processes dynamically in a list that is updated every few seconds
- ksysguard** Similar to top, only with a GUI interface. View processes dynamically in a list that is updated every few seconds by clicking on the process table tab

37 © 2005 Novell Inc. All Rights Reserved

Understand and View Processes

N

Commands to Influence Processes:

- kill** send signals to processes
- kill -l** display list of available signals
- kill 1234** send signal 15 (SIGTERM) to process 1234
- kill -9 2345** send signal 9 (SIGKILL) to process 2345

38 © 2005 Novell Inc. All Rights Reserved

Understand and View Processes

N

Commands to Influence Processes:

- nice** start a process with different priority values range from 19 (low priority, very nice to other processes) to -20 (high priority, not nice to other processes)
- nice prgm** starts prgm with a priority of 10
- nice -10 prg** starts prg with a priority of -10 – only root can start programs with higher priority

39 © 2005 Novell Inc. All Rights Reserved

Understand the Linux Boot Process

N

The boot process has several stages:

- 1) BIOS reads boot loader from MBR or boot sector
- 2) Boot loader loads kernel
- 3) Kernel loads initrd (initial root disk/RAM disk)
- 4) Kernel executes linuxrc (initializes hardware and mounts real root file system)
- 5) Kernel starts the first process: /sbin/init
- 6) /sbin/init reads /etc/inittab and executes scripts in /etc/init.d/boot
- 7) /sbin/init executes the default runlevel

43 © 2005 Novell Inc. All Rights Reserved

Understanding Runlevels

N

Runlevels are predefined sets of running services.

Available runlevels:

- 0: Shutdown system
- 1: Single-user login
- 2: Multi-user login (no network connection)
- 3: Multi-user login (network connection)
- 4: Not defined
- 5: Multi-user login (network connection and X server)
- 6: Reboot system

44 © 2005 Novell Inc. All Rights Reserved

Understand Runlevels

N

The runlevel can be changed with init

- example:

`init 3` changes to runlevel 3

The previous and current runlevel is shown using the command `runlevel`

45 © 2005 Novell Inc. All Rights Reserved



Shut Down and Restart the Server



The server should be shut down properly so that applications and processes can close appropriately and save any necessary data.

Commands to shut down:

- `shutdown -h now`
- `halt`
- `init 0`

Commands to reboot:

- `shutdown -r now`
- `reboot`
- `init 6`

47 © 2005 Novell Inc. All Rights Reserved

Shut Down and Restart the Server



Ctrl+Alt+Del can be used to shut down or reboot the server

- This can be configured in `/etc/inittab`
- This key combination can also be disabled

48 © 2005 Novell Inc. All Rights Reserved
