

# LESSON – 3

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ACCESS, COMMANDS, EDITORS, LINUX FILE HIERARCHY

# LEARNING OUTCOMES

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- On completion of this session, you will be able to:

- ✓ How to access the linux system
- ✓ Types of Users
- ✓ Shells
- ✓ Commands
- ✓ Linux Editors
- ✓ Linux File system Hierarchy

# SYSTEM ACCESS

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- Logging In Locally
  - With a “GUI” or Graphical User Interface With a “CLI” or Command Line Interface
- Logging in Remotely
  - From Windows, with puTTY From Linux or Mac, with ssh

# TYPES OF USERS

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- Types of Users
  - Root User
    - The Super User
  - Normal User
    - The sysadm account
  - System User
    - An account used by an application

# THE SUPER USER

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- o By default, one account can do anything: **root**
  - o Some Linux distributions disable logging in as this user
- Root is powerful**
- o It can change (or delete) any file It can perform any function

- Root is dangerous**
- o Inexperienced users can break a system Root can be exploited by attackers

## NORMAL USERS

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- o A standard user account
- o Can log in and access a home directory Can have group permissions
- o Can read/write/execute in its home directory Cannot start or stop the system
- o Cannot start or stop system services
- o Standard user accounts are safer than root

## SYSTEM USERS

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- o A user account used by a program
  - ftp, www-data, postgres, ntp
- o Typically cannot log in interactively
- o May or may not have shell access
- o Can have group permissions
- o System Users are safer than other users
  - Don't run applications as root
  - Don't run applications as a normal user

# SHELL

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- Command Line Interface (CLI) for executing programs
  - Windows equivalent: command.com or command.exe
- Also programming languages for scripting
  - DOS/Windows equivalent: batch files, VBScript
  - Linux/Unix: Perl, php, python, etc.
- You have a choice of similar shells
  - sh: the “Bourne Shell”. Standardized in POSIX

# COMMANDS

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- Commands are programs

Format: **command [options] parameters**

- Options modify commands
  - Typically a dash followed by a letter (-v)
- Commands act on Parameters (ls -al /etc)
- Spaces are critical “-- help” != “--help”
- Common commands (**ls, pwd, cd, mkdir, cp, rm, man**)

# LINUX EDITORS

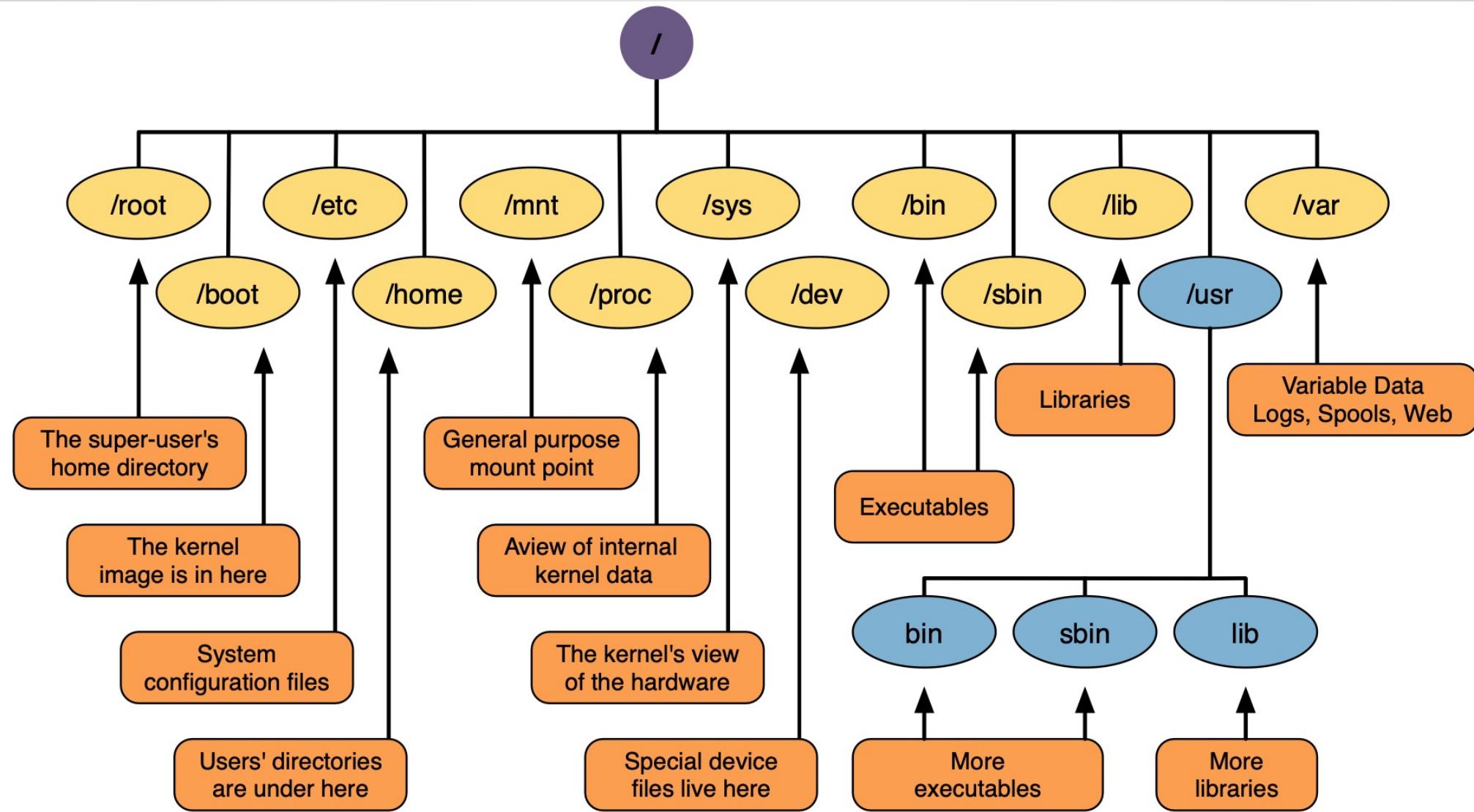
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- Text editors are essential tools
  - Coding
  - Editing / Writing

Format: **command [options] parameters**

- Editor available:
  - ed, emacs, joe, nano, vi, vim
- Don't have the editor you want? Install it!
  - **sudo apt-get install program**

# LINUX FILE HIERARCHY



# SUMMARY

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*In this lesson, you have learnt that:*

- Access methods
- User Types in Linux
- LFH (Linux File Hierarchy)
- Editors
- Commands