

# PingER Monitoring Node Installation

## Hands On Session

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# Presentation Outline

- Brief Introduction of Linux
- Linux Basic Commands
- Pre-Reqs of PingER
- Monitoring Node Installation
- Configuration

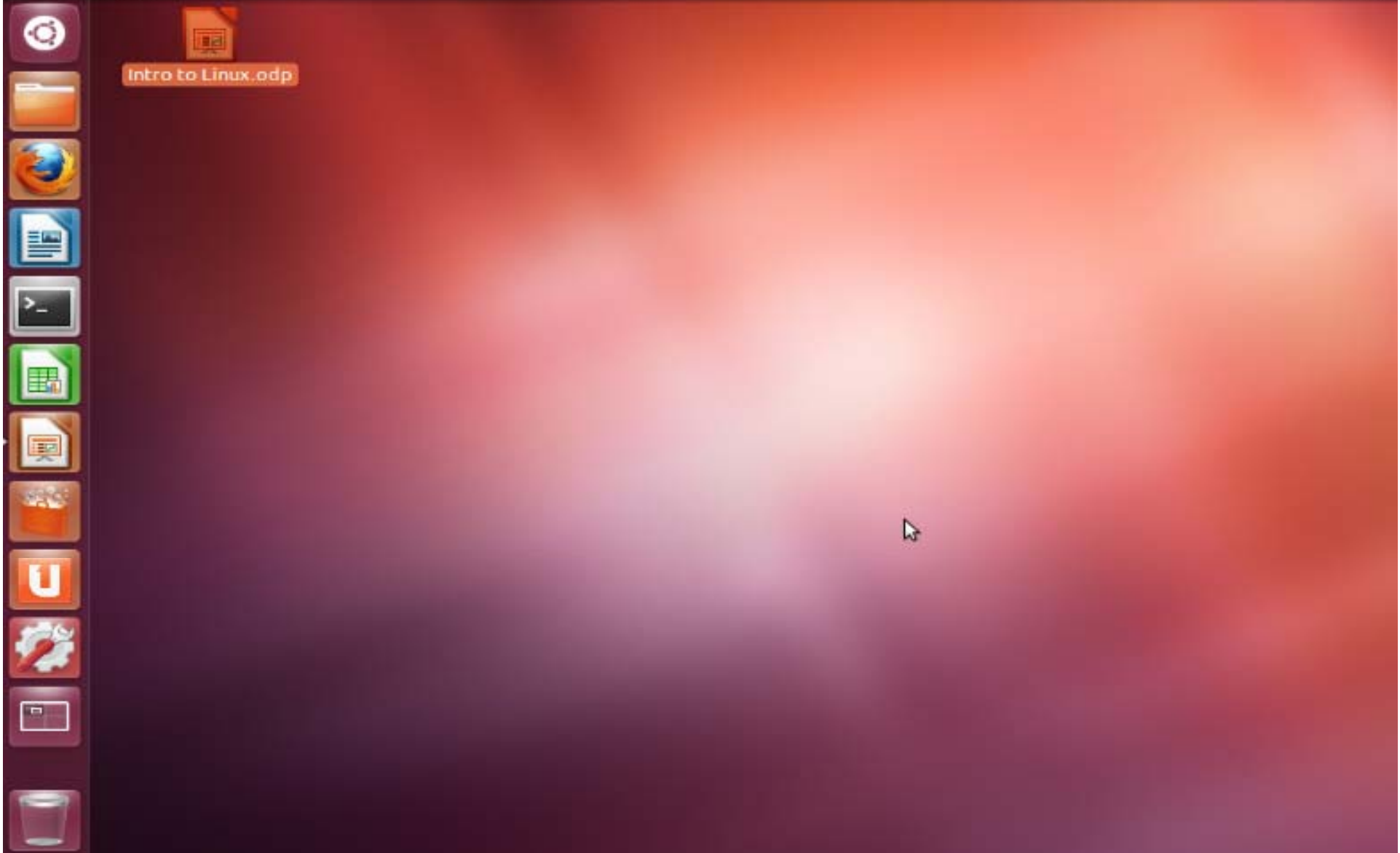
# Introduction to Linux

# Ubuntu 11.04, 11.10, 12.04

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Ubuntu Desktop

8:08 PM kashif



# Create Root User

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- **Activate root user**

```
kashif@kashif-aspire:~$ sudo passwd root
```

```
[sudo] password for kashif:
```

```
Enter new UNIX password:
```

```
Retype new UNIX password:
```

```
passwd: password updated successfully
```

- **Deactivate root user**

```
kashif@kashif-aspire:~$ sudo passwd -l root
```

- **Switch to root**

```
kashif@kashif-aspire:~$ su root
```

- **Exit from root**

```
root@kashif-aspire:/home/kashif# exit
```

[sudo: An application to perform administrative task , 1st user by default has sudo access]

# GUI root login

- Activate the root user as on previous slide and type:

```
kashif@kashif-aspire:~$ sudo sh -c 'echo "greeter-show-  
manual-login=true" >> /etc/lightdm/lightdm.conf'
```

- Restart the system or restart the lightdm service
- After login as a root user it will display guest on the desktop but actually it is root user.

# Directory Description

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- bin Essential command binaries e.g. ls
- boot Static files of the boot loader e.g. grub
- dev Device files e.g. cdrom
- etc Host-specific system configuration  
e.g. hostname
- lib Essential shared lib. & kernel modules
- media Mount point for removeable media  
e.g. Flash drive
- mnt Mount point for mounting a file system temporarily

# Directory Description

- opt Add-on application software packages
- sbin Essential system binaries e.g. ifconfig
- srv Data for services provided by system
- tmp Temporary files
- usr User Oriented data and apps e.g. themes
- var Variable data e.g. log files
- home User home directories
- root Home directory for the root user



# Linux Basic Commands

# Linux Basic Commands

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Command	Description
ls	list files and directories
ls -a	list all files and directories
mkdir <i>directory</i>	make a directory
cd <i>directory</i>	change to named directory
cd ..	change to parent directory
cd ~ or cd	change to home directory
pwd	display the path of the current directory
cd /	change to root directory

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# Linux Basic Commands

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Command	Description
clear	Clear the contents of terminal
<code>wc file2</code>	count no. of lines/words/characters in file2
date	It displays the current system date and time
uname uname -a lsb_release -a	It display the OS name, It displays the OS in detail It displays the OS version
hostname	It displays the system name
who am i	It displays the current user of the system
who	It displays who is on the system with you For multiple terminals it will show all
<code>echo 'string'</code>	It will display what you write as string

# ls -l command

```
kashif@kashif-aspire:~$ ls -l
```

```
total 60
```

```
drwxr-xr-x 2 kashif seecs 4096 Sep 11 18:51 Desktop
```

```
-rw-rw-r-- 1 kashif seecs 997 Sep 11 17:45 file1
```

- d represents directory
- rwx represents read write and execute
  - First rwx for author
  - Second rwx for group
  - Third rwx for everyone
- 2 represents no of files and directories in this directory
- kashif represents user/owner of the file
- Seecs represents group
- 4096 represents file size, Date and time represents file creation time
- Desktop is the name of the directory

# Changing file Rights

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```
kashif@kashif-aspire:~$ chmod a+rwx file1
```

```
kashif@kashif-aspire:~$ ls -l
```

```
-rwxrwxrwx 1 kashif seecs 997 Sep 11 17:45 file1
```

- *a* for everyone, + for add rights
- Other options:
  - - for subtract rights
  - *u* for user
  - *g* for group
  - *o* for other
- Other example:

```
kashif@kashif-aspire:~$ chmod go-rwx file1
```

```
kashif@kashif-aspire:~$ ls -l
```

```
-rwx----- 1 kashif seecs 997 Sep 11 17:45 file1
```



# Other Useful Commands

Command	Description
<code>gzip filename</code>	Compress the file and store as filename.gz
<code>gunzip filename.gz</code>	Uncompress the file
<code>zcat filename.gz</code>	Read the file without uncompressing
<code>file *</code>	Description/type of the files e.g word, txt etc
<code>history</code>	Display list of all previous commands
<code>exit</code>	Exit from the user/terminal
<code>Shutdown -h now</code>	Shutdown the system
<code>ping IP</code>	Ping the IP to check system is working

# vi Editor

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- Starting vi:

```
kashif@kashif-aspire:~$ vi file1
```

- It will open the file if it exists otherwise create new file
- On-screen, you will see blank lines:

```
~
```

```
~
```

```
"file1" [New file]
```

- vi Modes

- vi has two modes:
  - **command mode** (by pressing <Esc> key) → Editing fn's
  - **insert mode** (usually by pressing by 'i' key → For contents



- Basic Editing

- You must be in command mode.

Key	Purpose
---	-----
x	remove one character
3x	remove 3 characters
dw	remove one word (you must be at first character)
dd	remove one line
2dd	remove two lines
D	remove from cursor position to end of line
a	for append mode → insert after the cursor position
o	for inserting new line below cursor position
O	for inserting new line above cursor position
J	for joining two lines--> put the cursor on the 1st line
3J	for joining three lines

## Some Useful Links:

<http://pinger.seecs.edu.pk/>

- code → Installation files
- pinger → Tutorials and Packages
- daily-report → Daily monitoring reports
- monthly-report → Analysis reports
- pinger.xml → Important file having updated beacon list

# Types of Installations

- Trace Route Server
  - [Pinger.seecs.edu.pk/cgi-bin/traceroute.pl](http://Pinger.seecs.edu.pk/cgi-bin/traceroute.pl)
  - Version: 6.0
  
- Pinger2 Host
  - [pinger.seecs.edu.pk/cgi-bin/ping\\_data.pl](http://pinger.seecs.edu.pk/cgi-bin/ping_data.pl)
  - Version: 3.93
  - 48 set of pings daily
  - Packet Size
    - 100B
    - 1000B

# Monitoring Node Installation

See Tutorial

# What at the end Required

- DNS:
  - e.g. pingerlhr.pern.edu.pk
  
- Public IP:
  - e.g. 111.68.105.106
  
- Node Coordinates e.g.
  - Longitude: 74.352967
  - Latitude: 31.510717
  
- Node Location
  - Complete Postal Address
  
- Contact Person
  - Name
  - Designation
  - Contact Number
  - E-mail Address

Thanks