

Lovely Professional University, Punjab

Course Code	Course Title	Course Planner	Lectures	Tutorials	Practicals	Credits
CAP454	LINUX AND SHELL SCRIPTING - LAB	18710::Navpreet Kaur	0	0	2	1
Course Weightage Course Focus	ATT: 5 CAP: 45 ETP: 50 EMPLOYABILITY,SKILL DEVELOPMENT	Exam Category: X6: Mid Term Exam: Not Applicable – End Term Exam: Practical				

Course Outcomes :Through this course students should be able to

CO1 :: Learn the booting, disk partitioning and installation process of Linux.

CO2 :: Understand how to connect with the network by configuring DHCP connection and DNS.

CO3 :: Use the File System utilities, shell scripting and shell programming.

CO4 :: Analyze the configuration of different linux servers like samba, ftp, apache and nfs.

	TextBooks (T)		
Sr No	Title	Author	Publisher Name
T-1	BEGINNING REDHAT LINUX 9	SANDIP BHATTACHARYA	WILEY
	Reference Books (R)		
Sr No	Title	Author	Publisher Name
R-1	A PRACTICAL GUIDE TO LINUX COMMANDS, EDITORS AND SHELL PROGRAMMING ,	MARK G. SOBELL	PEARSON

Relevant Websites (RW)		
Sr No	(Web address) (only if relevant to the course)	Salient Features
RW-1	http://lrag.sourceforge.net/	Steps and concept linux administration
RW-2	http://www.cyberciti.biz/faq/set-environment-variable-linux/	Basic concepts for environment variables
RW-3	http://www.linux-tutorial.info/	Detailed description about linux and its working
RW-4	https://labex.io/	Learn to Code online

Audio Visual Aids (AV)		
Sr No	(AV aids) (only if relevant to the course)	Salient Features
AV-1	https://www.youtube.com/watch?v=P7lvuJdsrMY	Video lectured
Software/Equipments/Databases		
Sr No	(S/E/D) (only if relevant to the course)	Salient Features
SW-1	Redhat Linux 9 (http://www.fileplanet.com/119465/download/Red-Hat-Linux-9.0-Install-CD-3-of-3-(ISO))	ISO files
SW-2	http://vmware-workstation.en.softonic.com/	Virtual machine workstation12

Detailed Plan For Practicals

Practical No	Broad topic	Subtopic	Other Readings	Learning Outcomes
Practical 1	Installation guidelines of RED HAT LINUX	Installing Red Hat Linux	RW-4 SW-1 SW-2	Introductory Lecture (Lecture Zero): Students will learn the basics of Linux and the installation process
Practical 2	Installation guidelines of RED HAT LINUX	Bootting from CD/image	RW-3	Students will be able to install RedHat Linux on VMware.
	Installation guidelines of RED HAT LINUX	Graphical Installation Launch	RW-3	Students will be able to install RedHat Linux on VMware.
	Installation guidelines of RED HAT LINUX	Setting disk partition levels	RW-3	Students will be able to install RedHat Linux on VMware.
Practical 3	Getting started with LINUX	Swap Space	RW-3	Students will be able to understand the Booting process and run levels of RedHat Linux. LAB EVALUATION 1
	Getting started with LINUX	Setting Boot Loader, First Boot	RW-3	Students will be able to understand the Booting process and run levels of RedHat Linux. LAB EVALUATION 1
Practical 4	Getting started with LINUX	Root user	RW-1	Students will be able to understandthe runlevels of RedHat Linux.
	Getting started with LINUX	Working with desktop	RW-1	Students will be able to understandthe runlevels of RedHat Linux.
	Getting started with LINUX	X windows	RW-1	Students will be able to understandthe runlevels of RedHat Linux.
	Getting started with LINUX	Runlevels	RW-1	Students will be able to understandthe runlevels of RedHat Linux.
Practical 5	Getting connected with network	Network Configuration Tool	RW-3	Students will be able to understand the DNS and DHCP connection of RedHat Linux

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Practical 5	Getting connected with network	DHCP connection	RW-3	Students will be able to understand the DNS and DHCP connection of RedHat Linux
	Getting connected with network	DNS	RW-3	Students will be able to understand the DNS and DHCP connection of RedHat Linux
Practical 6	Finding your way on the command line	Performing Basic File System Management Tasks	RW-2 RW-3	Student will able to work on CLI and understand the different editors LAB EVALUATION 2
	Finding your way on the command line	Working with Files and Directories	RW-2 RW-3	Student will able to work on CLI and understand the different editors LAB EVALUATION 2
	Finding your way on the command line	Piping and Redirection	RW-2 RW-3	Student will able to work on CLI and understand the different editors LAB EVALUATION 2
	Finding your way on the command line	Finding File	RW-2 RW-3	Student will able to work on CLI and understand the different editors LAB EVALUATION 2
	Finding your way on the command line	Working with an Editor	RW-2 RW-3	Student will able to work on CLI and understand the different editors LAB EVALUATION 2
	Finding your way on the command line	Vi Modes	RW-2 RW-3	Student will able to work on CLI and understand the different editors LAB EVALUATION 2
	Finding your way on the command line	Using man to Get Help	RW-2 RW-3	Student will able to work on CLI and understand the different editors LAB EVALUATION 2
Practical 7	Finding your way on the command line	Using cat command	RW-4	Student will able to mount devices and manage software packages using RPM in Red Hat Linux
	Finding your way on the command line	Mounting Devices	RW-4	Student will able to mount devices and manage software packages using RPM in Red Hat Linux
	Finding your way on the command line	Links	RW-4	Student will able to mount devices and manage software packages using RPM in Red Hat Linux
	Managing software using RPM	Understanding RPM	RW-4	Student will able to mount devices and manage software packages using RPM in Red Hat Linux
	Managing software using RPM	Compress your files	RW-4	Student will able to mount devices and manage software packages using RPM in Red Hat Linux
	Managing software using RPM	Querying Software	RW-4	Student will able to mount devices and manage software packages using RPM in Red Hat Linux
Practical 8	Managing files and file system	File Systems Overview		Students will be able to understand the file system of RedHat Linux and windows
	Managing files and file system	Anatomy of file system		Students will be able to understand the file system of RedHat Linux and windows
	Managing files and file system	File search utilities		Students will be able to understand the file system of RedHat Linux and windows

Practical 8	Managing files and file system	File and directories permissions		Students will be able to understand the file system of RedHat Linux and windows
Practical 9	Working with users, groups and permissions	Managing Users and Groups		Students will be able to create own user and differnt configuration files of RedHat Linux. LAB EVALUATION 3
	Working with users, groups and permissions	Commands for User Management		Students will be able to create own user and differnt configuration files of RedHat Linux. LAB EVALUATION 3
	Working with users, groups and permissions	Managing Passwords		Students will be able to create own user and differnt configuration files of RedHat Linux. LAB EVALUATION 3
	Working with users, groups and permissions	Modifying and Deleting User Accounts		Students will be able to create own user and differnt configuration files of RedHat Linux. LAB EVALUATION 3
	Working with users, groups and permissions	Behind the Commands: Configuration Files		Students will be able to create own user and differnt configuration files of RedHat Linux. LAB EVALUATION 3
	Working with users, groups and permissions	Creating Groups		Students will be able to create own user and differnt configuration files of RedHat Linux. LAB EVALUATION 3
	Working with users, groups and permissions	Using Graphical Tools for User and Group Management		Students will be able to create own user and differnt configuration files of RedHat Linux. LAB EVALUATION 3
	Working with users, groups and permissions	Managing Permissions		Students will be able to create own user and differnt configuration files of RedHat Linux. LAB EVALUATION 3
	Working with users, groups and permissions	Understanding the Role of Ownership		Students will be able to create own user and differnt configuration files of RedHat Linux. LAB EVALUATION 3
	Working with users, groups and permissions	Basic Permissions: Read, Write, and Execute		Students will be able to create own user and differnt configuration files of RedHat Linux. LAB EVALUATION 3
	Working with users, groups and permissions	Setting Default Permissions with umask		Students will be able to create own user and differnt configuration files of RedHat Linux. LAB EVALUATION 3
Practical 10	Introducing and working with shell	Getting Started		Students will be able to understand the purpose of shell and shell scripting in RedHat Linux
	Introducing and working with shell	Elements of a Good Shell Script		Students will be able to understand the purpose of shell and shell scripting in RedHat Linux
	Introducing and working with shell	Executing the Script		Students will be able to understand the purpose of shell and shell scripting in RedHat Linux
	Introducing and working with shell	Working with Variables and Input		Students will be able to understand the purpose of shell and shell scripting in RedHat Linux
	Introducing and working with shell	Understanding Variables	RW-2	Students will be able to understand the purpose of shell and shell scripting in RedHat Linux

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Practical 10	Introducing and working with shell	Common shell commands		Students will be able to understand the purpose of shell and shell scripting in RedHat Linux
	Introducing and working with shell	Shell Scripting programming constructs		Students will be able to understand the purpose of shell and shell scripting in RedHat Linux
Practical 11	Managing and configuring apache server	Installing and configuring Apache web server		Students will be able to create their own web server of RedHat Linux. LAB EVALUATION 4
	Managing and configuring apache server	Setting firewalls with iptables		Students will be able to create their own web server of RedHat Linux. LAB EVALUATION 4
	Managing and configuring apache server	Understanding the Apache Configuration Files		Students will be able to create their own web server of RedHat Linux. LAB EVALUATION 4
	Managing and configuring apache server	Working with Virtual Hosts		Students will be able to create their own web server of RedHat Linux. LAB EVALUATION 4
	Managing and configuring apache server	Setting up first web page		Students will be able to create their own web server of RedHat Linux. LAB EVALUATION 4
Practical 12	Managing and configuring apache server	Setting up first web page		Students will be able to create their own web server of RedHat Linux. LAB EVALUATION 4
	Managing and configuring apache server	Working with Virtual Hosts		Students will be able to create their own web server of RedHat Linux. LAB EVALUATION 4
	Managing and configuring apache server	Understanding the Apache Configuration Files		Students will be able to create their own web server of RedHat Linux. LAB EVALUATION 4
	Managing and configuring apache server	Setting firewalls with iptables		Students will be able to create their own web server of RedHat Linux. LAB EVALUATION 4
	Managing and configuring apache server	Installing and configuring Apache web server		Students will be able to create their own web server of RedHat Linux. LAB EVALUATION 4
Practical 13	Managing and configuring file servers	FTP protocol		Student will be able to create own File server in Red Hat Linux.
	Managing and configuring file servers	Installing and configuring vsftpd		Student will be able to create own File server in Red Hat Linux.
	Managing and configuring file servers	Using FTP client to test anonymoustr read access		Student will be able to create own File server in Red Hat Linux.
	Managing and configuring file servers	Testing FTP server		Student will be able to create own File server in Red Hat Linux.
	Managing and configuring file servers	Installing and configuring Samba server		Student will be able to create own File server in Red Hat Linux.

Practical 13	Managing and configuring file servers	Installing SAMBA server		Student will be able to create own File server in Red Hat Linux.
	Managing and configuring file servers	SAMBA configuration with SWAT and starting SWAT service		Student will be able to create own File server in Red Hat Linux.
	Managing and configuring file servers	Adding SAMBA user	AV-1	Student will be able to create own File server in Red Hat Linux.
	Managing and configuring file servers	Creating and configuring SAMBA share		Student will be able to create own File server in Red Hat Linux.
Practical 14	Working and configuring NFS	Installing and configuring NFS		Student will be able to create configure NFS server on cross platform.
	Working and configuring NFS	Configuring NFS server and client		Student will be able to create configure NFS server on cross platform.
	Working and configuring NFS	Using auto mount services		Student will be able to create configure NFS server on cross platform.
	Working and configuring NFS	Examining NFS security		Student will be able to create configure NFS server on cross platform.
	SPILL OVER			
Practical 15	Spill Over			