VirtualPath
TECHNO SOLUTIONS

LINUX ADMIN 7

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SHELL SCRIPTING

By
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10 yrs Exp, Redhat Certified

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LINUX-COURSE CONTENT

Introduction to Linux
• History of UNIX & Linux
• Basic Concepts of Operating System

Basics
• File System of Linux
• Creating, Removing, Copying, Moving files & Directories
• File Permissions

Intermediate Command Line tools
• Soft link & hard links
• Introduction to VIM
• Basic VIM workflow

Regular Expressions, Pipelines & I/O Redirections
• Using Grep
• Pipelines & Redirections Basic Regular Expressions

Linux Installation
• Installation of Linux Graphically
• Kick Start Installation
• Network Installation (using ftp, NFS & HTTP)
• Combining kickstart & N/W installation
• Complete automated installation

User & Group Administration
• Creating & Deleting Users
• Modifying Users Profile
• Files related to User Administration
• Creating & Removing Groups
• Adding & Removing Users to Groups

Controlling Access to Files
• Applying File System Access Control List (ACL)
• Restricting a particular user to use a file or directory

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Managing SELinux
- Basic SELinux Security Concepts
- SELinux Models
- Display & Modify SELinux Models
- Display & Modify SELinux File Context

Managing Partitions & File Systems
- Diff type of FS like ext3,ext4,xfs etc
- Simple Partition & File System
- Managing Swap Space
- Increasing & Decreasing swap spaces
- Mounting a File system & Making it Permanent

Logical Volume Management
- Components of LVM
- Implementation of LVM Storage
- Creating Volume Groups & Logical Volumes
- Extend a Logical Volume
- Extending & reducing a Volume Group
- FS Related issues in Real time

Network Configuration & Trouble Shooting
- Introduction to Networking and Connections
- Understanding Network Configuration Files in 6&7
- Assigning IP Address
- Troubleshooting

Job Automation
- Using Cron jobs
- Restricting Users from using Cron jobs

Firewall
- Introduction to firewalld services
- Allowing a service/port in firewall
- Removing a service/port in firewall
- Saving and making the rules permanent in firewall

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Managing Process
- Monitoring Processes
- Terminating & Governing Processes
- Setting up Priority of the Process
- usage of Top command

Boot Process
- Boot Process
- Repairing Boot Issues
- Real time Boot issues

Recovering Root Password
- Dealing with SE Linux to recover root password
- Recovering the Super user Password
- Recovering Boot Loader

Managing Installed Services
- Introduction to *systemctl* command
- Starting, stopping, reloading & refreshing service
- Managing Services
- Confirm Service Availability

Accessing a Remote System
- Using SSH
- Generating Keys
- Copying Pub Keys using "ssh-copyid" command
- Password Less Logging between two Systems

Remote Syncronization.
- Sync data between two servers using encryption
- Usage of dry-run in rsync

Enhanced User Security
- Configuring SUDO
- Limiting SUDO Users
- Checking logs of SUDO users, Real time issues & usage.

Backup & Restore
- Backup of data using tar
- Applying gzip on tar file
- Uncompressing tar and gzip files

Installing Software
- Using rmp command
- Using yum command
- creating yum repository
- configuring yum server
- configuring yum clients

SERVERS

File Transfer Protocol (FTP)
- Using FTP
- Configuring FTP for anonymous users
- Configuring FTP for upload files
- Configuring FTP for Downloading files
- Restricting Users for FTP

Network File Services (NFS)
- Demons and workflow of NFS demons
- Configuring NFS server
- Mounting NFS Directory on Clients
- Auto mounting NFS

SAMBA Server
- Configuring SAMBA service for file sharing with Windows
- Connecting SAMBA server from Windows Client

DNS SERVER
- Configuring DNS server
- Integrating DSN server with clients

Web Server
- Configuring Apache web server
- Redirecting the website
- Virtual web hosting
- Port Based web hosting
- Name based web hosting

Mail Server
- Configuring Postfix for sending the mails
- Configuring Dovecot for receiving the mails
- Testing the mail flow

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Bonus topics

Squid Proxy
- Configuring squid proxy for internet sharing
- blocking unwanted websites
- Changing the default port of proxy

DHCP Server
- Configuring dhcp server
- Creating scopes and ranges
- Client side integration

SHELL SCRIPTING SYLLABUS

Communication.
- Sending message to Users.
- Sending mails.
- Checking mails.
- Customize mails.

Text Filters.
- *Head* command
- *Tail* command
- Using *grep*
- Counting Words and Lines.
- Basics of *Awk*.
- *AWK* features.
- Basics of *Sed*.
- *SED* Features.

Input / Output.
- Redirectors
- Pipes
- Filters
- Exit Status
- Wild Cards.

Miscellaneous Tools.
- The *eval* command.
- The: Command.
- The *type* command.
- The *sleep* command.
- The *find* command.
- *Xargs*
- The *exp*r command
- The *bc* command

Quotes.
- Backslashes.
- Single Quotes.
- Double Quotes.
- Quoting Rules and Situations.

Variables.
- Defining Variables.
- Unsetting Variables.
- Environment Variables.
- Global Variables.
- Taking Input from user using *read* command

Parameters.
- Special Variables
- Options and Arguments.
- Option Parsing in Shell Scripts.

Flow Control.
- The *if* Statement
- *If-else* Statement.
- Nested *If-else* Statement.
- The *test* Statement.
- The *case* Statement.
- Conditional executing.

Functions.
- Creating Functions
- Usage of functions
- Sharing Data between functions.

Loops.
- *Until* loop.
- *While* loop.
- *For* loop.
- *Select* loop.
- Loop Control.

Advanced Scripting.

- Nullify unwanted output.
- User Interface and dialog utility.
- Using Shell colors.
- The *trap* command.
- The *Shift* command.
- Debugging a script.
- Making a binary file.

Other courses offered:-

LINUX CLUSTER	**VERITAS CLUSTER**
NETAPP STORAGE	**NETAPP CLUSTER**
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IBM SAN	**DEVOPS**
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**Courses available on
Regular Track, FastTrack and Online**

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