

MAZR-6 - MOC 55187 - LINUX SYSTEM ADMINISTRATION

Categoria: Azure

INFORMAZIONI SUL CORSO



Durata:
4 Giorni



Categoria:
Azure



Qualifica Istruttore:
Microsoft Certified
Trainer



Dedicato a:
Professionista IT



Produttore:
Microsoft

OBIETTIVI

Eseguire i comandi essenziali di Linux come l'installazione, le ricerche e la manipolazione dei file.

Operare su sistemi Linux: gestire il processo di avvio, schedulare jobs, aggiornare il sistema, monitorare le prestazioni del sistema e gestire la sicurezza.

Gestire utenti e gruppi: l'aggiunta / cancellazione / modifica, configurazione di LDAP e PAM, modifica dei processi utente e delle risorse.

Garantire l'efficiente utilizzo dell rete tramite la configurazione, il monitoraggio, il tunneling e l'instradamento del traffico.

Configurare i servizi DNS, cartelle condivise, SSH e SELinux / AppArmor così come i server per DHCP e HTTP.

Gestire lo storage sistema utilizzando partizioni, volumi logici, volumi fisici, ACL, quote e il clustering.

PREREQUISITI

Conoscenza dei componenti di base di Linux.

Familiarità con gli editor di testo.

Conoscenza di Bash scripting.

CONTENUTI

Module 1: System Startup and Shutdown

Understanding the Boot Sequence

The Grand Unified Boot Loader

GRUB Configuration Files

System Configuration Files in /etc

The init Process

SysVinit Startup

chkconfig and service

Upstart

systemd

Shutting down/Rebooting the System

Lab : Chapter Labs

Boot into non-graphical mode using GRUB

Add a new startup service with System V

Add a new startup services with system

Run Shutdown vs. Halt vs. Reboot

After completing this module, students will be able to:

After completing this module, students will be able to:

Manage startup process in Linux.

Manage startup process in Linux.

Manage shutdown process in Linux.

Manage shutdown process in Linux.

Module 2: Linux Filetree System Layout

Data Distinctions

FHS Linux Standard Directory Tree

root (/) directory

/bin

/dev

/etc

/home

/lib and /lib64

/media

/mnt

/opt

/proc

/sys

/root

/sbin

/tmp

/usr

/var

/run

Lab : Chapter Labs

Change size of the default directories

Touring the /proc Filesystem

After completing this module, students will be able to:

Describe how the Linux Filesystem is set up.

Demonstrate knowledge of how the key directories work.

Module 3: Kernel Services and Configuration

Kernel Overview

Kernel Configuration

sysctl

Kernel Modules

Module Utilities

Module Configuration

udev and Device Management

Lab : Chapter Labs

Manipulating system tunables with sysctl.

Changing the maximum process ID.

Working with Kernel modules.

Working with udev

After completing this module, students will be able to:

Describe how the Linux Kernel is configured.

Work with Kernel modules.

Manage devices.

Work with udev and sysctl.

Module 4: Partitioning and Formatting Disks

Common Disk Types

Disk Geometry

Partitioning

Naming Disk Devices

Sizing up partitions

Partition table editors

Lab : Chapter Labs

Using a file as a disk partition image

Partitioning a Disk Image file

Using losetup and parted

Partitioning a real hard disk

After completing this module, students will be able to:

Partition disks.

Name disk drives.

Size partitions.

Edit partition tables.

Module 5: Linux Filesystems

Some Notes About Filesystems

Virtual Filesystem (VFS)

Filesystem Concepts

Disk and Filesystem Usage

Extended Attributes

ext4

XFS

btrfs

Creating and formatting filesystems

Checking and Repairing Filesystems

Mounting filesystems

Swap

Filesystem Quotas

Lab : Chapter Labs

Defragmenting a system.

Modifying Filesystem parameters using tune2fs.

Working with file attributes.

Mounting options.

Managing swap space.

Filesystem quotas.

Working with XFS

Working with btrfs

After completing this module, students will be able to:

Create Filesystems.

Format Filesystems.

Mount Filesystems.

Use swap partitions.

Manage Filesystem quotas.

Repair Filesystems.

Module 6: RAID and LVM

RAID

RAID Levels

Software RAID Configuration

Logical Volume Management (LVM)

Volumes and Volume Groups

Working with Logical Volumes

Resizing Logical Volumes

LVM Snapshots

Lab : Chapter Labs

Creating a RAID device

Creating Logical Volumes

After completing this module, students will be able to:

Understand, configure and monitor RAID.

Create, resize and utilize Logical Volumes.

Work with LVM snapshots.

Module 7: Processes

Programs and Processes

Process States

Execution Modes

Daemons

Creating Processes

Process Limits

Process Monitoring

Signals

niceness

Libraries

Lab : Installing and Configuring Windows 7

Controlling processes with ulimit

Using ps and top

Monitoring process states

Examining signal priorities and execution

After completing this module, students will be able to:

Describe the role of processes in Linux and how they relate to programs.

Identify the different states processes can take.

Monitor and limit processes.

Set process priority using niceness values.

Module 8: Package Management Systems

Software Packaging Concepts

RPM (Red Hat Package Manager)

DPKG (Debian Package)

Revision Control Systems

Lab : Chapter Labs

Using RPM

Rebuilding the RPM database

Using DPKG

Version control with git

After completing this module, students will be able to:

Understand the role and function of package management systems.

Understand and use RPM.

Understand and use DKPG.

Understand the role of revision control systems, particularly git.

Module 9: Package Installers

Package Installers

yum

zypper

APT

Lab : Chapter Labs

Basic yum commands

Using yum to find information about a package

Managing groups of packages with yum

Adding a new yum repository

Basic zypper commands

Using zypper to find information about a package

Basic APT commands

Using APT to find information about a package

Managing groups of packages using APT

After completing this module, students will be able to:

Describe the role that package installers play in managing the software update process.

Demonstrate proficiency with APT, yum and zipper.

Module 10: User and Group Account Management

User Accounts

Management

Passwords

Restricted Shells and Accounts

The root Account

Group Management

PAM (Pluggable Authentication Modules)

Authentication Process

Configuring PAM

LDAP Authentication

File Permissions and Ownership

SSH

Lab : Chapter Labs

Working with user accounts

Working with groups

Configuring PAM

Using chmod

After completing this module, students will be able to:

Manage users and groups by adding/deleting/modifying them.

Configure and use LDAP.

Configure on use PAM.

Modify user processes and resources.

Appropriately use the root account.

Use SSH to securely access remote systems.

Module 11: Backup and Recovery Methods

- ? Backup Basics
- ? cpio
- ? tar
- ? Compression: gzip, bzip2 and xz and Backups
- ? dd
- ? rsync
- ? dump and restore
- ? mt
- ? Backup Programs

Lab : Chapter Labs

- Using tar for backup
- Using cpio for backup
- Using rsync for backup
- After completing this module, students will be able to:
 - Describe the benefits of backup up data.
 - Demonstrate proficiency with common backup tools.
 - Demonstrate proficiency with common compression tools.

Module 12: Networking

- IP Addresses
- Hostnames
- Configuring Network Interfaces
- Routing
- Name Resolution
- Network Diagnostics

Lab : Chapter Labs

- Static configuration of a network interface
- Adding a static hostname
- Adding a network interface alias
- After completing this module, students will be able to:
 - Explain how IP addresses function.
 - Manipulate hostnames.
 - Configure network interfaces.
 - Route traffic persistently and non-persistently.
 - Perform network diagnostics.

Module 13: Firewalls

- Firewalls
- Interfaces
- firewalld
- Zones
- Source Management
- Service and Port Management

Lab : Chapter Labs

- Installing firewalld
- Examining firewall-cmd
- Adding services to a zone
- Using the firewall GUI

After completing this module, students will be able to:

- Describe the role and function of firewalls.
- Understand the most commonly use tools.
- Describe the function of zones.
- Implement services on zones.

Module 14: Local System Security

- Local System Security
- Creating a Security Policy
- Updates and Security
- Physical Security
- Filesystem Security
- Linux Security Modules

Lab : Chapter Labs

- Using SELinux
- Security and mount options
- Using umask
- Using setuid and scripts

After completing this module, students will be able to:

- Describe the sources of threats to system security.
- Understand the components important to creating a security policy.
- Demonstrate basic familiarity with SELinux.

Module 15: Basic Troubleshoot and System Rescue

- ? Troubleshooting Overview
- ? Things to Check: Networking
- ? Boot Process Failures
- ? Filesystem Corruption and Recovery
- ? Virtual Consoles
- ? Rescue Media and Troubleshooting
- ? System Rescue and Recovery

Lab : Chapter Labs

- ? Preparing to use Rescue/Recover media
- ? Recovering from a corrupted GRUB configuration
- ? Recovering from a password failure
- ? Recovering from partition table corruption
- ? Recovering using the install image

After completing this module, students will be able to:

- Describe the common sources of corruption/performance issues.
- Identify the cause of system issues.
- Recover a system after some of the most common types of issues.

INFO

Manuale: Materiale didattico ufficiale Microsoft in formato digitale

Prezzo manuale: 270 € incluso nel prezzo del corso a Calendario

Natura del corso: Operativo (previsti lab su PC)