SSH Server Configuration

1. What is SSH?

SSH (Secure Shell) is a secure encrypted protocol used for remote login, command execution, and file transfer over insecure networks.

2. What is an SSH Server and Why Do We Need It?

An SSH server enables encrypted, authenticated remote access. It is essential for system administration, automation, secure file transfers, and enterprise network management.

Exercise Introduction

In this exercise, you will install the SSH service, modify basic configuration settings, allow SSH through firewalld, and remotely access the RHEL server from a Windows machine.

Step 1 – Install SSH Package

Commands:

• dnf install *chrony* -y

This installs the required components on the system.

Step 2 – Modify SSH Configuration File

Command:

• vi /etc/ssh/sshd_config

The following lines were uncommented/adjusted in the configuration file:

```
Port 22
AddressFamily any
ListenAddress 0.0.0.0
ListenAddress ::

LoginGraceTime 2m
PermitRootLogin prohibit-password
StrictModes yes
MaxAuthTries 6
MaxSessions 10
```

Step 3 – Allow SSH Through Firewall

Commands:

• firewall-cmd --permanent --add-port=22/tcp --zone=public
• firewall-cmd --reload

Step 4 – Enable and Start SSH Service

Commands:

• systemctl --now enable sshd

Step 5 – Verify SSH Access (Windows)

Command:

ssh -p22 root@192.168.1.10

Syntax:
ssh -p22 <username>@<server_ip>

SSH Configuration Parameters (Explained)

S.No	Directive	Description
1	Port 22	Defines the default SSH port.
2	AddressFamily any	Allows both IPv4 and IPv6 requests.
3	ListenAddress 0.0.0.0	Accepts SSH connections from any IPv4 address.
4	ListenAddress ::	Accepts SSH connections from any IPv6 address.
5	LoginGraceTime 2m	Time allowed for login before disconnecting.
6	PermitRootLogin prohibit-password	Disallows password authentication for the root user; only key-based login is allowed
7	StrictModes yes	Checks file permissions and ownership before login.
8	MaxAuthTries 6	Maximum number of failed authentication attempts allowed.
9	MaxSessions 10	Maximum number of SSH sessions allowed.