



# National Polytechnic Institute of Cambodia

## Faculty of Computer Science

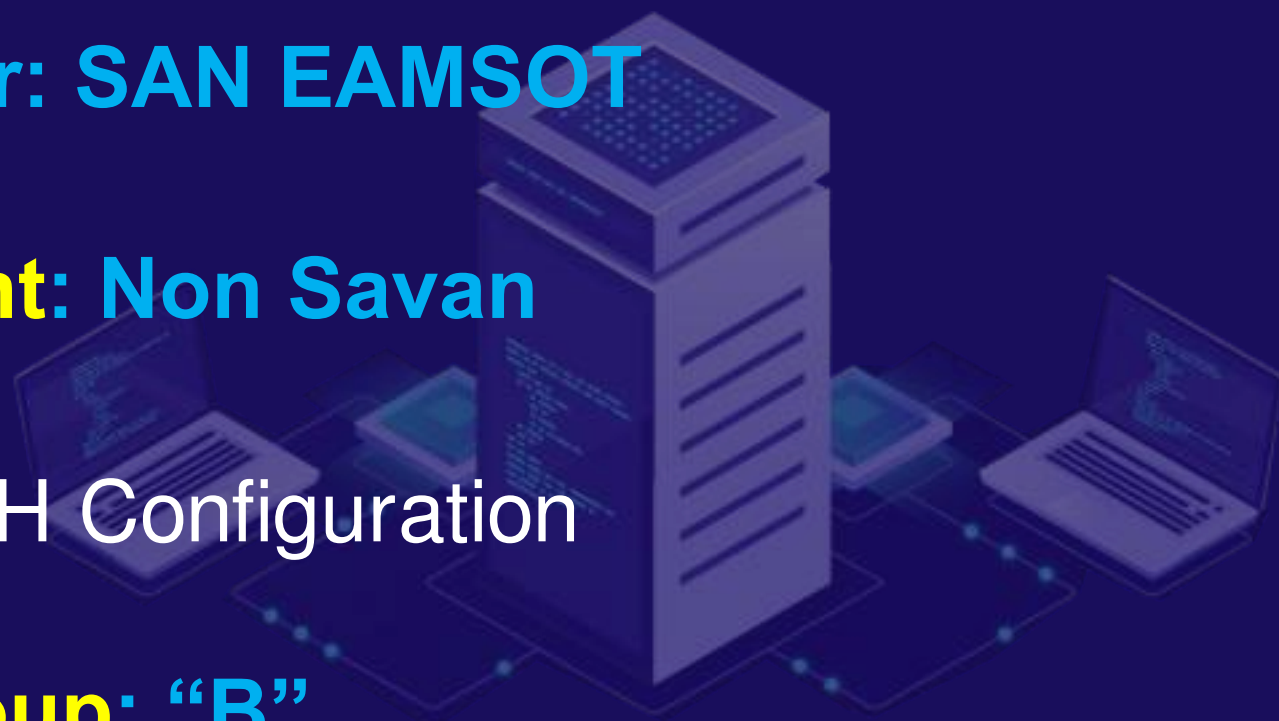
### Subject: Linux

### Professor: SAN EAMSOT

### Student: Non Savan

### Topic: SSH Configuration

### Group: “B”



# Introduction

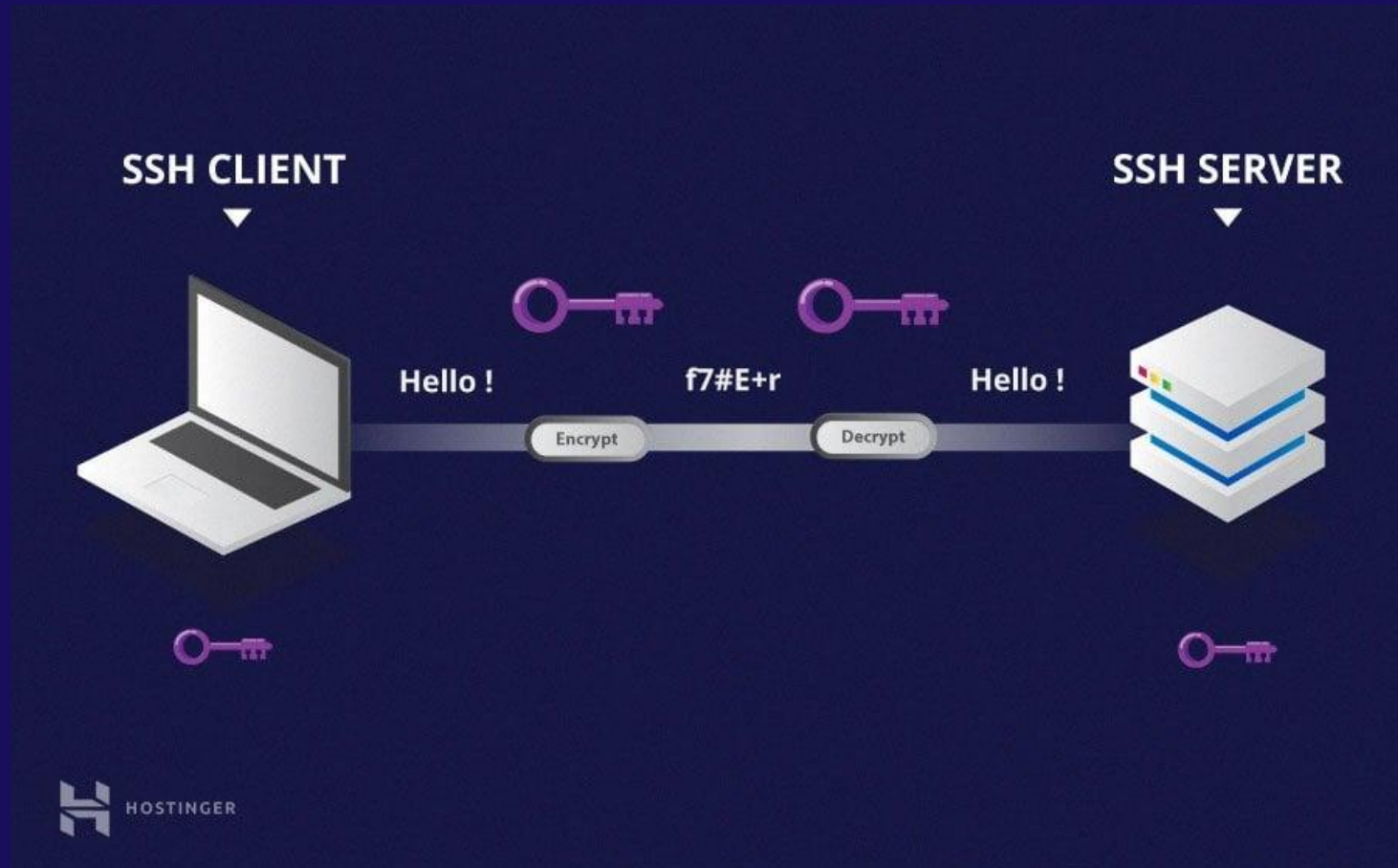
1. What is SSH?
2. Configuration step by step
  - a) Install SSH Server (OpenSSH)
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  - c) Configure SSH (Edit Config File)
  - d) Restart SSH Service
  - e) Configure Firewall (Allow SSH)
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# What is SSH?

SSH stand for Secure Shell.

It's allows secure remote access to your Fedora system.

It's use port number 22.



# Configuration SBS

## a) Install SSH Server (OpenSSH)

If not already installed, Please install.

```
# dnf install openssh-server openssh-clients -y
```

```
[root@fedora ~]#  
[root@fedora ~]# dnf -y install openssh-clients  
Last metadata expiration check: 2:10:59 ago on Mon 23 Jun 2025 08:22:47 PM +07.  
Package openssh-clients-8.6p1-5.fc34.x86_64 is already installed.  
Dependencies resolved.  
Nothing to do.  
Complete!  
[root@fedora ~]#
```

# Configuration SBS

## b) Start and Enable SSH Service

Start the SSH service and enable it

```
# systemctl start sshd
```

```
# systemctl enable sshd
```

```
[root@fedora ~]# firewall-cmd --add-service=ssh
Warning: ALREADY_ENABLED: 'ssh' already in 'FedoraWorkstation'
success
[root@fedora ~]#
[root@fedora ~]#
[root@fedora ~]# firewall-cmd --add-service=ssh
Warning: ALREADY_ENABLED: 'ssh' already in 'FedoraWorkstation'
success
[root@fedora ~]# firewall-cmd --runtime-to-perm
success
[root@fedora ~]#
```

# Configuration SBS

## b) Start and Enable SSH Service

Start the SSH service and enable it

```
# systemctl status sshd
```

```
root@fedora ~]# systemctl status sshd
sshd.service - OpenSSH server daemon
   Loaded: loaded (/usr/lib/systemd/system/sshd.service; enabled; vendor preset: disabled)
   Active: active (running) since Mon 2025-06-23 22:31:45 +07; 20s ago
     Docs: man:sshd(8)
           man:sshd_config(5)
  Main PID: 3607 (sshd)
    Tasks: 1 (limit: 9961)
   Memory: 1.1M
      CPU: 6ms
   CGroup: /system.slice/sshd.service
           └─3607 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups

un 23 22:31:45 vbox systemd[1]: Starting OpenSSH server daemon...
un 23 22:31:45 vbox sshd[3607]: Server listening on 0.0.0.0 port 22.
un 23 22:31:45 vbox sshd[3607]: Server listening on :: port 22.
un 23 22:31:45 vbox systemd[1]: Started OpenSSH server daemon.
root@fedora ~]#
```

# Configuration SBS

## c) Configure SSH (Edit Config File)

Edit the SSH config file:

```
# nano /etc/ssh/sshd_config
```

```
[root@vbox savan]# nano /etc/ssh/sshd_config  
[root@vbox savan]#
```

```
#HostKey /etc/ssh/ssh_host_ed25519_key  
#=====
```

---

```
Port 22  
PermitRootLogin no  
PasswordAuthentication yes  
PubkeyAuthentication yes  
AllowUsers savan  
#=====
```

---

```
# Ciphers and keying
```

# Configuration SBS

## d) Restart SSH Service

```
# systemctl restart sshd
```

## e) Configure Firewall (Allow SSH)

```
# firewall-cmd --permanent --add-service=ssh
```

```
# firewall-cmd --reload
```

```
# firewall-cmd --permanent --add-port=2222/tcp
```

```
# firewall-cmd --reload
```

```
[root@vbox savan]# systemctl enable sshd
```

```
[root@vbox savan]# systemctl restart sshd
```

```
[root@vbox ~]# firewall-cmd --permanent --add-port=2222/tcp
```

```
Warning: ALREADY_ENABLED: 2222:tcp
```

```
success
```

```
[root@vbox ~]# firewall-cmd --reload
```

```
success
```



# Configuration SBS

## f) Connect to SSH (From Client)

```
# ssh username@your-server-ip -p 22
```

```
[root@vbox ~]# ssh savan@192.168.1.1 -p 22  
Last login: Mon Jun 23 23:11:13 2025 from 192.168.1.3
```

## g) Set Up SSH Key Authentication

Generate SSH Key (On Client)

```
# ssh-keygen -t ed25519
```

Copy Key to Fedora Server

```
# ssh-copy-id username@your-server-ip -p 22
```

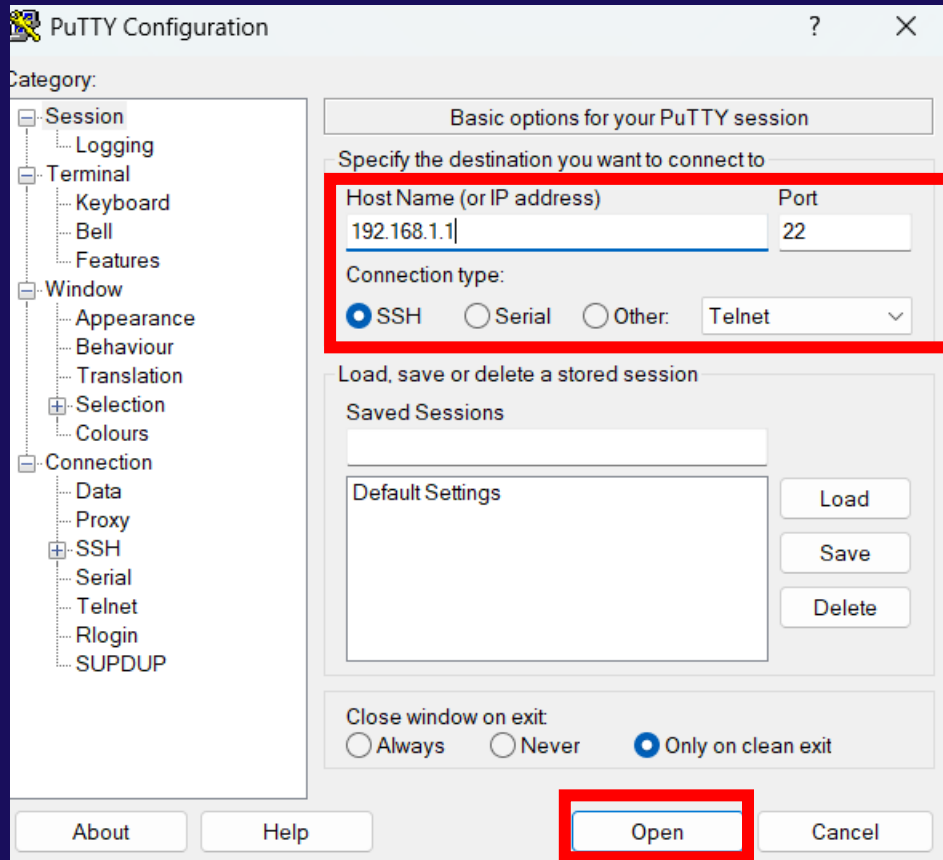
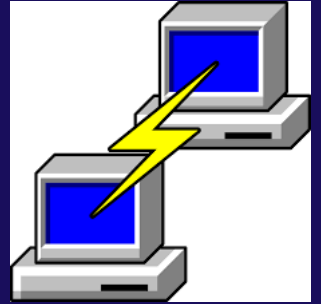
```
# ssh-copy-id savan@192.168.1.1 -p 22
```

```
[root@vbox ~]# ssh savan@192.168.1.1 -p 22  
Last login: Mon Jun 23 23:11:13 2025 from 192.168.1.3
```

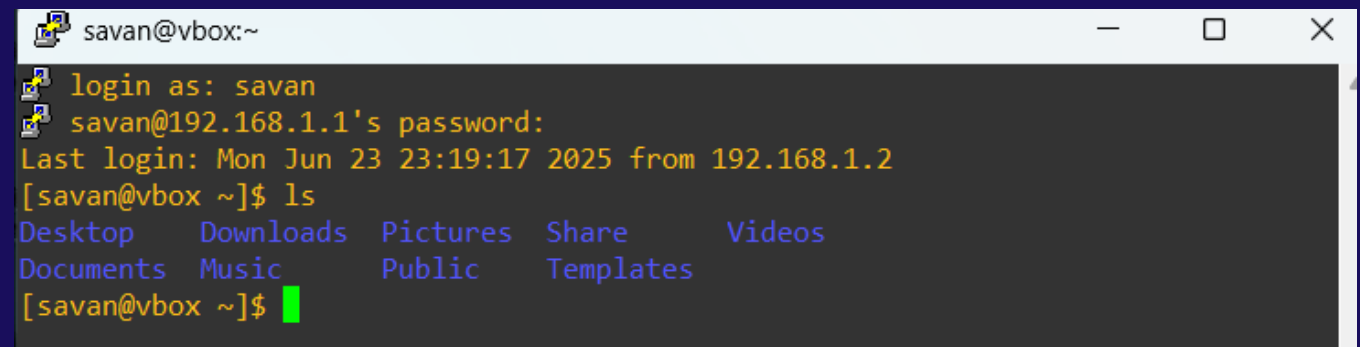
# Configuration SBS

h) Access from Window Client use (Putty and PowerShell)

Are you have Putty yet? If you don't have, please go to download Putty.



You need to input your Fedora's username and password for login.



# Configuration SBS

h) Access from Window Client use (Putty and PowerShell)

You need to open your PowerShell.

Key Window and then type PowerShell.

You need to input your Fedora's username and password for

```
PS C:\Users\USER> ssh -p 22 savan@192.168.1.1
savan@192.168.1.1's password:
Last login: Mon Jun 23 23:15:58 2025 from 192.168.1.1
[savan@vbox ~]$ ls
Desktop Documents Downloads Music Pictures Public Share Templates Videos
[savan@vbox ~]$ |
```



The above configuration was successful both using Putty and using PowerShell.

# Thank you

[www.youtube.com/@Savan-d3n](http://www.youtube.com/@Savan-d3n)