

# CCNP ROUTING AND SWITCHING



## **AWS EBS Instance**

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## Task 1: Create a New EBS Volume

1. In the **AWS Management Console** on the top left of the screen, click the **Services** menu then **EC2**.
2. Choose **Instances** in the left navigation pane. (You should see a Lab Instance already launched)
3. Choose **Volumes** in the left navigation pane.
4. Choose Create Volume then configure:

### Volume settings


Volume type [Info](#)  
General Purpose SSD (gp2) ▼

Size (GiB) [Info](#)  
1  
Min: 1 GiB, Max: 16384 GiB. The value must be an integer.

IOPS [Info](#)  
100 / 3000  
Baseline of 3 IOPS per GiB with a minimum of 100 IOPS, burstable to 3000 IOPS.

Throughput (MiB/s) [Info](#)  
Not applicable

Availability Zone [Info](#)  
us-east-1a ▼

Snapshot ID - optional [Info](#)  
Don't create volume from a snapshot ▼ 

Encryption [Info](#)  
Use Amazon EBS encryption as an encryption solution for your EBS resources associated with your EC2 instances.  
☐ Encrypt this volume

### Tags - optional [Info](#)

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - optional	
<input type="text" value="Name"/>	<input type="text" value="My Volume"/>	<input type="button" value="Remove"/>

You can add 49 more tags.

5.

## Task 2: Attach the Volume to an Instance

1. Select **My Volume**
2. In the **Actions** menu, choose **Attach volume**
3. Choose the **Instance** field, then select the Lab instance that appears


**Attach volume** [Info](#)

Attach a volume to an instance to use it as you would a regular physical hard disk drive.

**Basic details**

Volume ID  
vol-07e6be563339add2d (My Volume )


Availability Zone  
us-east-1a

Instance [Info](#)  
i-08fde433182cf90e4 

Only instances in the same Availability Zone as the selected volume are displayed.

Device name [Info](#)  
/dev/sdf

Linux device names: /dev/sdf through /dev/sdp

 Newer Linux kernels may rename your devices to **/dev/xvdf** through **/dev/xvdp** internally, even when the device name entered here (and shown in the details) is **/dev/sdf** through **/dev/sdp**.

[Cancel](#) [Attach volume](#)

4.

### Task 3: Connect to Your Amazon EC2 Instance

Read through the three bullet points in this step before you start to complete the actions, because you will not be able to see these instructions when the Details panel is open.

- Choose the **Details** drop down menu above these instructions you are currently reading, and then choose **Show**. A Credentials window will open.
- Choose the **Download PPK** button and save the **labsuser.ppk** file. Typically your browser will save it to the Downloads directory.
- Then exit the Details panel by choosing the **X**.

# PuTTY Configuration



Category:

- Session
  - Logging
- Terminal
  - Keyboard
  - Bell
  - Features
- Window
  - Appearance
  - Behaviour
  - Translation
  - Selection
  - Colours
- Connection
  - Data
  - Proxy
  - Telnet
  - Rlogin
  - SSH
  - Serial

## Options controlling the connection

Sending of null packets to keep session active

Seconds between keepalives (0 to turn off)

30

## Low-level TCP connection options

☒ Disable Nagle's algorithm (TCP\_NODELAY option)

☐ Enable TCP keepalives (SO\_KEEPALIVE option)

## Internet protocol version

☒ Auto

☐ IPv4

☐ IPv6

## Logical name of remote host

Logical name of remote host (e.g. for SSH key lookup):

About

Help

Open

Cancel

# PuTTY Configuration



Category:

- Features
- Window
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  - Behaviour
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  - Selection
  - Colours
- Connection
  - Data
  - Proxy
  - Telnet
  - Rlogin
  - SSH
    - Kex
    - Host keys
    - Cipher
    - Auth
    - TTY
    - X11
    - Tunnels
    - Bugs
    - More bugs

## Options controlling SSH authentication

☒ Display pre-authentication banner (SSH-2 only)

☐ Bypass authentication entirely (SSH-2 only)

## Authentication methods

☒ Attempt authentication using Pageant

☐ Attempt TIS or CryptoCard auth (SSH-1)

☒ Attempt "keyboard-interactive" auth (SSH-2)

## Authentication parameters

☐ Allow agent forwarding

☐ Allow attempted changes of username in SSH-2

Private key file for authentication:

C:\Users\user\Downloads\labsuser.ppk

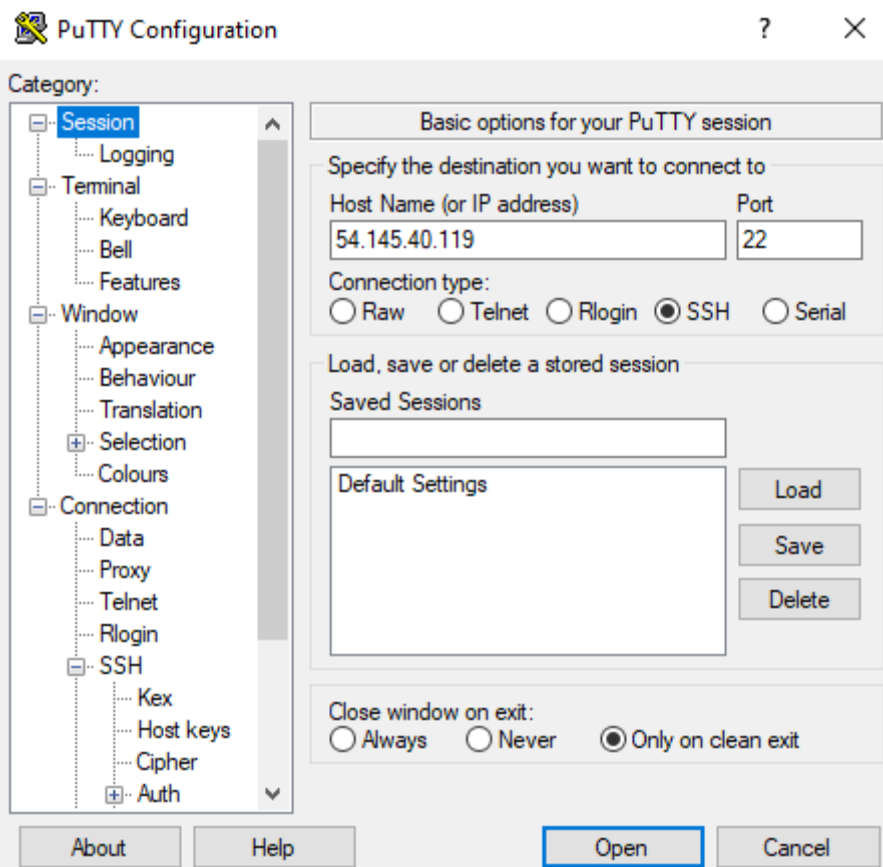
Browse...

About

Help

Open

Cancel



```
ec2-user@ip-10-1-11-136:~  
login as: ec2-user  
Authenticating with public key "imported-openssh-key" from agent  
  
  _ | _ | _ )  
  _ | ( _ | /  Amazon Linux 2 AMI  
  _ | \ _ | _ |  
  
https://aws.amazon.com/amazon-linux-2/  
3 package(s) needed for security, out of 6 available  
Run "sudo yum update" to apply all updates.  
[ec2-user@ip-10-1-11-136 ~]$
```

#### Task 4: Create and Configure Your File System

```
[ec2-user@ip-10-1-11-136 ~]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        484M   0  484M   0% /dev
tmpfs           492M   0  492M   0% /dev/shm
tmpfs           492M  460K  491M   1% /run
tmpfs           492M   0  492M   0% /sys/fs/cgroup
/dev/xvda1      8.0G  1.5G  6.6G  19% /
tmpfs           99M   0   99M   0% /run/user/0
tmpfs           99M   0   99M   0% /run/user/1000
[ec2-user@ip-10-1-11-136 ~]$

[ec2-user@ip-10-1-11-136 ~]$ sudo mkfs -t ext3 /dev/sdf
mke2fs 1.42.9 (28-Dec-2013)
Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
Stride=0 blocks, Stripe width=0 blocks
65536 inodes, 262144 blocks
13107 blocks (5.00%) reserved for the super user
First data block=0
Maximum filesystem blocks=268435456
8 block groups
32768 blocks per group, 32768 fragments per group
8192 inodes per group
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376

Allocating group tables: done
Writing inode tables: done
Creating journal (8192 blocks): done
Writing superblocks and filesystem accounting information: done

[ec2-user@ip-10-1-11-136 ~]$ sudo mkdir /mnt/data-store
[ec2-user@ip-10-1-11-136 ~]$ sudo mount /dev/sdf /mnt/data-store
[ec2-user@ip-10-1-11-136 ~]$
[ec2-user@ip-10-1-11-136 ~]$ echo "/dev/sdf /mnt/data-store ext3 defaults ,noat
ime 1 2" | sudo tee -a /etc/fstab
/dev/sdf /mnt/data-store ext3 defaults ,noatime 1 2
[ec2-user@ip-10-1-11-136 ~]$ cat /etc/fstab
#
UUID=3ec1e838-cf61-4a08-8ec5-dbaeef7e5e76      /                xfs      defaults,noatim
e 1 1
/dev/sdf /mnt/data-store ext3 defaults ,noatime 1 2
[ec2-user@ip-10-1-11-136 ~]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        484M   0  484M   0% /dev
tmpfs           492M   0  492M   0% /dev/shm
tmpfs           492M  460K  491M   1% /run
tmpfs           492M   0  492M   0% /sys/fs/cgroup
/dev/xvda1      8.0G  1.5G  6.6G  19% /
tmpfs           99M   0   99M   0% /run/user/0
tmpfs           99M   0   99M   0% /run/user/1000
/dev/xvdf       976M  1.3M  924M   1% /mnt/data-store
[ec2-user@ip-10-1-11-136 ~]$ sudo sh -c "echo some text has been written> /mnt/d
ata-store/file.txt"
[ec2-user@ip-10-1-11-136 ~]$ cat /mnt/data-store/file.txt
some text has been written
[ec2-user@ip-10-1-11-136 ~]$
```

#### Task 5: Create an Amazon EBS Snapshot

1. In the AWS Management Console, choose Volumes and select My Volume
2. In the Actions menu, select Create snapshot
3. Choose Add tag then

**Tags** [Info](#)

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - optional	
<input type="text" value="Name"/>	<input type="text" value="My Snapshot"/>	<input type="button" value="Remove"/>

You can add 49 more tags.

4. Left navigation pane choose Snapshots

```
[ec2-user@ip-10-1-11-136 ~]$ sudo rm /mnt/data-store/file.txt
[ec2-user@ip-10-1-11-136 ~]$ ls /mnt/data-store/
lost+found
```

- 5.


#### Task 6: Restore the Amazon EBS Snapshot

##### Create a Volume Using Your Snapshot

1. Select My Snapshot from the AWS Management Console
2. Select Create volume from snapshot in the Actions menu
3. Select Availability Zone

### Volume settings

Snapshot ID

 snap-0d0c48591f41aca23 (My Snapshot )

Volume type [Info](#)

General Purpose SSD (gp2) ▼

Size (GiB) [Info](#)

1

Min: 1 GiB, Max: 16384 GiB. The value must be an integer.

IOPS [Info](#)

100 / 3000

Baseline of 3 IOPS per GiB with a minimum of 100 IOPS, burstable to 3000 IOPS.


Throughput (MiB/s) [Info](#)

Not applicable

Availability Zone [Info](#)

us-east-1a ▼

Fast snapshot restore [Info](#)

 Not enabled for selected snapshot






Encryption [Info](#)


Use Amazon EBS encryption as an encryption solution for your EBS resources associated with your EC2 instances.

☐ Encrypt this volume


### Tags - optional [Info](#)

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - optional	
 Name 	 Restored Volume 	

 Add tag

You can add 49 more tags.

Cancel 

- 4.
5. Choose Volumes from the left navigation pane
6. Select restored volume



### Basic details

Volume ID

 vol-030ad67d84777c0d7 (Restored Volume)

Availability Zone

us-east-1a

Instance [Info](#)

i-08fde433182cf90e4



Only instances in the same Availability Zone as the selected volume are displayed.

Device name [Info](#)

/dev/sdg

Linux device names: /dev/sdf through /dev/sdp



Newer Linux kernels may rename your devices to **/dev/xvdf** through **/dev/xvdp** internally, even when the device name entered here (and shown in the details) is **/dev/sdf** through **/dev/sdp**.

Cancel

Attach volume

7.