



Amazon-EC2 (Elastic Compute Cloud)

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2015

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Learning object

1. Create an EC2 key pair and a security group to allow remote access (P5-P10)
2. Launch an Amazon EC2 Windows Instance. (P11-P12)
3. Activate Termination Protection. (P13)
4. Create EBS volumes and snapshots. (P14-P24)

What service to use ?

- Amazon Elastic Compute Cloud (Amazon EC2) -
is a web service that provides resizable compute capacity in the cloud.
- Amazon Machine Image (AMI)
- Elastic Block Store (EBS)-
provides persistent block-level storage volumes for use with Amazon EC2 instance offering consistent and low-latency performance.
- Security Group-
which act like built-in firewalls for your virtual servers

Mac Users please note!

This lab requires you to access a Windows instance by using Remote Desktop Connection software.

This software can be downloaded for free.

Please check whether your computer has Remote Desktop Connection already installed.

If required, the software can be downloaded via this link:

<http://www.microsoft.com/en-au/download/details.aspx?id=18140>

Amazon EC2 Key Pairs

- Sign-in link: <https://661664929584.signin.aws.amazon.com/console>
- Enter User Name and Password.
- In the AWS Management Console, on the **Services** menu, click **EC2**.
- In the left panel, under **Network & Security**, click **Key Pairs**.
- Click **Create Key Pairs**.
- Enter Key pair name(ex:cp01-103065525)
- Use the downloaded key for yourself.
- Please save your key for safekeeping.

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testaaa @ 6616-6492-9584

N. Virginia

Support

Create Key Pair

Import Key Pair

Delete

Filter by attributes or search by keyword

<input type="checkbox"/>	Key pair name	Fingerprint
<input type="checkbox"/>	CPforEC2	eb:6c:74:2a:02:d6:63:92:0d:bd:83:b0:07:06:da:d6:ba:f0:38:60
<input checked="" type="checkbox"/>	testaaa	c0:12:3b:4f:71:bc:da:48:20:9d:21:b6:4c:08:05:0e:c4:b9:86:52

Create Key Pair

Key pair name:

Cancel

Create

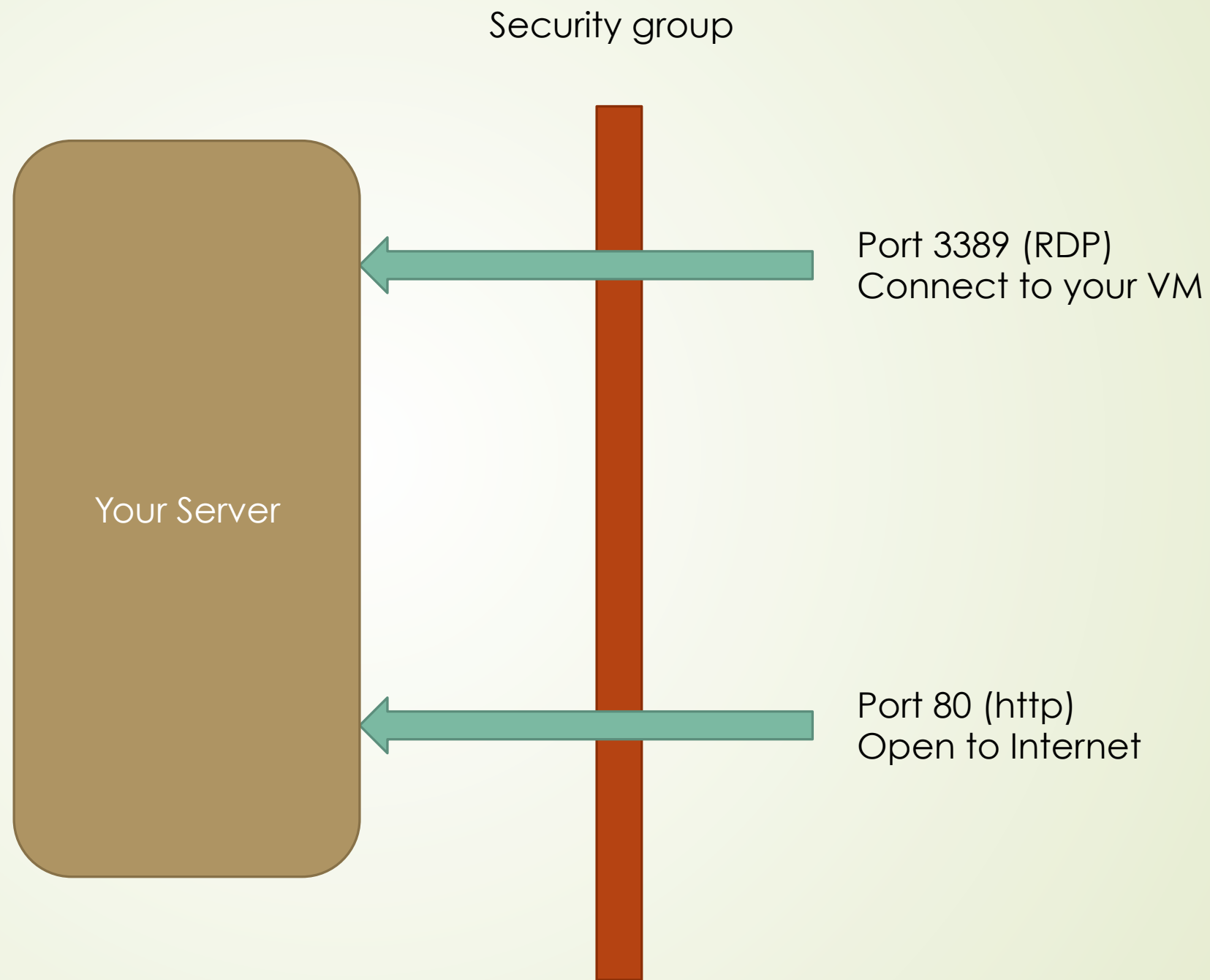
Key Pair: testaaa

Key pair name

testaaa

Fingerprint

c0:12:3b:4f:71:bc:da:48:20:9d:21:b6:4c:08:05:0e:c4:b9:86:52



Security Groups

- In the left panel, under **Network & Security**, click **Security Groups**.
- Click **Create Security Group**.
- In the **Create Security Group** dialog box, enter the following information for the security group:
 - a. **Security group name**: Remote access -\$studentID
 - b. **Description** : Grant RDP Access

Security Groups (continued...)

- Click **Add Rule**.
 - a. In the **Type** drop-down list , click **RDP** to allow remote administration.
 - b. In the **Source** drop-down list , click **Anywhere**.
- Click **Add Rule** again to create another rule.
 - a. In the **Type** drop-down list , click **HTTP** to allow web traffic.
 - b. In the **Source** drop-down list , click **Anywhere**.
- Click **Create**.

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Actions

Filter by tags and attributes or search by keyword

	Name	Group ID	Group Name	VPC ID	Description
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		sg-7ffc5c1b	yutsuen_mysql	vpc-5f2c583a	ttaa
		sg-ab1dbccf			
		sg-b74fe1d3			
		sg-c59c39a1			
		sg-ca18b9ae			

Create Security Group

X

Security group name Remote access-103065525

Description Grant RDP Access

VPC vpc-5f2c583a (172.31.0.0/16) *

* denotes default VPC

Security group rules:

Inbound

Outbound

Type	Protocol	Port Range	Source
HTTP	TCP	80	Anywhere 0.0.0.0/0
RDP	TCP	3389	Anywhere 0.0.0.0/0

Add Rule

Cancel

Create

Select a security group above

Launching an Amazon EC2 Windows Instance

- In the left panel, under Instances, click **Instances**.
- Click **Launch Instance**.
- You might have to scroll down to **select** the row for Microsoft Windows Server 2008 R2 Base.
- Click **Next: Configure Instance Details**.
- Click **Next: Add Storage**.
- Click **Next: Tag Instance**.
- In the **Value** box, type **Web Server**, and then click **Next: Configure Security Group**.

Launching an Amazon EC2 Windows Instance(continued...)

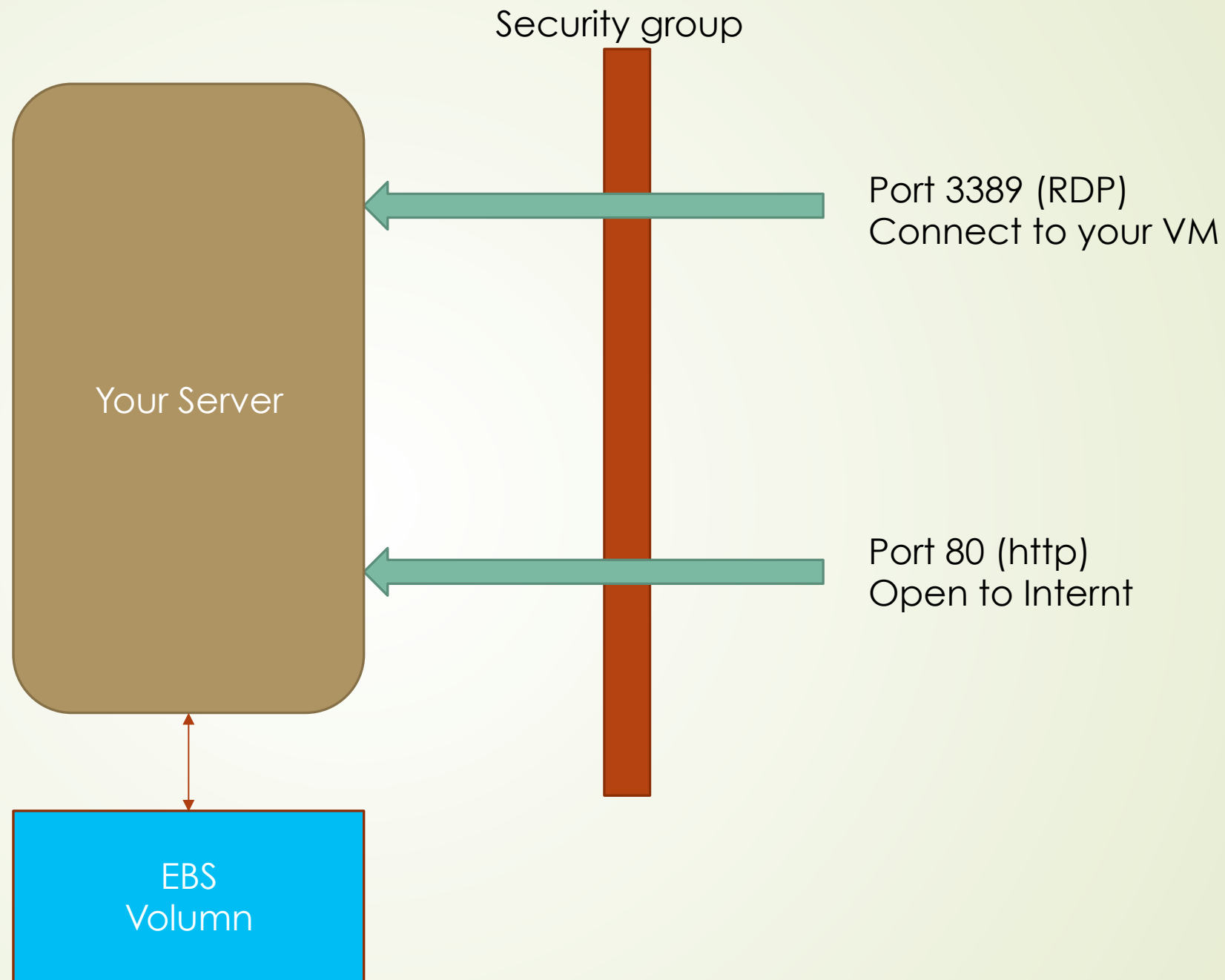
- Click **Select an existing security group**, and then select the Remote Access security group that you previously created.
- Click **Review and Launch**.
- Click **Launch**.
- In the key pair dialog box, select the acknowledgement check box, and then click **Launch Instances**.

Note: Make sure you are selecting your key pair .

- On the **Launch Status page**, click **View Instances** (you might have to scroll down to see it).

Termination Protection

- Select your Web Server instance.
- In the **Actions** drop-down list, **Instance Settings** ,click **Change Termination Protection**.
- In the **Enable Termination Protection** dialog box, click **Yes, Enable**.
- In the **Actions** drop-down list, click **Terminate**. You will notice that the **Yes** button cannot be clicked.
- Click **Cancel**.



Creating an EBS Volume

- Make a note of the **Availability Zone** of your Amazon EC2 instance
- In the left panel ,under **Elastic Block Store** , Click **Volumne**.
- Click **create Volume**.
- In the **Create Volume** dialog , in the **Type** droop-down list , confirm that **General Purpose (SSD)** is selected .
- In the **Size** box , type 10
- In the **Availability Zone** drop-down list , select the same zone used by your Amazon EC2 instance (which you noted above),and then click **Create**

Creating an EBS Volume (continued...)

- Select the line with the 10-GB volume.

Note: Make sure you only have this one volume selected.

- In the **Actions** drop-down list, click **Add/Edit Tags**.
- In the **Add/Edit Tags** dialog box, click **Create Tag**.
- In the **Key** box, type **Name**. In the **Value** box, type **Small volume**, and then click **Save**.
- From the Actions drop-down list, select Attach Volume.
- In the Attach Volume dialog box, click in the **Instance** box and select the name of your Web Server, and then click **Attach**.

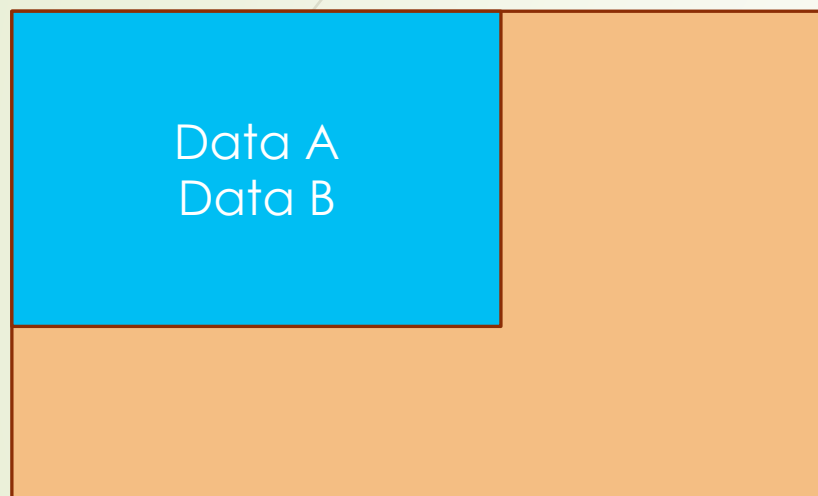
Connecting to your EC2 Instance

- In the left panel, under Instances, click **Instances**.
- Confirm that your **Web Server** instance is selected.
- Click **Connect** at the top of the screen.
- In the **Connect To Your Instance** dialog box, click **Get Password**.
- Click **Choose File**, browse to the **(your).pem** file that you downloaded earlier, and then click **Decrypt Password**.
- **Run Remote Desktop Connection** on your computer. If you can't find the application, please request assistance from your instructor.
- **Connect remotely** to your **Amazon EC2 instance** using the information that is displayed in your web browser (IP address, user name, password). Accept any security warning that is displayed.

Using EBS Volumes

- In your Windows instance, click the **Server Manager** icon in the taskbar.
- In the left panel, click **Storage**, and then double-click **Disk Management**.
- In the **Initialize Disk** dialog box, click **OK**.
Your 10-GB EBS volume will appear in the **Disk Management** window.
- Right-click the 10-GB volume, and then click **New Simple Volume**.
- Accept all the defaults and click **Finish**.
- After a short time, your volume will appear as drive **D:**.
- In **Windows Explorer**, navigate to the D: drive.
- Create a folder on the D: drive called **your student ID**.

20GB Volume



Create a Bigger volume by
small volume snapshot



10GB Volume



EBS Snapshots

- Return to the EC2 Management Console in your web browser.
- In the **Connect To Your Instance** dialog box, click **Close**.
- In the left panel, click **Volumes**.
- Select **Small volume**.
- From the Actions drop-down list, select **Create Snapshot**.
- In the **Create Snapshot** dialog box, in the **Name** box, type **CP data**.
- Click **Create**.
- In the **Create Snapshot** message box, click **Close**.

EBS Snapshots (continued...)

- In the left panel, click **Snapshots**.
- Confirm that your **CP Data** snapshot is selected.
- From the **Actions** drop-down list, select **Create Volume**.
- In the **Create Volume dialog** box, set the following values:
 - a. **Type** : General Purpose(SSD)
 - b. **Size** 20
 - c. **Availability Zone**: Select the same zone used by your EC2 instance (which you noted previously)
- Click **Create**.
- In the **Create Volume** message box, click **Close**.

EBS Snapshots (continued...)

- In the left panel, click **Volumes**.
- Select your new 20-GB volume.
- From the Actions drop-down list, select **Add/Edit Tags**.
- In the Add/Edit Tags dialog box, perform the following steps:
 - a. Click **Create Tag**.
 - b. In the Key field , type **Name**.
 - c. In the Value field, type **Big volume**.
- Click **Save**.

EBS Snapshots (continued...)

- From the Actions drop-down list, select **Attach Volume**.
- In the Attach Volume dialog box, perform the following steps:
 - a. Click in the **Instance** field.
 - b. Select the name of your **Web Server**.
 - c. Click **Attach**.
- Return to **Remote Desktop Connection** to view your Windows instance.
- In the **Disk Management** window, if the disk status is Offline, right-click within the box, and then click **Online**.

EBS Snapshots (continued...)

- Right-click **New Volume (E:)** and select **Extend Volume**.
- Accept all the defaults and click **Finish**.

Note: The E: drive is now extended to 20 GB.

- In Windows Explorer, navigate to the E: drive.

LAB (1%)

As the lab going ,your EBS snapshot will save all the data of disk.

When your create new big EBS volume with snapshot, the new volume should contain same data like your snapshot.

- The new create volume should have same folder (1%)