Creating New EC2 Instance using Snapshot

**Lab Details:**

1. This lab walks you through how to create a snapshot of EC2 instance and launch a new EC2 instance using that snapshot.
2. Duration: 00:30:00 Hrs
3. AWS Region: US East (N. Virginia)

**Tasks:**

1. Login to AWS Management Console.
2. Launch an EC2 instance.
3. Create a snapshot from root volume of your instance.
4. Create an AMI of created snapshot.
5. Launch a new instance from your created AMI.

**Steps:**

* 1. Launch your lab environment by clicking on **Start Lab** button.
  2. Once your lab environment is created successfully your **Console Login** button will be active, Now click on **Console Login** button, this will open your **AWS Console** Account for this lab in a new tab.
  3. Navigate to EC2 by clicking on the “services” menu in the top,then click on “EC2” (in the “Compute” section).
  4. Click on launch instance.
  5. Choose an Amazon Machine Image (AMI)- Amazon Linux 2 AMI (HVM)
  6. Choose an Instance Type - select t2.micro
  7. Configure Instance Details
     1. **Number of instances** - Enter 1
     2. **Auto-assign Public IP**- Select Enable
     3. **User data** -Enter the following script, which creates an HTML page served by Apache httpd web server.
     4. **#!/bin/bash -ex**
     5. **sudo yum update -y # update packager**
     6. **sudo yum -y install httpd # install apache httpd**
     7. **sudo service httpd start # start apache httpd**
     8. **sudo usermod -a -G apache ec2-user**
     9. **sudo chown -R ec2-user:apache /var/www**
     10. **sudo chmod 2775 /var/www**
     11. **find /var/www -type d -exec sudo chmod 2775 {} \;**
     12. **find /var/www -type f -exec sudo chmod 0664 {} \;**

**echo "<html> <h1>Welcome to Whizlabs</h1> </html>" > /var/www/html/index.html**

* 1. Add Storage- No need to change anything in this step, just go to next step Add Tags
  2. Add Tags- For identification of your instances you can add a tag with key pair combination,and go to next step Configure Security Group.
  3. Configure Security Group-
     1. To add **SSH**,   
        Choose Type: SSH   
        Source: Custom(Allow specific IP address) or Any where(From ALL IP addresses accessible).
     2. For **HTTP**, Click on “Add Rule”,  
        Choose Type: HTTP   
        Source: Custom(Allow specific IP address) or Any where(From ALL IP addresses accessible).
     3. For **HTTPS**, Click on “Add Rule”,  
        Choose Type: HTTPS   
        Source: Custom(Allow specific IP address) or Any where(From ALL IP addresses accessible).
     4. After that click on Review and Launch
  4. Review and Launch- Review all your select settings and click on launch.
  5. Key Pair- This step is most important, Create new key Pair and click on Download Key Pair after that click on Launch Instances.
  6. Launch Status- Your instances are now launching, Now go to EC2 instance list and **wait till status change to running and health check status changes to 2/2 checks passed of your instances.**
  7. **Create Snapshot**
     1. For creating snapshot of your instance volume, Goto EC2 volume section.
     2. In the volume list search for your instanceID and select volume.
     3. You can check your instance ID in "Attachment information" of volume description.
     4. After selecting volume, Click on Action menu and select "Create Snapshot" option.
     5. Enter description for you snapshot and add tag for identification of snapshot.
     6. click on Create Snapshot.
  8. **Create AMI**
     1. Now navigate to Snapshot menu.
     2. Here search for snapshot you created and select it.
     3. Click on Action menu and select "Create Image" and configure your AMI.
     4. Enter name and description for your AMI.
     5. Select **Virtualization type :**Hardware-assisted Virtulization (its supports t2 type instances)
     6. No need to change anything just click on "Create".
  9. **Launch instance from AMI**
     1. Now navigate to AMIs.
     2. Now search and select you AMI from the list.
     3. Now now launch a new instance using selected AMI by clicking on Launch button.
     4. Follow the same steps to launch instance as from Step 5   
        in Step 7 just change the script as follows to restart the server.
     5. **#!/bin/bash -ex**

**sudo service httpd restart**

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    7. Once your new instance launch successfully, copy its Public IP and Run it to the browser. You can see that you new instance is working and launched from you previous intance snapshots AMI.
  1. You have successfully completed the lab.
  2. Once you completed the steps click on End Lab from your whizlabs dashboard.