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Creating Your Amazon Machine Image (AMI)

Introduction

In this part of the lab, you will create an AMI from a running instance. An AMI provides the information required to launch an instance, which is a virtual server in the cloud.

An AMI includes the following:

- A template for the root volume for the instance.
- Launch permissions that control which AWS accounts can use the AMI to launch instances.
- A block device mapping that specifies the volumes to attach to the instance when it's launched.

Task 3.7: Create an AMI

To create an AMI based on your instance:

Step	Action
3.7.1	Return to the AWS Management Console and ensure that you are in the EC2 console.
3.7.2	From the navigation pane, click **Instances**.
3.7.3	Select **Lab Instance**.
3.7.4	From the **Actions** drop-down list, select **Image > Create Image**.
3.7.5	In the **Create Image** dialog box, modify the following fields: • In the **Image name** box, type **My Application** • In the **Image description** box, type **Sample PHP Application** Leave the rest as the default.
3.7.6	Click **Create Image**.
3.7.7	Click the **View pending image** link provided in the confirmation screen. For a few moments, you will see the image in a *pending* state. Periodically refresh your browser to update the status, because this may take a few minutes. When the image is created, the status will change to *available*.

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Creating Your Amazon Machine Image (AMI), Continued

Task 3.8: Create an instance using your AMI

To create an AMI based on your instance:

Step	Action
3.8.1	With **My Application** (the newly created AMI) selected, click **Launch**. Notice that this takes you through a menu similar to launching an EC2 instance manually. The first step that you saw previously, where you selected an AMI, is not necessary now because you have already indicated that you want to launch the AMI you just created.
3.8.2	On the **Choose an Instance Type** page, from **Instance Types**, select **t2.medium.** If **t2.medium** is not available to select, choose any other similar instance type (e.g., **t2.small** or **m3.medium**).
3.8.3	Click **Next: Configure Instance Details**.
3.8.4	On the **Configure Instance Details** page, make the following selections: • For **Network**, select **Lab VPC**. • For **Subnet**, select **Public Subnet 2** (10.200.15.0/24). • For **Auto-assign Public IP**, select **Enable**. Leave the rest unchanged.
3.8.5	Click **Next: Add Storage**.
3.8.6	Accept the default, and click **Next: Tag Instance**.
3.8.7	In the **Value** box, type **AMI Instance**
3.8.8	Click **Next: Configure Security Group**.
3.8.9	Leave the **Create a new security** group option selected, and modify the following fields. • For **Type**, select **SSH**. • For **Source**, leave it as **Anywhere**.
3.8.10	Click **Add Rule**: • For **Type**, select **HTTP**. • For **Source**, leave it as **Anywhere**.
3.8.11	Click **Review and Launch**.
3.8.12	Review the settings, and then click **Launch**.
3.8.13	When prompted, be sure that **LabKeyPair** is selected in the **Select a key pair** field.
3.8.14	Select the acknowledgement check box, and then click **Launch Instances**.

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Creating Your Amazon Machine Image (AMI), Continued, Continued

Task 3.8: Create an instance using your AMI, continued

Step	Action
3.8.15	Click **View Instances**. Wait until the instance state of **AMI Instance** changes to *running*. This may take a few minutes. You can click the Refresh button in the upper-right corner to refresh the status. The **Status Checks** for your new instance should show *2/2 checks passed*.

Task 3.9: Test your AMI Instance

To verify that the instance you created with your AMI image already has the PHP sample application installed:

Step	Action
3.9.1	Select **AMI Instance** from the instance list.
3.9.2	Make a note of the **Public IP address** of your new instance.
3.9.3	Open a new web browser window or tab, and enter the Public IP address. The sample PHP application runs and shows you the information specific to your Amazon EC2 instance.

Ending your lab

If you choose not to complete the optional portion of this lab, follow the instructions in Appendix B to end your lab.

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Optional

Introduction

This part of the lab is optional, and step-by-step instructions are not provided. Use online documentation to help you if necessary.

http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/concepts.html

Challenge 1

In this lab, you launched an Amazon EC2 instance, connected to it, and then installed Apache web server and a sample PHP application.

Create a bash or a shell script to **bootstrap** an Amazon EC2 instance to automatically install Apache web server, PHP interpreter, and the sample PHP application.

This would allow you to scale using dynamic configuration.

Hint Refer to the online documentation, Running Commands on Your Linux Instance at Launch, at http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/user-data.html.

Challenge 2

In this lab, you created an Amazon EBS-backed AMI. The other kind of AMI that you discussed in the class was an instance store-backed AMI.

Create an instance store-backed Linux AMI.

Hint Refer to the online documentation at http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/creating-an-ami-instance-store.html.

Ending your lab

When you are done, follow the instructions in Appendix B to end your lab.

Achievements

Having completed this lab, you are able to:

- Create a new Key Pair.
- Launch a new Amazon EC2 instance.
- Connect to a running instance and install necessary software.
- Create your own Amazon Machine Image (AMI) from the running instance.

Your results are verified by your ability to complete the lab in the allotted time. When you have completed the lab, your instructor will facilitate a discussion of your results.

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