DAT219x

Provisioning Databases

Lab 00 Linux | Getting Started

Estimated time to complete this lab is 60 minutes

Overview

In this lab, you will provision a Microsoft Azure Linux Virtual Machine (VM) that will be used by all labs in this course. Once the VM is provisioned, you will complete the setup required to support the labs.

The labs in this course are accumulative. You cannot complete the following labs if this lab has not been successfully completed.

What You'll Need

To complete this lab, you will need the following:

- High-speed and reliable internet connectivity (for remote connections to the VM)
- A second monitor is recommended (for the Remote Desktop connection)
- A Microsoft account (such as one used for outlook.com, Hotmail, or other Microsoft services)
- A Microsoft Azure subscription
- The lab files for this course (available for download from GitHub, as described in this lab)

Creating a Free Trial Azure Subscription

If you already have an Azure subscription, you can skip this section. Otherwise, follow these steps to create a free trial subscription. You will need to provide a valid credit card number for verification, but you will not be charged for Azure services—for more information, refer to https://aka.ms/dat219az. Note that the free trial is not available in all regions.

If you already have a Microsoft account that has not already been used to sign up for a free Microsoft Azure trial subscription, you're ready to get started. If not, don't worry—just create a new Microsoft account at https://signup.live.com.

After you've created a Microsoft account, browse to https://aka.ms/dat219az and then click the Start Free link. Then follow the instructions to sign up for a free trial subscription to Microsoft Azure. You'll need to sign in with your Microsoft account if you're not already signed in. Then you'll need to:

- Enter your cell phone number and have Microsoft send you a text message to verify your identity
- Enter the verification code sent to you
- Provide valid payment details—don't worry, your credit card won't be charged for any services you use during the trial period, and the account is automatically deactivated at the end of the trial period, unless you expressly decide to keep it active.

Exercise 1: Provisioning a Linux Azure VM

In this exercise, having signed in to the Azure Portal by using your Azure subscription, you will provision a Linux Azure VM to support all labs for this course.

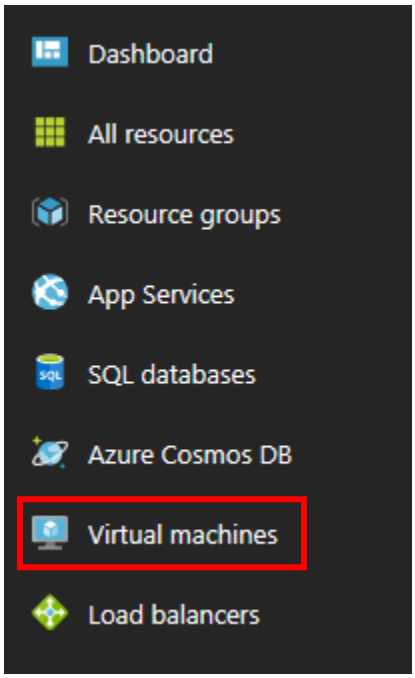
The Azure VM should be stopped when you have completed a lab so that your subscription is not charged (for free trial subscriptions, this will ensure you will have sufficient credits left to complete the labs over the duration of the course).

Provisioning a Linux Azure VM

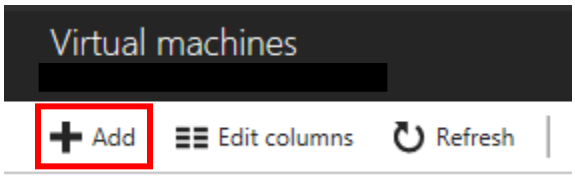
In this task, you will sign in to the Azure Portal, and then provision an Azure VM.

1. Sign in to the **Azure Portal** by using your subscription.

2. In the left pane, select **Virtual Machines**.

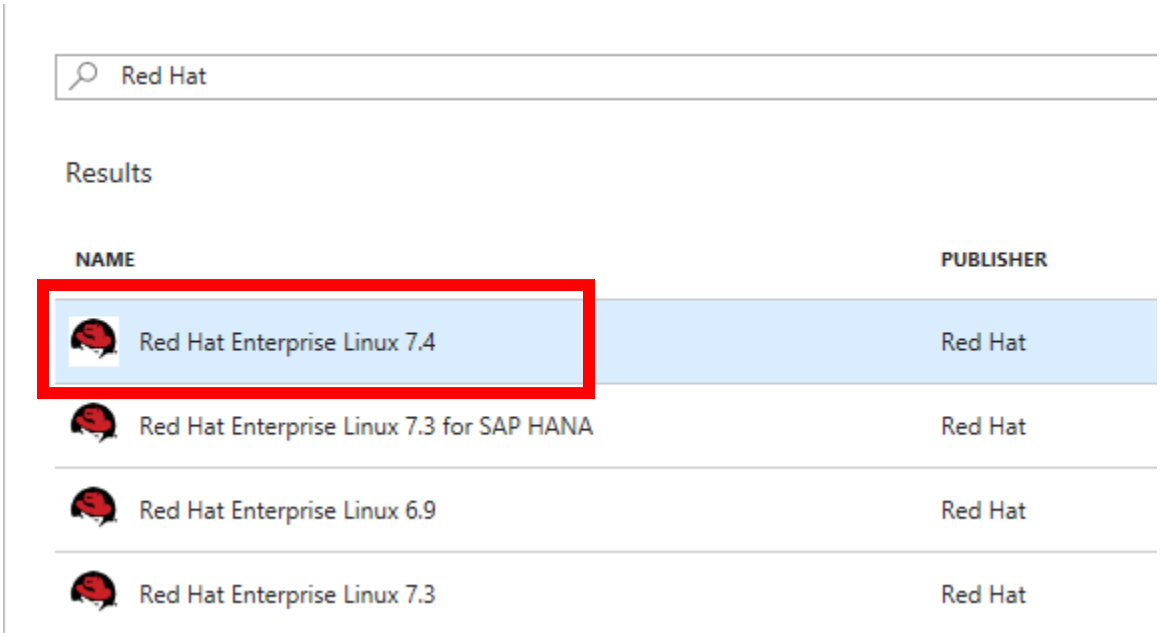


3. In the **Virtual Machines** blade, click **Add**.



4. In the **Virtual Machines** blade, in the search box, enter **Red Hat**, and then press **Enter**.

5. Select the **Red Hat Enterprise Linux 7.4** image.



6. In the image blade, review the text that describes the virtual machine.

7. To provision the virtual machine, click **Create**.

8. Notice that the **Create Virtual Machine** blade opens, and that also the **Basics** blade opens.

9. In the **Name** box, enter a name for the virtual machine (this will become the name of the machine).

10. In the **VM Disk Type** dropdown list, select **HDD**.

11. In **Authentication type**, select **Password**.

12. In the **User Name** box and **Password** boxes, enter appropriate values (this will become the machine administrator account).

    The password must be at least 12 characters in length, and must have three of the following: one lower case character, one upper case character, one number, or one special character.

    Be sure to securely record these credentials, as you will be required to use them to sign in every time you will connect to the VM.

13. In the **Resource Group** box, type **Lab**.

14. In the **Location** box, select a data center that is near to you.

15. Click **OK**.

16. In the **Choose a Size** blade, click **View all**.

17. In the **Choose a Size** blade, scroll down to locate and select the **D1_V2** size.

    The labs in this course will not require excessive storage, memory or processing. Also, you will be prompted to deallocate your VM between labs, and so the monthly cost will only apply when the VM is running.

RECOMME...	SKU	TYPE	COMPUTE...	VCPUS	GB RAM	DATA DIS...	MAX IOPS
	NV12	Standard	GPU	12	112	48	16x500
	NC6	Standard	GPU	6	56	24	8x500
	NC12	Standard	GPU	12	112	48	16x500
	DS1_v2	Standard	General purpos	1	3.5	4	3200
	DS2_v2	Standard	General purpos	2	7	8	6400

18. Click **Select**.

19. In the **Settings** blade, scroll down and select **Diagnostics storage account**.

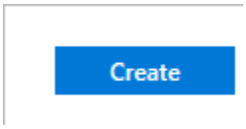
20. On the **Choose Storage account blade**, click **Create new**.

21. On the **Create storage account** blade, in the **Name** box, type a globally unique name. For example use your name, followed by the digits of today's date, followed by *sa*.

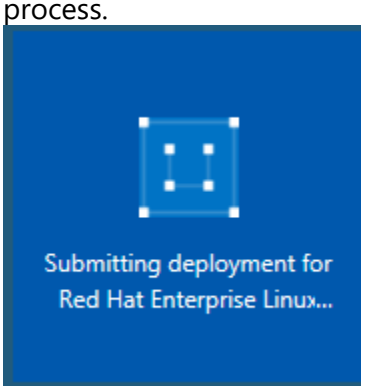
22. Click **OK**.

23. On the **Settings** blade, click **OK**.

24. On the **Create** blade, click **Create**.



25. On the **Azure Portal** dashboard, notice the tile displaying the status of the deployment process.



The deployment usually takes 15-20 minutes to complete, and this time depends largely on the VM size selected. The VM blade will open when the deployment completes.

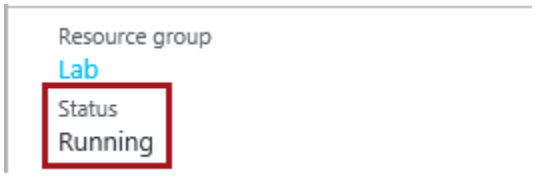
You cannot proceed to the next task until the deployment completes.

26. Leave the **Azure Portal** dashboard page open.

Connecting to the VM

In this task, once the VM has successfully deployed, you will connect to the VM.

1. In the VM blade, notice that the VM blade automatically opens, and that the VM status is **Running**.

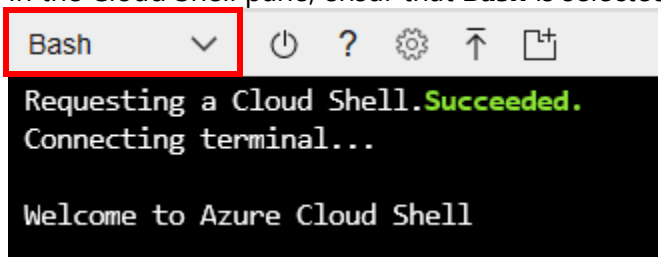


*You are charged when the VM status is **Running**, but you are not charged—except for a relatively smaller storage cost—when the VM status is **Stopped (Deallocated)**.*

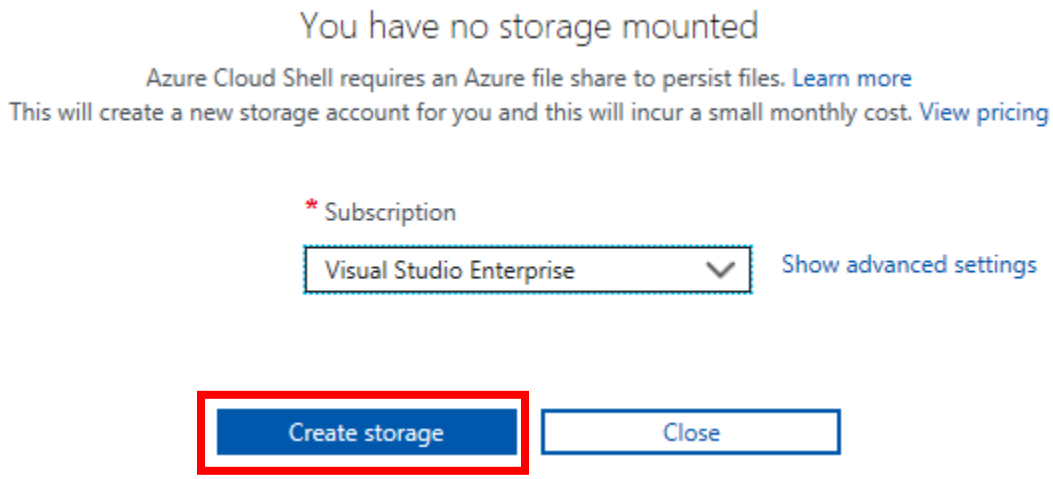
Each lab will include steps to remind you to stop and optionally deallocate the VM between labs. You should consider doing this if you choose to commence the next lab at a later time.

2. At the top of the Azure portal, click **Cloud Shell**.

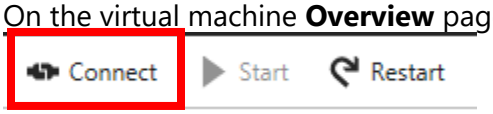
3. In the Cloud Shell pane, ensur that **Bash** is selected.



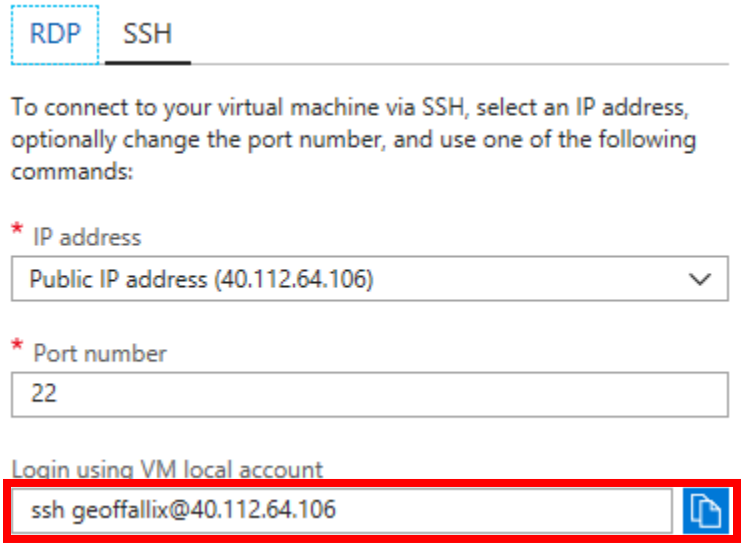
4. If you receive a prompt that no storage is mounted, click **Create storage**.



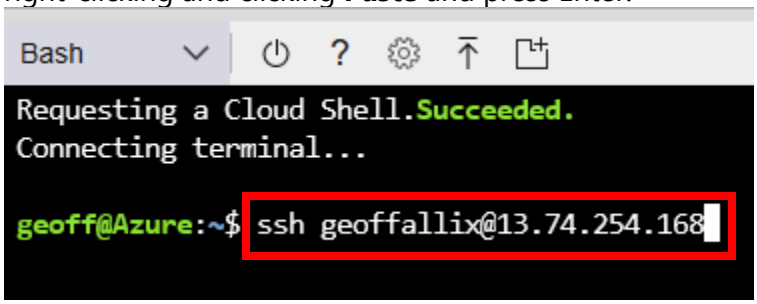
5. On the virtual machine **Overview** page, click **Connect**.



6. Copy the SSH command from the **Connect to virtual machine** box and close the box.



7. Paste the SSH command into the Azure Cloud Shell window at the bottom of the screen by right-clicking and clicking **Paste** and press Enter.



8. If you are asked if you are sure you want to continue connecting, type yes, and press Enter.

9. Type your password that you recorded earlier and press Enter.

10. To display a list of running processes on the virtual machine, type **top** and press Enter.

11. To stop monitoring the virtual machine press **q**.

12. Leave the Overview page for your virtual machine open for a later exercise.

    You have now completed the lab.

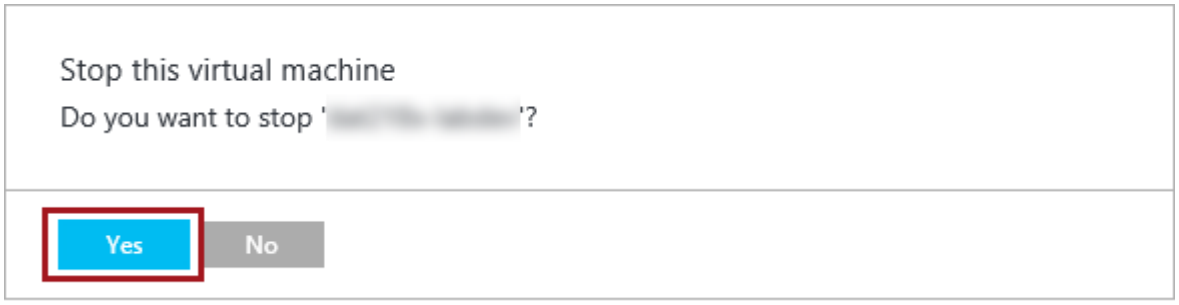
    If you are not immediately continuing with the next lab, you should complete the ***Finishing Up*** *exercise to shut down and stop the VM.*

Finishing Up

In this exercise, you will shut down and stop the VM.

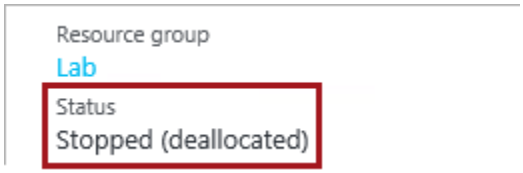
1. In the **Azure Portal** Web browser page, click Stop.
   Deallocation will take some minutes to complete, and also extends the time required to restart the VM. Consider deallocating the VM if you want to reduce costs, or if you choose to complete the next lab after an extended period.

2. When prompted to stop the VM, click **Yes**.



   The deallocation can take several minutes to complete.

3. Verify that the VM status updates to **Stopped (Deallocated)**.



   In this state, the VM is now not billable—except for a relatively smaller storage cost.

   Note that a deallocated VM will likely acquire a different IP address the next time it is started.

4. Sign out of the **Azure Portal**.