

Windows Server on Azure: Lab Guide

Overview

This lab guide will help you in creating a Windows Server VM, doing basic management operations and taking backup of Virtual Machine on Azure.

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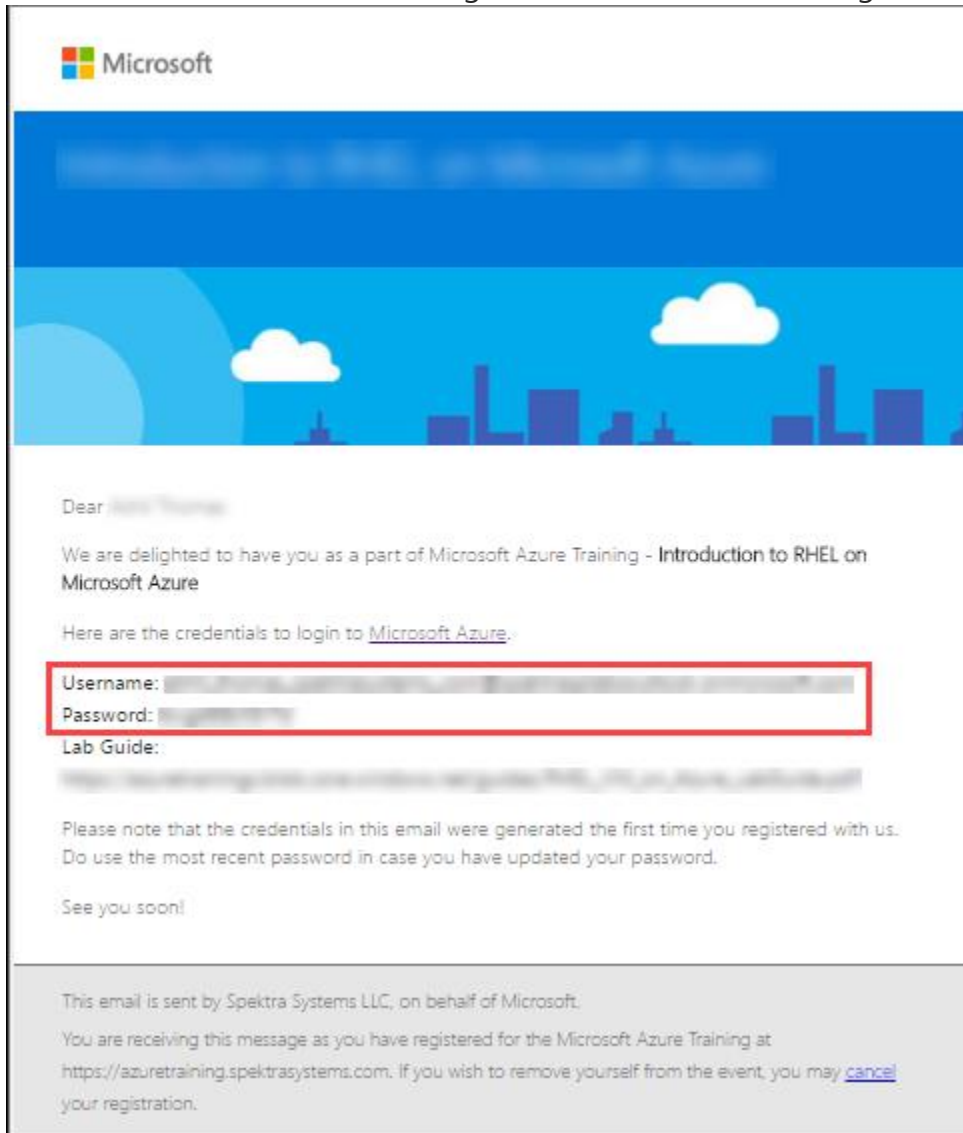
Lab 1: Getting Started with Azure

Lab Overview

This lab will take you through Azure login and portal experience.

Prerequisites

- Windows or a Mac machine with HTML5 supported browser such as Microsoft Edge, Internet Explorer, Chrome or Firefox
- You should have registered in the training portal <https://azuretraining.spektrasystems.com> and received the confirmation message with the credentials to login to the [Azure portal](#).



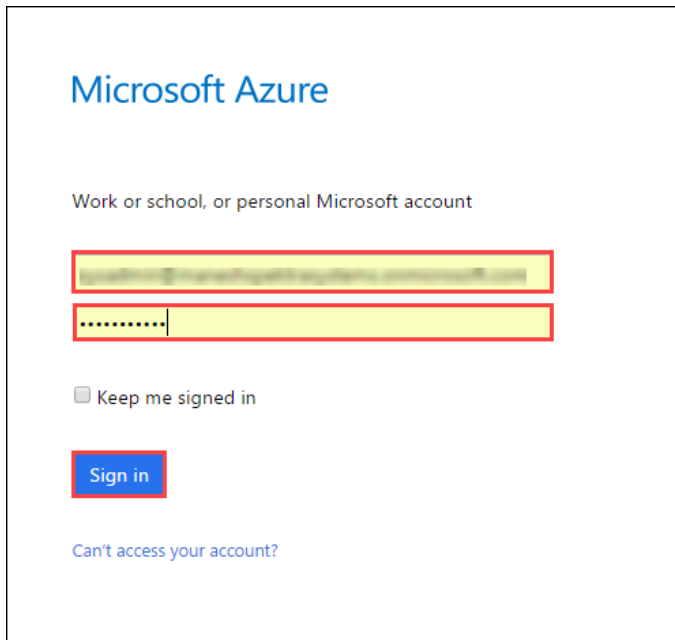
Time Estimate

5 minutes

Exercise 1: Log into your Azure Portal

In this exercise, you will log into the Azure Portal using your Azure credentials.

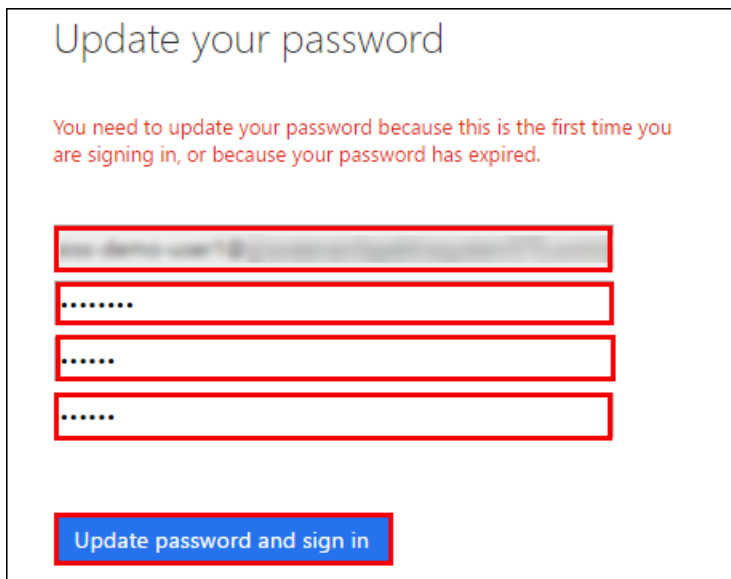
1. **Launch** a browser and **Navigate** to <https://portal.azure.com>. Provide the credentials that you received via email. Click on **Sign In**.



The screenshot shows the Microsoft Azure sign-in page. At the top, it says "Microsoft Azure". Below that, it says "Work or school, or personal Microsoft account". There are two input fields: the first is for the email address and the second is for the password. Below the password field, there is a checkbox labeled "Keep me signed in". At the bottom, there is a blue "Sign in" button and a link that says "Can't access your account?".

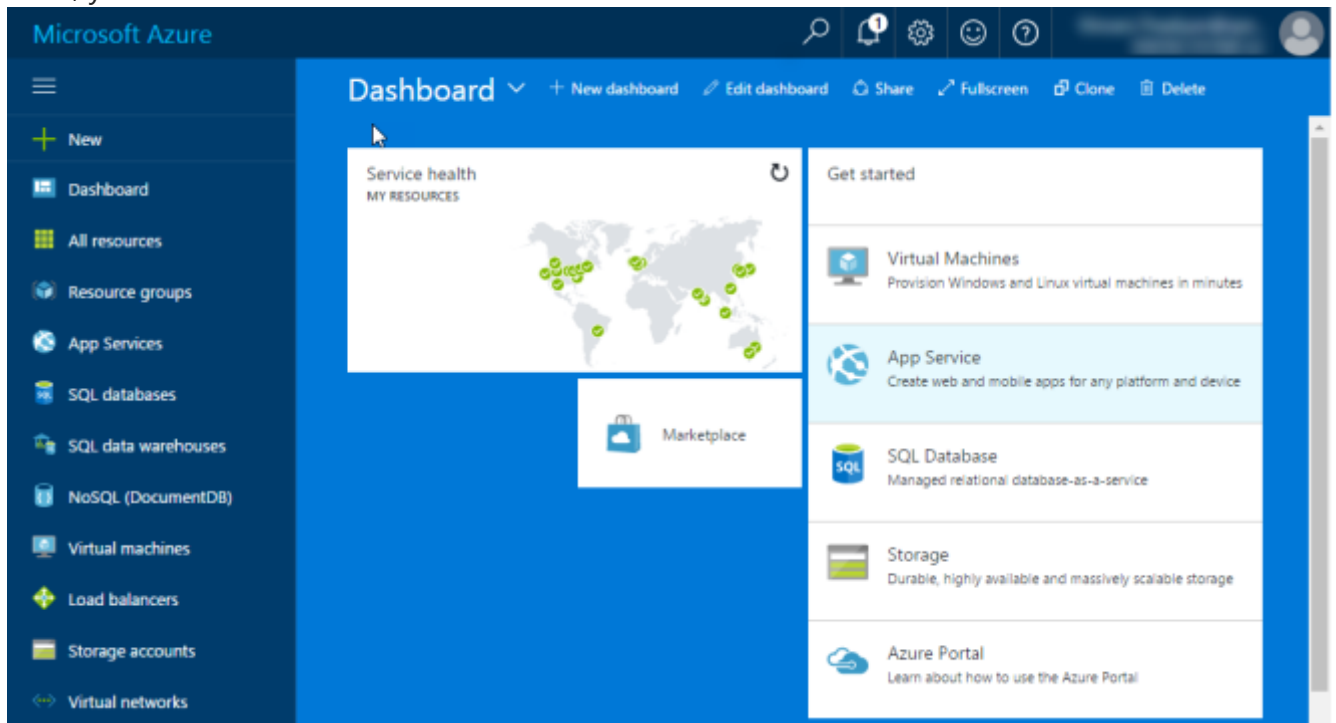
Note : At the first login, you may have to change the password, if asked for.

2. **Enter** a new **password**. Then select **Update password and sign in**.



The screenshot shows the "Update your password" page. At the top, it says "Update your password". Below that, it says "You need to update your password because this is the first time you are signing in, or because your password has expired." There are four input fields: the first is for the current password, the second is for the new password, the third is for the new password again, and the fourth is for the new password again. At the bottom, there is a blue "Update password and sign in" button.

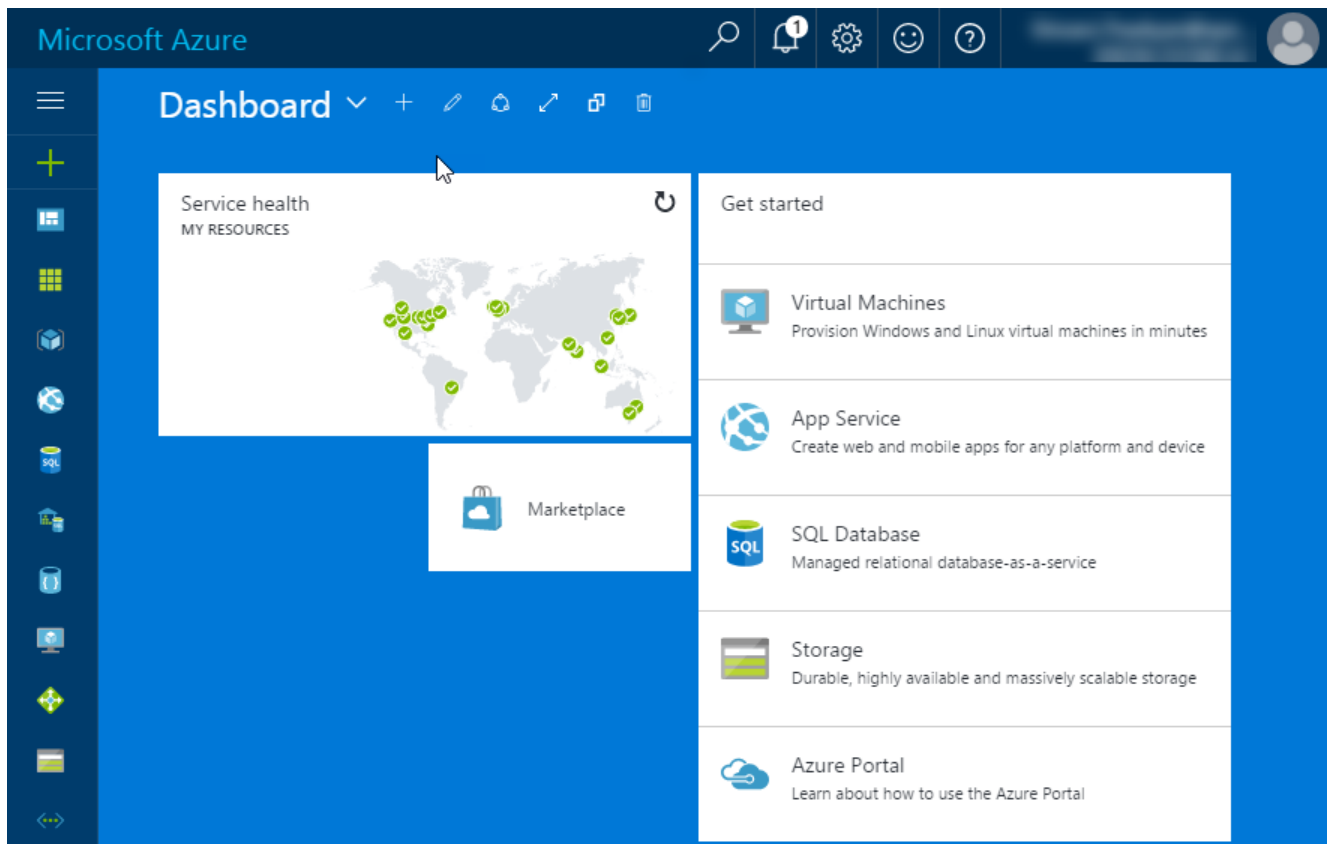
3. Now, you will be directed to the Azure Dashboard



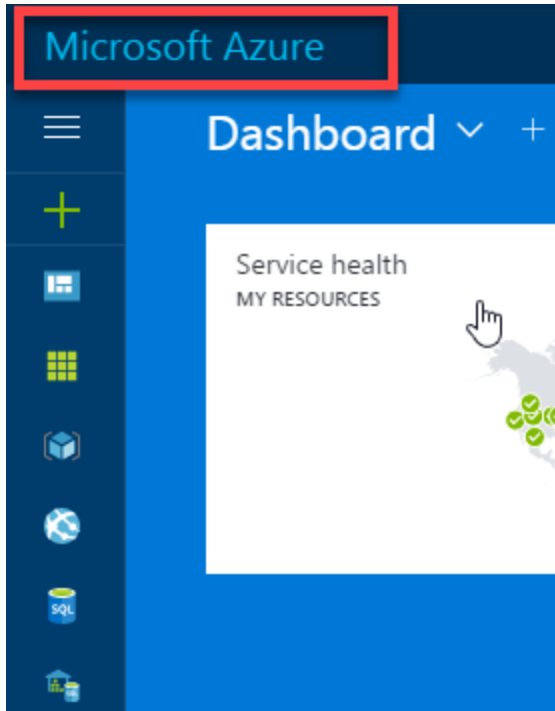
Exercise 2: Verify access to the Subscription

In this exercise, you will verify the type of role you are assigned in this Subscription.

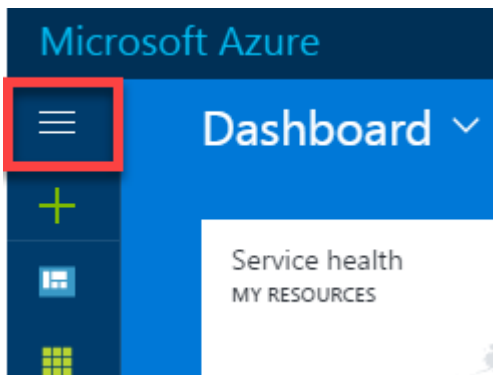
1. **Launch** a browser and **Navigate** to <https://portal.azure.com>. **Login** with your Microsoft Azure credentials.



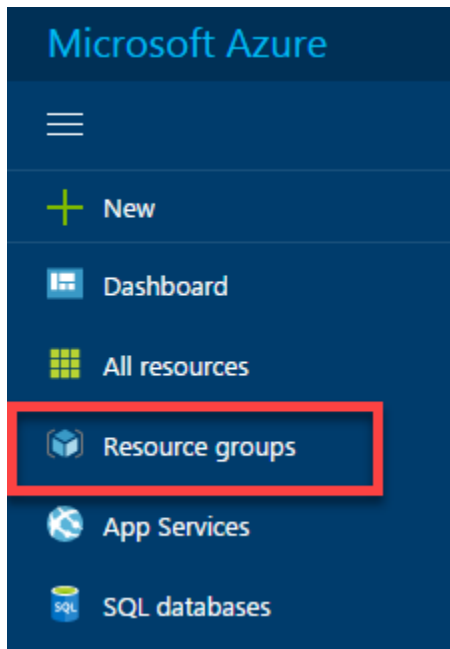
2. Click on **Microsoft Azure** at the top left corner of the screen, to view the Dashboard.



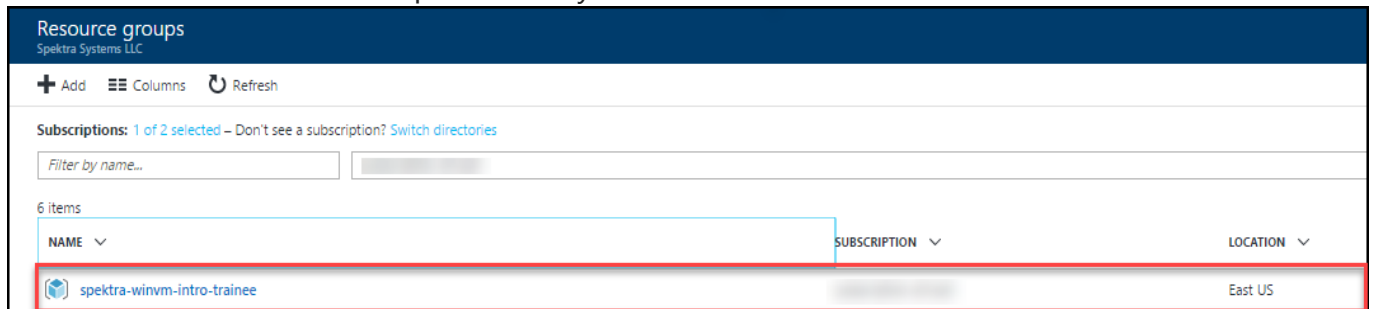
3. To toggle **show/hide** the Portal menu options with icon, Click on the **Show Menu** button.



4. Click on the **Resource groups** button in the **Menu navigation** bar to view the **Resource groups** blade.



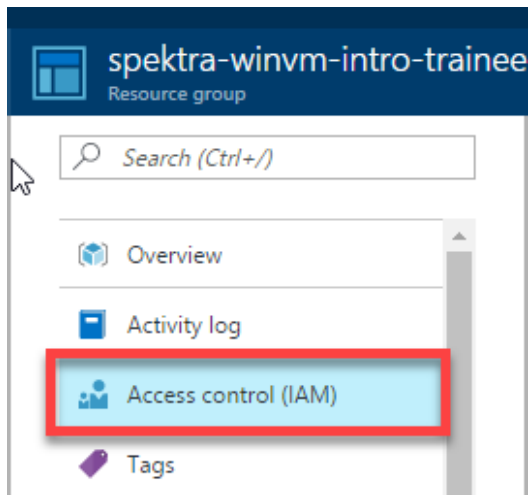
5. You will see a Resource Group on which you have access, **click** on it.



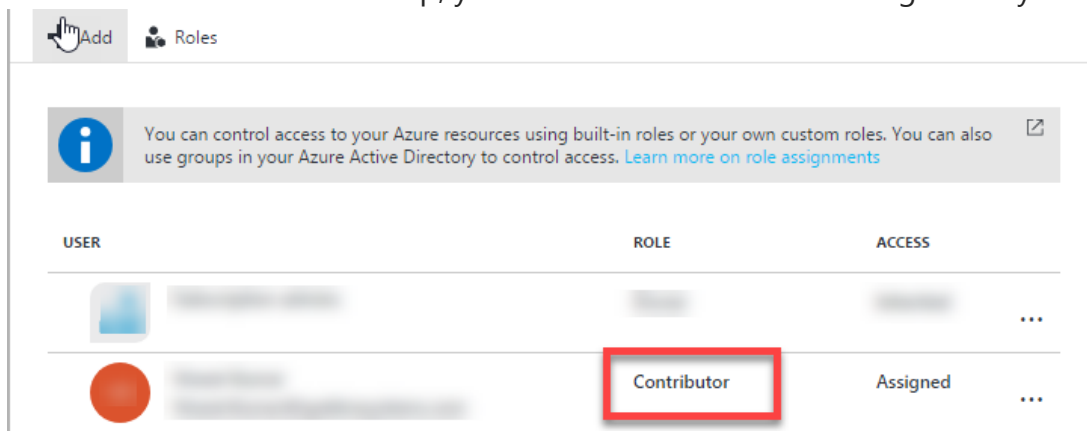
Note:

The Resource Group shown here is for demo purpose only. Actual name of the Resource Group that you see may differ.

6. Make a note of location of the resource group (East US in example screenshot). You should deploy all resources described in this lab guide in the same location.
7. From the Resource Group blade that comes up, **Select** the Access Control (IAM) which is on the left side of the blade.



8. In the new blade that come up, you can see the **role** that is assigned to you.



Lab 2: Create Windows Virtual Machine

Lab Overview

In this lab, you will

- Create a **Windows Server 2012 R2 Datacenter** Virtual Machine.
- Verify the deployed resources.

Prerequisites

- Windows or a Mac machine with HTML5 supported browser such as Microsoft Edge, Internet Explorer, Chrome or Firefox
- Lab 1 must be completed

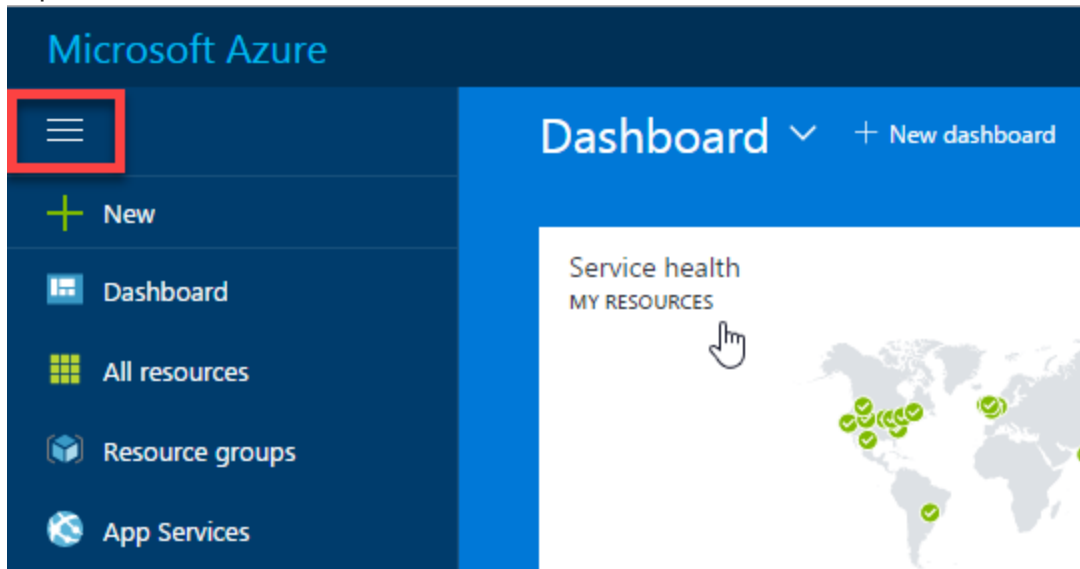
Time Estimate

20 minutes

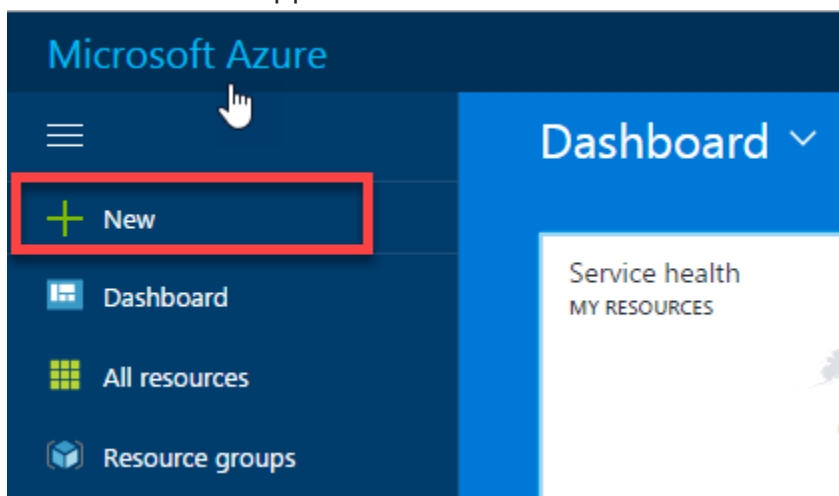
Exercise 1: Create a Storage account

In this exercise, you will create a **Standard Storage account** for your **Virtual Machine**.

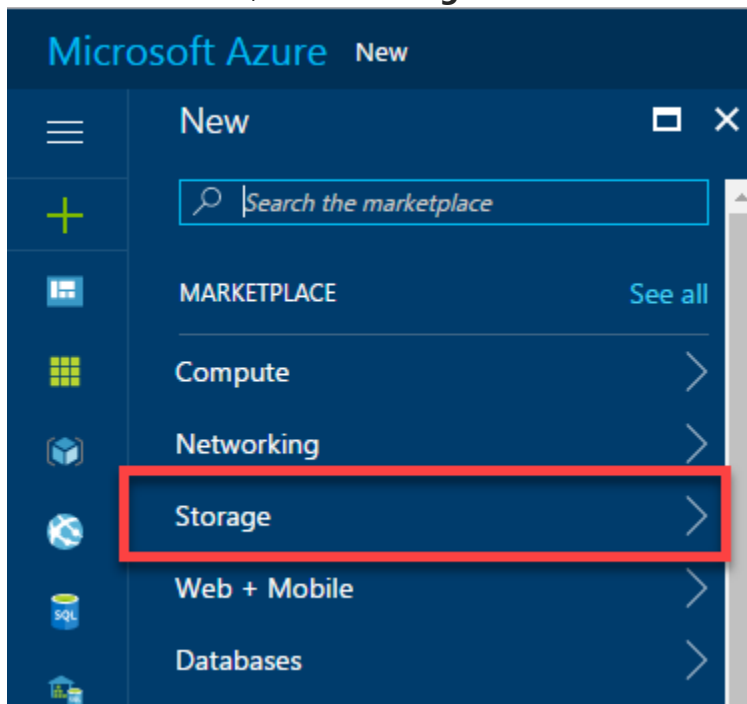
1. **Launch** a browser and **navigate** to <https://portal.azure.com>. **Login** with your Microsoft Azure credentials.
2. In the Dashboard, **click** on the **Show Menu** button that appears on the top left corner. This will expand the menus in the blade.



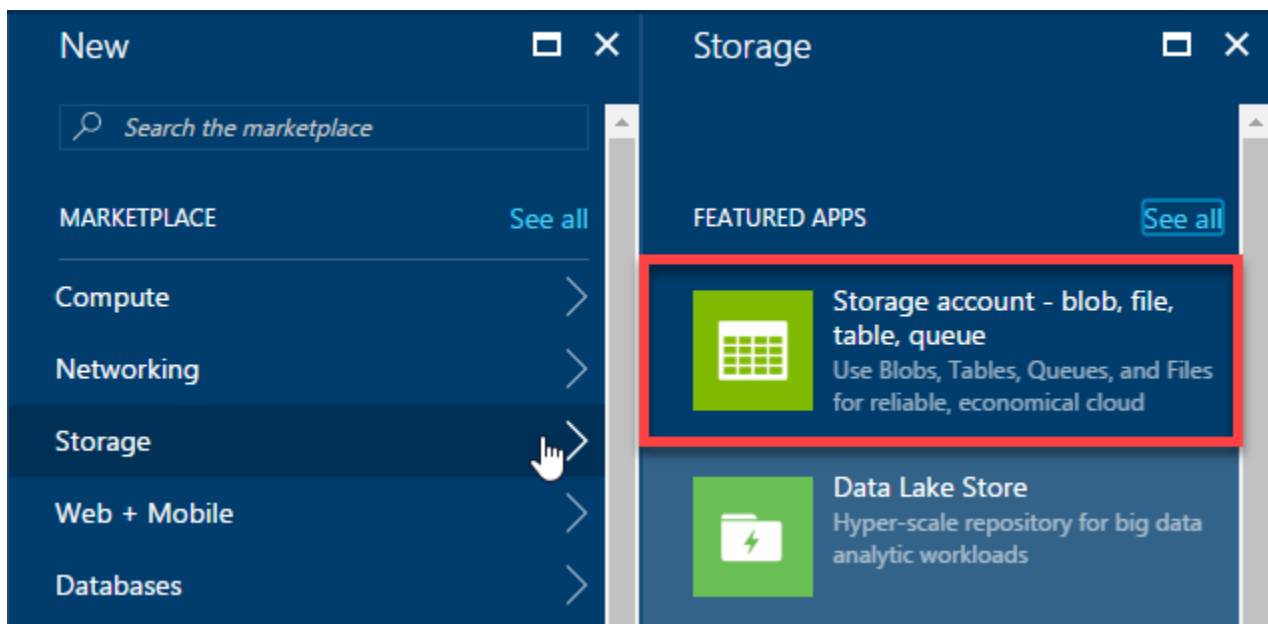
3. In the **Menu** that appears, **Select +New**.



4. In the **New** blade, Select **Storage**.



5. In the **Storage** blade that appears, Select **Storage account**.



6. In the **Create Storage Account** blade, configure the settings as follows:

- *Name*: **winvmstorage**

Note:

This name should be unique across Azure. Please use a different unique name or follow Instructor Guidelines for details.

- *Deployment model*: **Resource manager**
- *Account kind*: **General purpose**

- *Performance* : **Standard**
- *Replication* : **Locally-redundant storage (LRS)**
- *Storage service encryption* : **Disabled**
- *Subscription* : Choose your subscription
- *Resource Group* : **spektra-winvm-intro-trainee**(Choose **Use existing** and scroll down to see the Resource Group.)
- *Location* : **Location of your resource group**

Create storage account

The cost of your storage account depends on the usage and the options you choose below.
[Learn more](#)

* Name ⓘ
winvmstorage ✓
.core.windows.net

Deployment model ⓘ
Resource manager Classic

Account kind ⓘ
General purpose ▼

Performance ⓘ
Standard Premium

Replication ⓘ
Locally-redundant storage (LRS) ▼

* Storage service encryption ⓘ
Disabled Enabled

* Subscription
 ▼

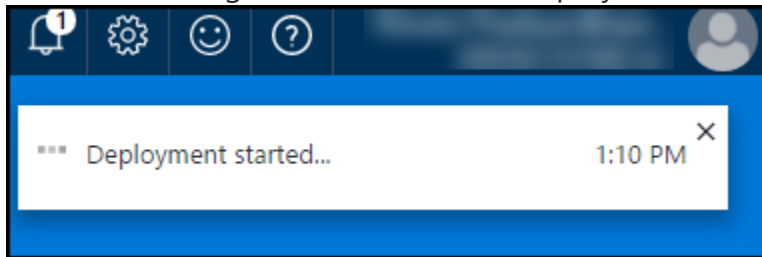
* Resource group ⓘ
 Create new Use existing
 ▼

* Location
 ▼

Pin to dashboard

Create Automation options

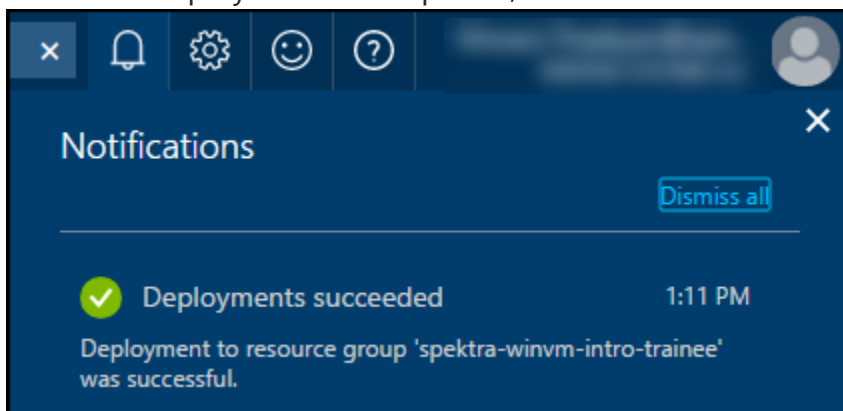
- After the configuration is done, Click on **Create**. A notification will appear at the top right corner informing the initial status of deployment.



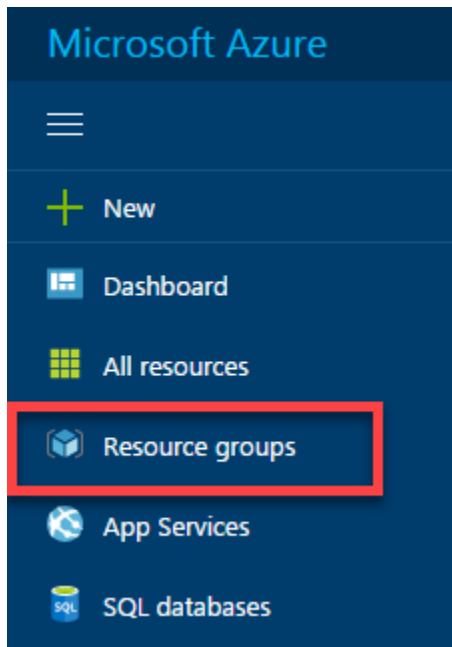
- Click the **notification** icon to see the current status of deployment.



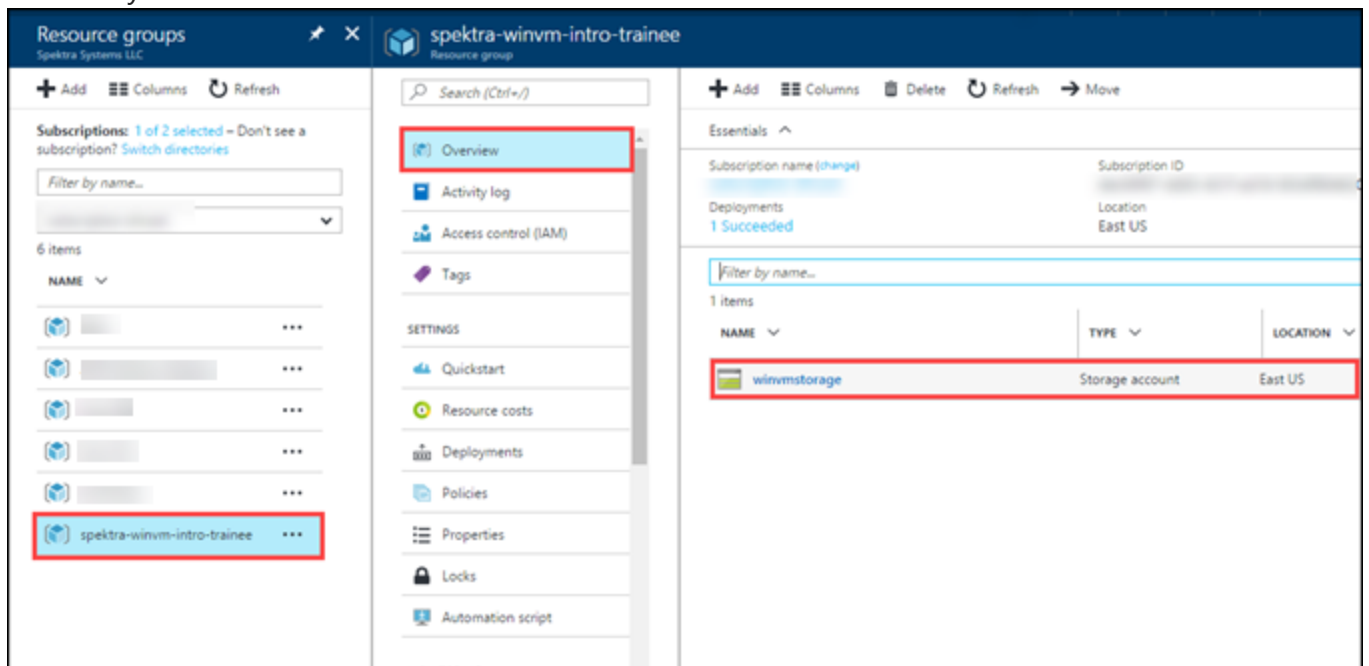
- When the deployment is completed, a notification is raised as below.



- To access the **Storage Account** just deployed, Select **Resource Group** in the **Menu navigation** blade.



11. In the **Resource Group** blade, **Select** the Resource Group **spektra-winvm-intro-trainee** in which you deployed your **Storage Account**. Then **Navigate** to **Overview** to see the storage account you created.



12. Repeat the above steps with following configurations to create the diagnostics storage account.

- *Name*: **winvmdiagstorage**

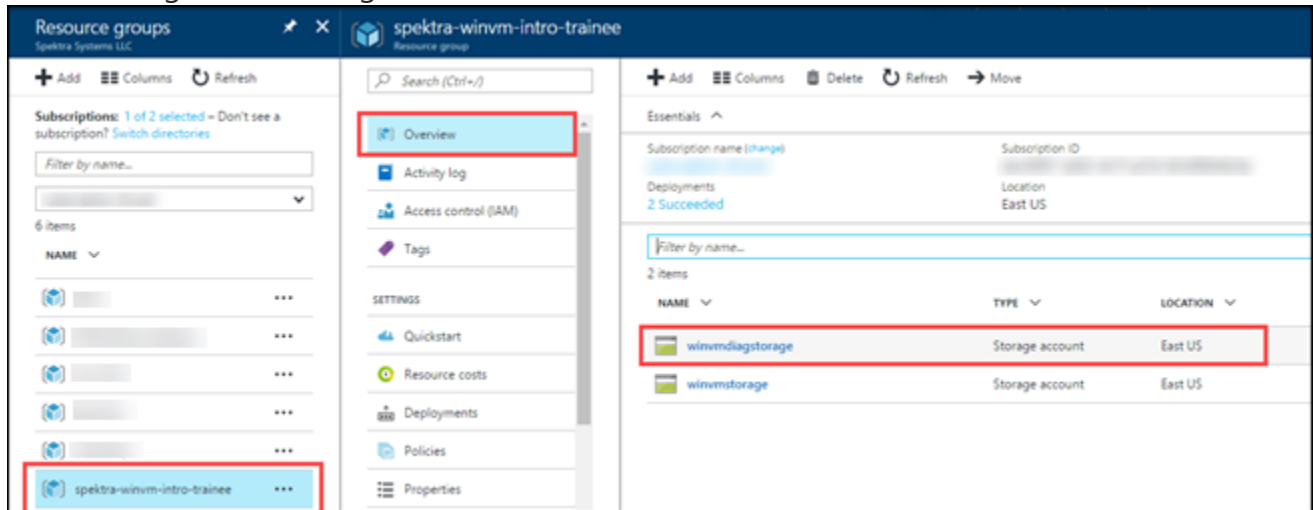
Note:

This name should be unique across Azure. Follow Instructor Guidelines for details

- *Deployment model*: **Resource manager**
- *Account kind*: **General purpose**

- *Performance* : **Standard**
- *Replication* : **Locally-redundant storage (LRS)**
- *Storage service encryption* : **Disabled**
- *Subscription* : Choose your subscription
- *Resource Group* : **spektra-winvm-intro-trainee**(Choose **Use existing** and scroll down to see the Resource Group.)
- *Location* : **Location of your resource group**

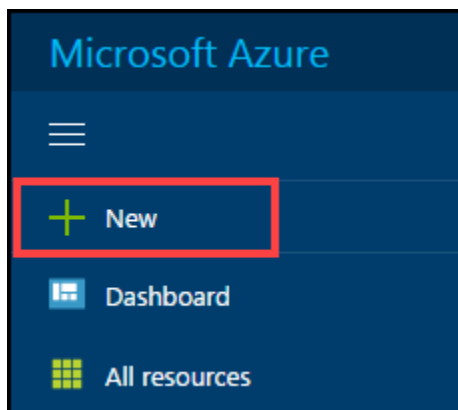
13. Navigate to **Resource Groups > spektra-winvm-intro-trainee > Overview** to see the newly created diagnostics storage account.



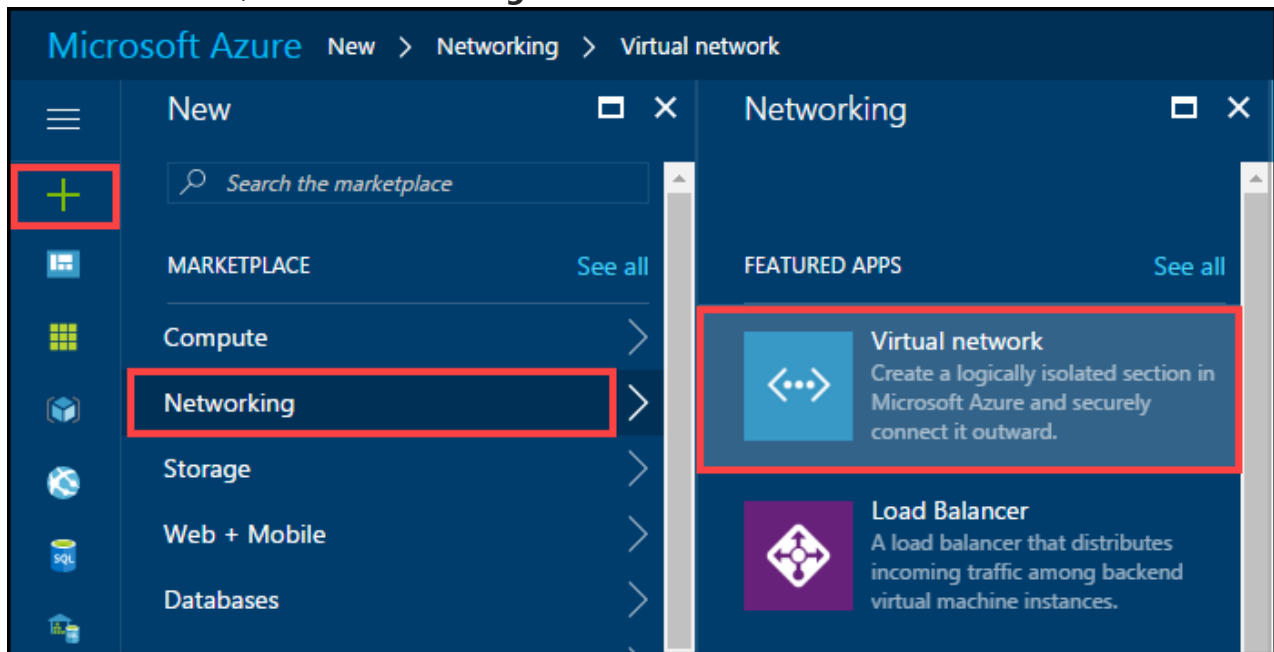
Exercise 2: Create a Virtual Network

In this exercise, you will create a Virtual Network from Azure Portal.

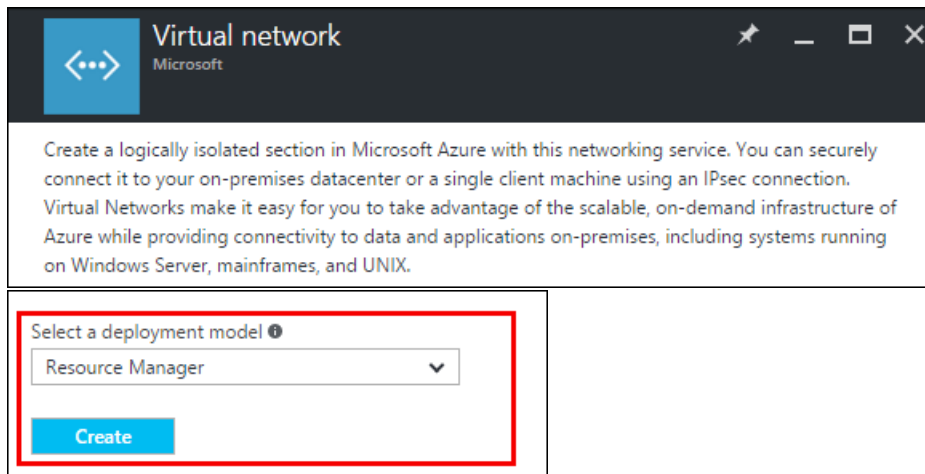
1. **Launch** a browser and **Navigate** to <https://portal.azure.com>. **Login** with your Microsoft Azure credentials.
2. **Click** on **New** in the **Menu navigation** bar on the left.



3. In the new blade, select **Networking** and then select **Virtual Network**.



4. Now, in the new blade that come up, select **Resource Manager** as the Deployment Model and **Click** on **Create** button to create a new Virtual Network.



5. **Provide** the following configuration in the blade that come.

- *Name* : **win-vnet**
- *Address space* : **10.100.0.0/16**
- *Subnet name* : **win-vm-subnet**
- *Subnet address range* : **10.100.0.0/24**
- *Subscription* : Choose your subscription.
- *Resource Group* : **spektra-winvm-intro-trainee**(Choose **Use existing** and scroll down to see the Resource Group.)
- *Location* : **Location of your resource group**

Create virtual network

* Name
win-vnet ✓

* Address space ⓘ
10.2.0.0/16 ✓
10.2.0.0 - 10.2.255.255 (65536 addresses)

* Subnet name
win-vm-subnet ✓

* Subnet address range ⓘ
10.2.0.0/24 ✓
10.2.0.0 - 10.2.0.255 (256 addresses)

* Subscription
[Redacted]

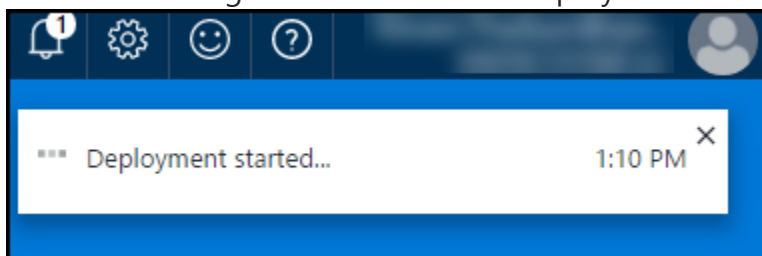
* Resource group ⓘ
 Create new Use existing
 spektra-winvm-intro-trainee ✓

* Location
East US ✓

Pin to dashboard

Create Automation options

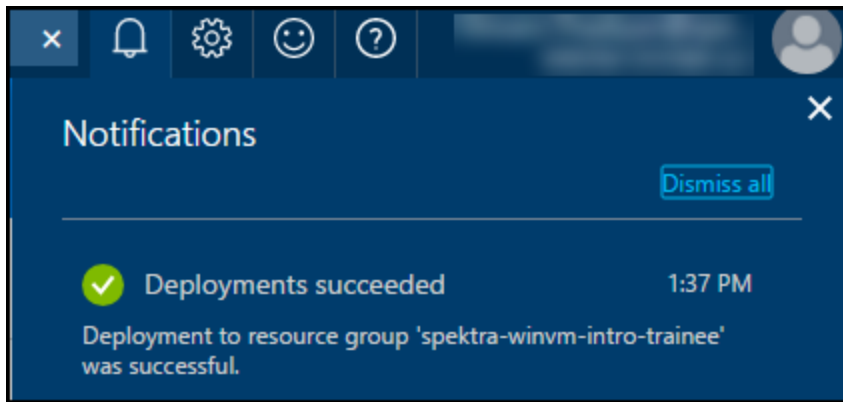
- After the configuration is done, Click on **Create**. A notification will appear at the top right corner informing the initial status of deployment.



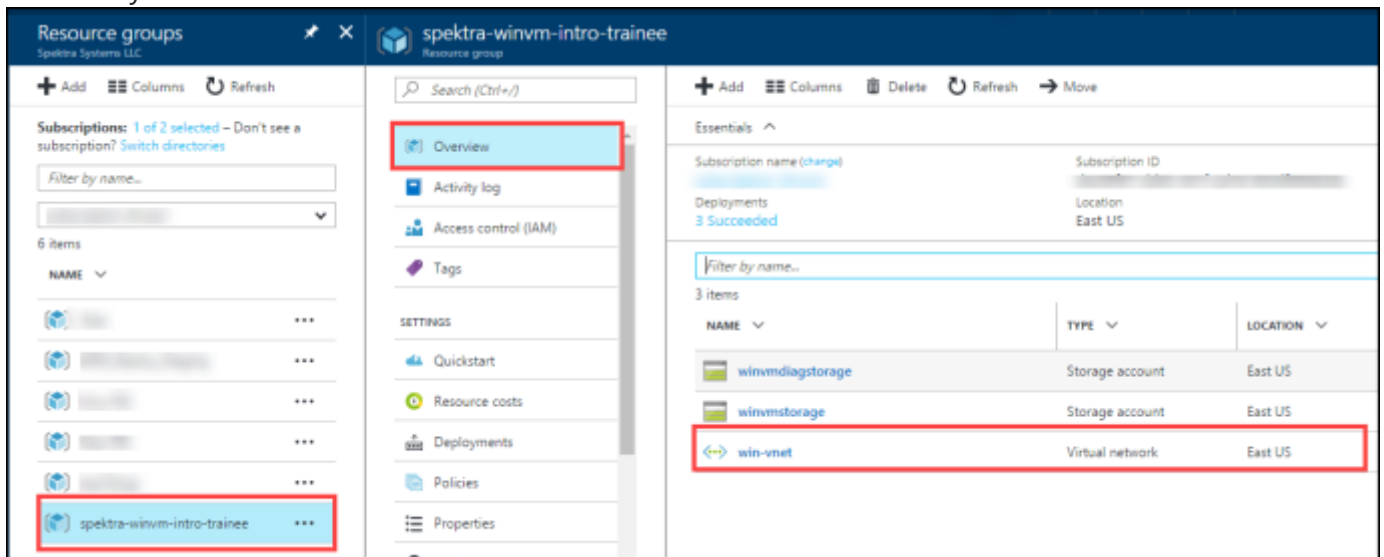
- Click the **notification** icon to see the current status of deployment.



- When the deployment is completed, a notification is raised as below.



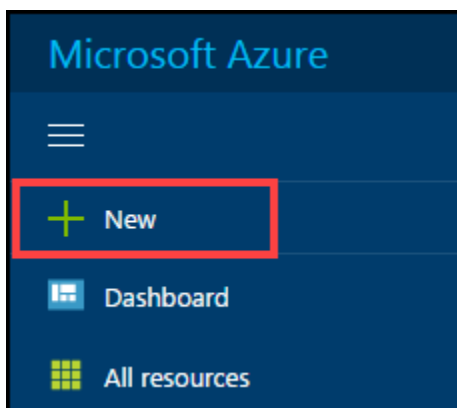
9. In the **Resource Group** blade, **Select** the Resource Group **spektra-winvm-intro-trainee** in which you deployed your **Virtual Network**. Then **Navigate** to **Overview** to see the virtual network you created.



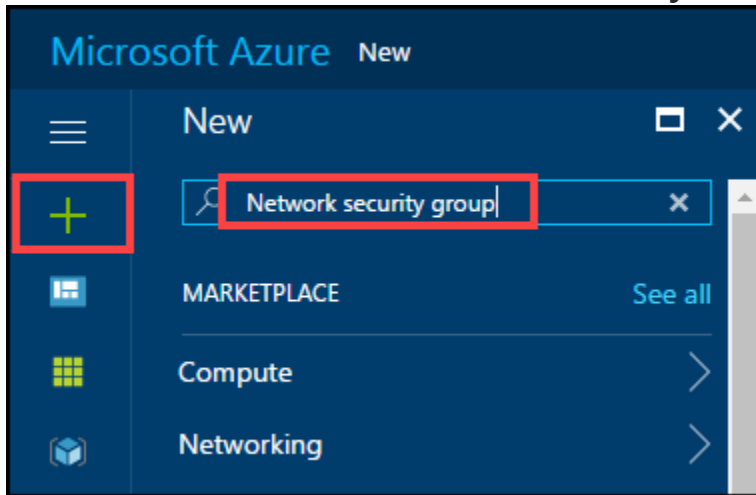
Exercise 3: Create a Network Security Group

In this exercise, you will create an Network Security Group from Azure Portal.

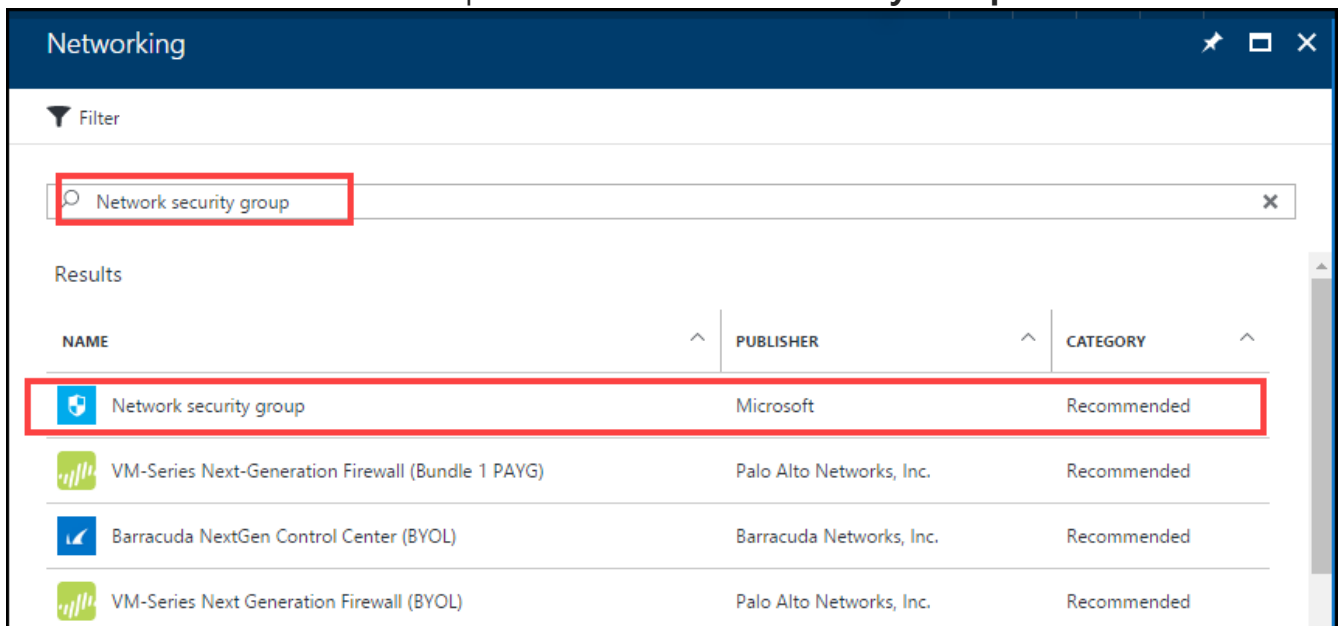
1. **Launch** a browser and **Navigate** to <https://portal.azure.com>. **Login** with your Microsoft Azure credentials.
2. **Click** on **+New** in the navigation bar on the left.



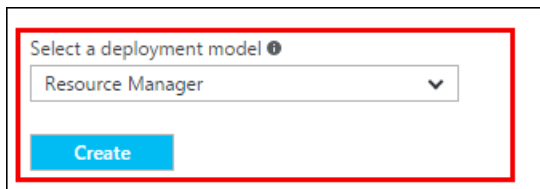
3. In the new blade, **Search** for “**Network Security Group**”.



4. From the new blade that come up **Select** the **Network Security Group** that is listed first.

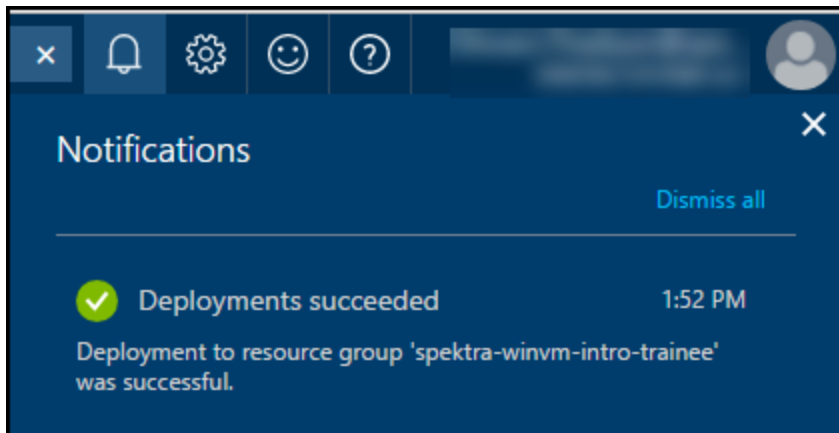


5. Now, in the new blade that come up, Select **Resource Manager** as the Deployment Model and **Click** on **Create** button to create a new Network Security Group.

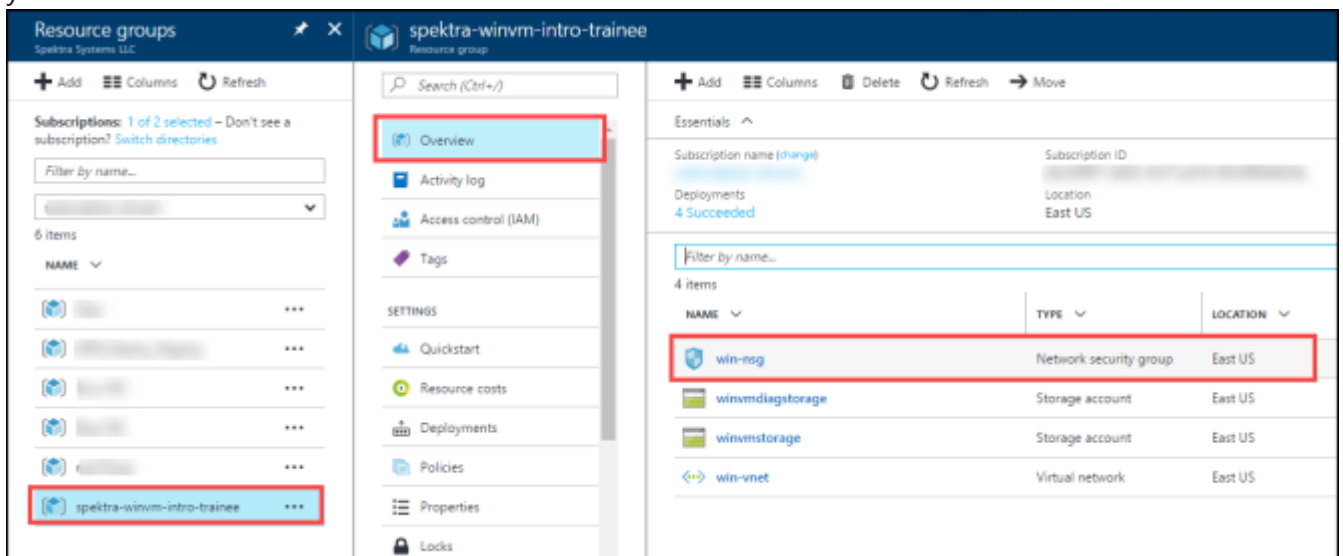


6. **Provide** the **following configuration** in the blade that comes up.

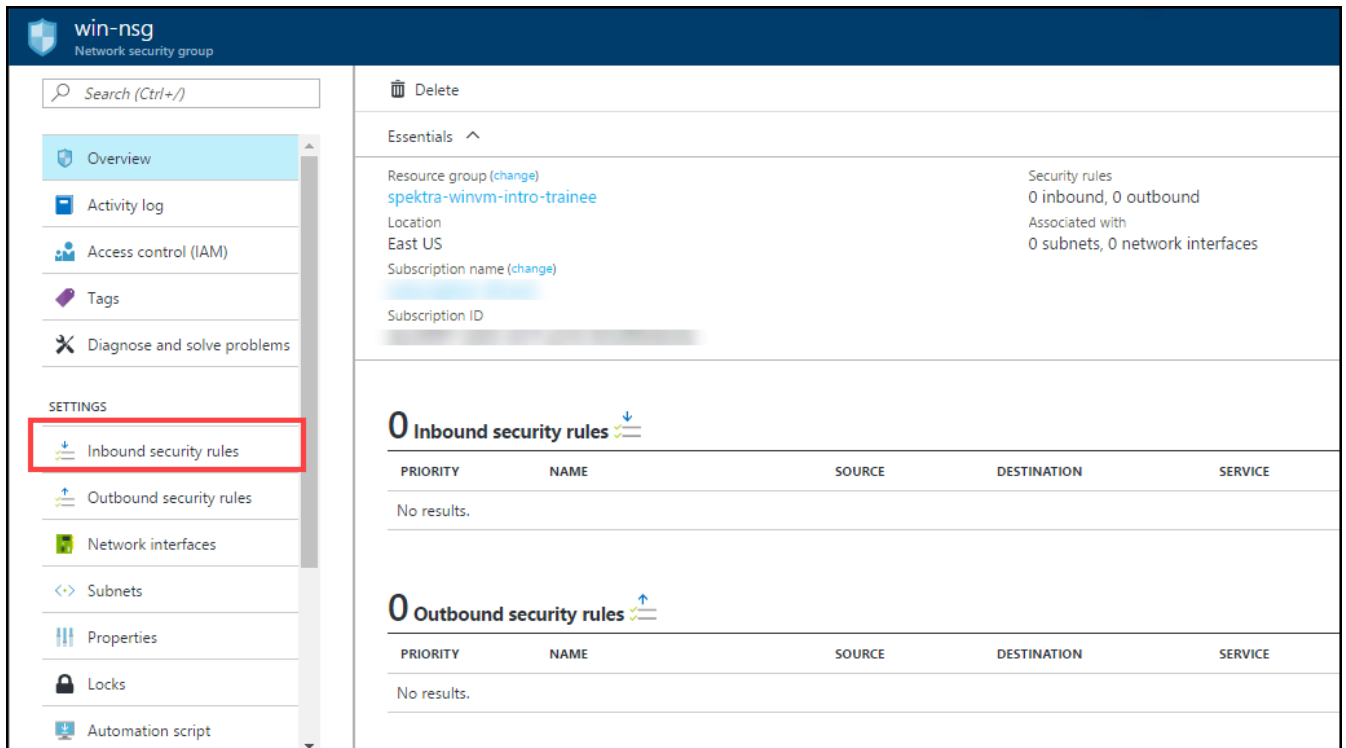
- **Name**: **win-nsg**
- **Subscription**: Choose your subscription.
- **Resource Group**: **spektra-winvm-intro-trainee**(Choose **Use existing** and scroll down to see the Resource Group.)
- **Location**: **Location of your resource group**



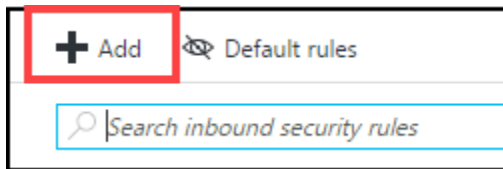
13. In the **Resource Group** blade, **Select** the Resource Group **spektra-winvm-intro-trainee** in which you deployed your **Network Security Group**. Then **Navigate** to **Overview** to see **NSG** you created.



14. Click on **win-nsg** Network Security Group. A new blade comes up as shown below. Click on **Inbound Security Rules**.



15. Click on **Add**.



16. In the **Add inbound security rule** blade, configure as follows and Click **OK**.

- *Name:* **allow-RDP**
- *Priority:* **100**
- *Source:* **Any**
- *Service:* **RDP**
- *Protocol:* Keep default.
- *Port range:* Keep default.
- *Action:* **Allow**

Add inbound security rule
win-nsg

✕ Advanced

* Name
allow-RDP ✓

* Priority ⓘ
100

* Source ⓘ
Any CIDR block Tag

Service ⓘ
RDP

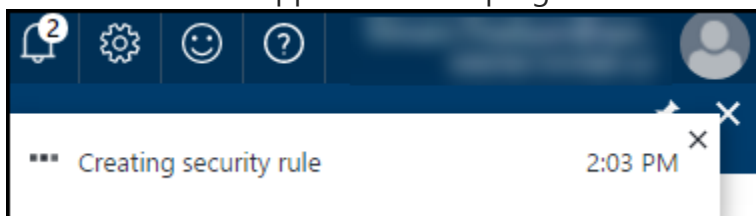
* Protocol
Any TCP UDP

* Port range ⓘ
3389

* Action
Deny Allow

OK

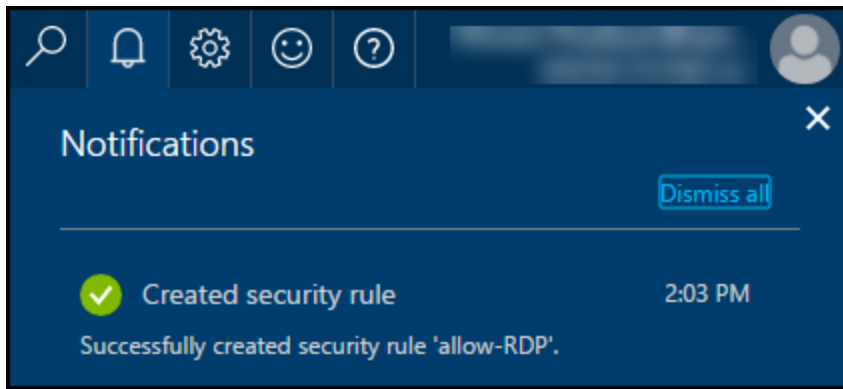
17. A notification will appear at the top right corner informing the status.



18. **Click** the **notification** icon to see the current status of deployment.



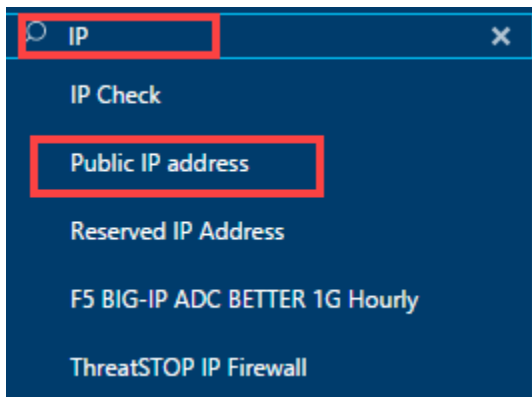
19. When the deployment is completed, a notification is raised as below.



Exercise 4: Create a Public IP Address

In this exercise, you will create the **Public IP** needed to connect to the **Virtual Machine** from internet.

1. **Launch** a browser and **navigate** to <https://portal.azure.com>. **Login** with your Microsoft Azure credentials.
2. **Click** on the **+New** button on the top left corner of the portal and type **"IP"**. From the drop down list, select **Public IP address**.









3. From the new blade that come up **Select** the **Public IP address** that is listed first.

Filter

Public IP address

Results

NAME	PUBLISHER	CATEGORY
 Public IP address	Microsoft	Networking
 Reserved IP Address	Microsoft	Networking
 F5 BIG-IP ADC BETTER 1G Hourly	F5 Networks	Compute
 F5 BIG-IP ADC GOOD 25M Hourly	F5 Networks	Compute
 F5 BIG-IP ADC BETTER 25M Hourly	F5 Networks	Compute
 F5 BIG-IP ADC BETTER 200M Hourly	F5 Networks	Compute

4. Click **Create** in the upcoming blade.

Public IP address

Microsoft

A public IP address is a dynamic or static IP address that you can assign to virtual machines, load balancers, and virtual network gateways to communicate with the Internet. Your public IP addresses are associated with your Azure subscription, and can be moved freely between Azure resources. The address of dynamic public IP address may change when dissociated and moved between resources, or when the associated resource is shutdown or deleted. You can use a static public IP address to ensure that the assigned address remains the same, even if the associated resource is shutdown or deleted.

In the Classic deployment model, a public IP address was named an instance-level public IP (ILPIP) address when assigned to a virtual machine or role instance directly, and a virtual IP address (VIP) when assigned to a cloud service. Furthermore, a reserved IP address could be associated to the VIP of a cloud service to ensure that the assigned address remained the same even if its virtual machines or deployments were stopped. These concepts have now been unified in the Resource Manager deployment model with the public IP address resource.

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PUBLISHER	Microsoft
USEFUL LINKS	Service overview Pricing details

[Create](#)

5. In the **Create public IP address** blade, configure as follows:

- Name: **win-vm-ip**
- IP address assignment: **Static**
- Idle timeout: **4**
- DNS name label: **windemovm**

Note:

This name should be unique across Azure. Follow Instructor Guidelines for details

- Subscription: **Choose your subscription**
- Resource group: **spektra-winvm-intro-trainee**(Choose **Use existing** and scroll down to see the Resource Group.)
- Location: **Location of your resource group**

Create public IP address

* Name
win-vm-ip ✓

* IP address assignment
Dynamic **Static**

* Idle timeout (minutes) ⓘ
4

DNS name label ⓘ
windemovm ✓
.eastus.cloudapp.azure.com

* Subscription
▼

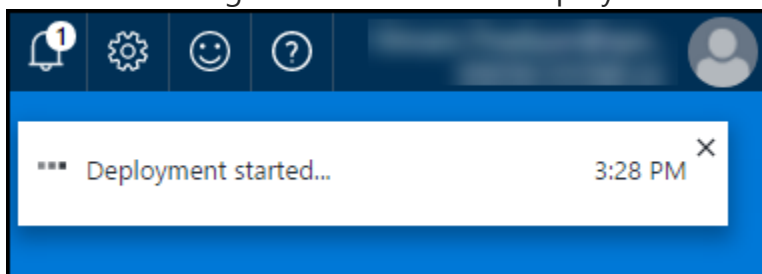
* Resource group ⓘ
 Create new **Use existing**
 spektra-winvm-intro-trainee ▼

* Location
East US ▼

Pin to dashboard

Create Automation options

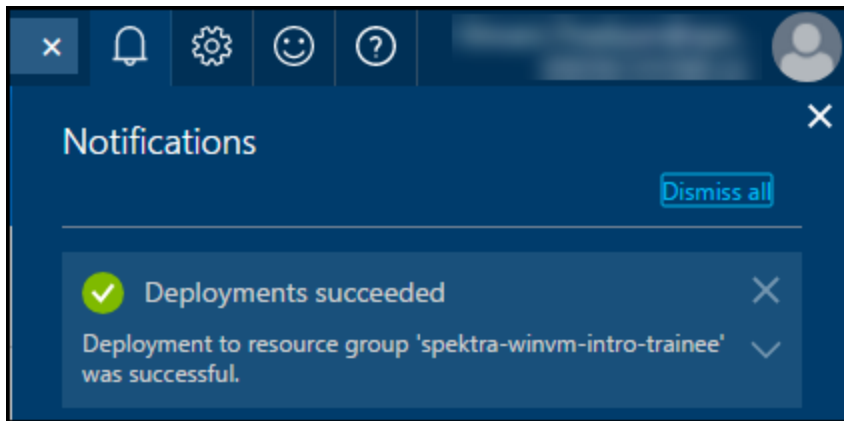
6. After the configuration is done, Click on **Create**. A notification will appear at the top right corner informing the initial status of deployment.



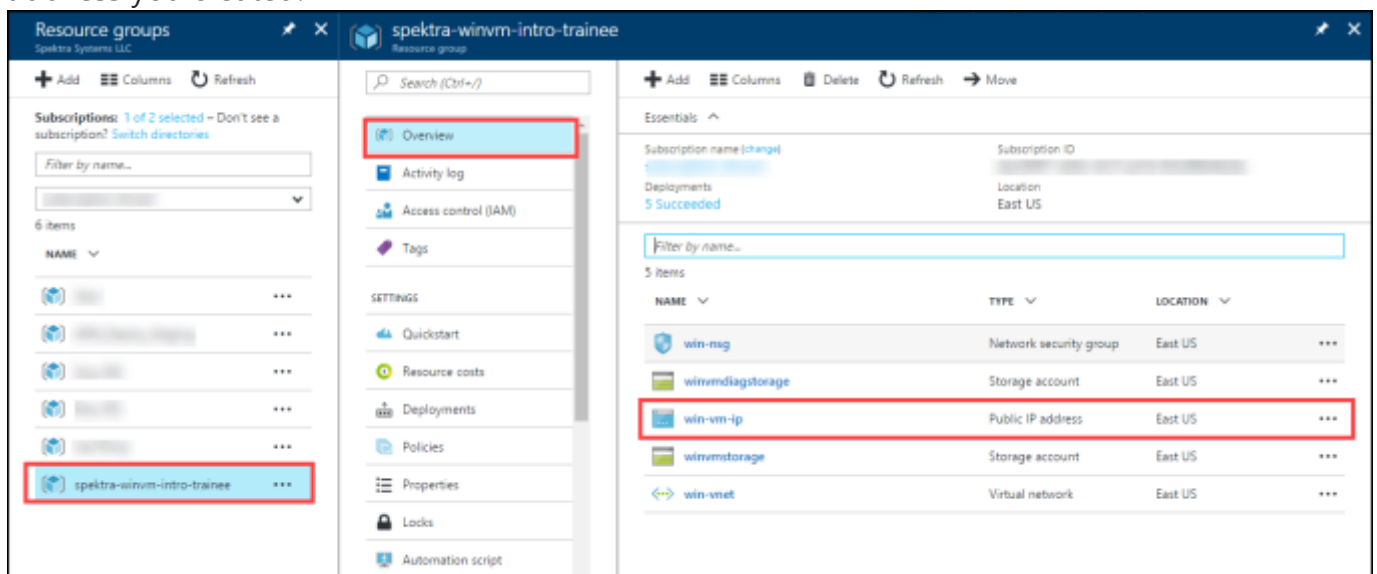
7. **Click the notification** icon to see the current status of deployment.



8. When the deployment is completed, a notification is raised as below.



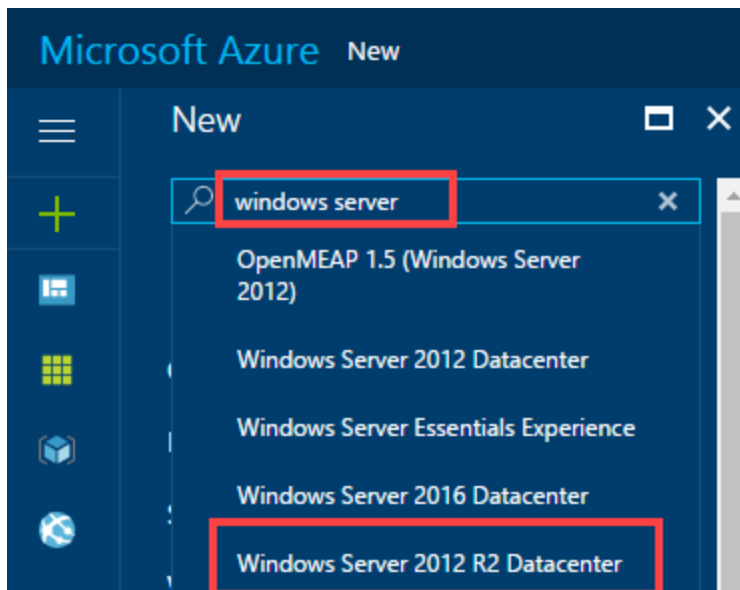
- In the **Resource Group** blade, **Select** the Resource Group **spektra-winvm-intro-trainee** in which you deployed your **Public IP address**. Then **Navigate** to **Overview** to see the **Public IP address** you created.



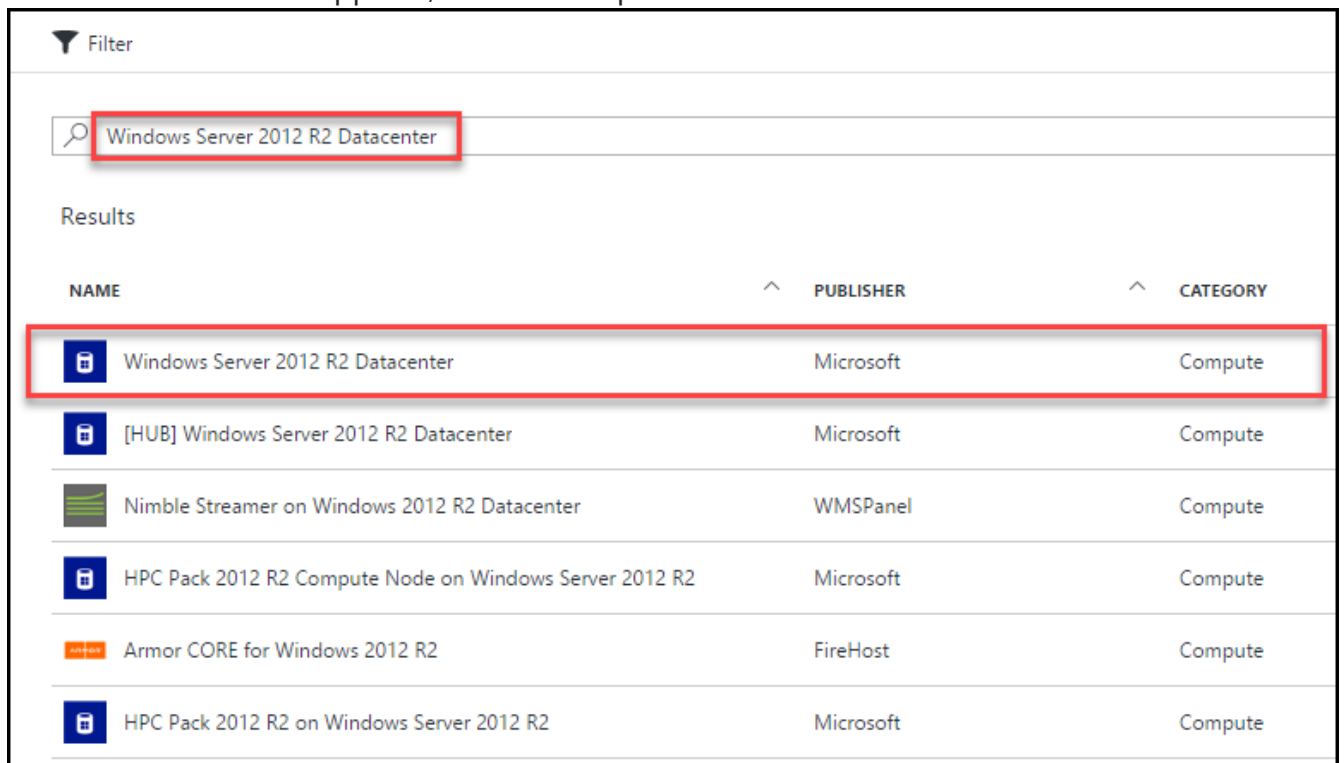
Exercise 5: Create the Virtual Machine

In this exercise, you will use **Windows Server 2012 R2 Datacenter** an image available in the Azure gallery to create the virtual machine.

- Launch** a browser and **navigate** to <https://portal.azure.com>. **Login** with your Microsoft Azure credentials.
- Click** on the **+New** button on the top left corner of the portal and type **"Windows Server"**. From the drop down list, select the version (**Windows Server 2012 R2 Datacenter**).



3. In the next blade that appears, **Select** the option **Windows Server 2012 R2 Datacenter**.



4. In the upcoming blade, select **Resource Manager** as the deployment model. **Click** on the **Create** button.

At the heart of the Microsoft Cloud OS vision, Windows Server 2012 R2 brings Microsoft's experience delivering global-scale cloud services into your infrastructure. The virtual machine (VM) offers enterprise-class performance, flexibility for your applications and excellent economics for your datacenter and hybrid cloud environment. This image includes Windows Server 2012 R2 Update (KB2919355).

Legal Terms

By clicking the Create button, I acknowledge that I am getting this software from Microsoft and that the legal terms of Microsoft apply to it. Microsoft does not provide rights for third-party software. Also see the privacy statement from Microsoft.



PUBLISHER	Microsoft
USEFUL LINKS	Learn more Documentation Pricing details

Select a deployment model ⓘ

Resource Manager ▼

Create

- On the **Basics** blade that appears **provide** the **following details**.
 - Name:* **win-demo-vm**
 - VM disk type:* **HDD**
 - User name:* **demouser**
 - Password:* **Password@123**
 - Subscription:* Choose the default subscription
 - Resource Group:* **spektra-winvm-intro-trainee**(Choose **Use existing** and scroll down to see the Resource Group.)
 - Location:* **Location of your resource group**

Click **OK**.

Create virtual machine

Basics

- 1 Basics
Configure basic settings
- 2 Size
Choose virtual machine size
- 3 Settings
Configure optional features
- 4 Summary
Windows Server 2012 R2 Datac...

* Name
win-demo-vm ✓

VM disk type ⓘ
HDD ▼

* User name
demouser ✓

* Password
..... ✓

* Confirm password
..... ✓

Subscription
..... ▼

* Resource group ⓘ
 Create new Use existing
spektra-winvm-intro-trainee ▼

Location
East US ▼

OK

6. In the **Size** blade, Click on **View all**.

Choose a size
Browse the available sizes and their features

Prices presented are estimates in your local currency that include only Azure infrastructure costs and any discounts for the subscription and location. The prices don't include any applicable software costs. Recommended sizes are determined by the publisher of the selected image based on hardware and software requirements.

★ Recommended | [View all](#)

D1_V2 Standard ★		D1 Standard ★		A1 Standard ★	
1	Core	1	Core	1	Core
3.5	GB	3.5	GB	1.75	GB
2 Data disks		2 Data disks		2 Data disks	
2x500 Max IOPS		2x500 Max IOPS		2x500 Max IOPS	
50 GB Local SSD		50 GB Local SSD		Load balancing	
Load balancing		Load balancing			
54.31 USD/MONTH (ESTIMATED)		57.29 USD/MONTH (ESTIMATED)		44.64 USD/MONTH (ESTIMATED)	

Select

7. From the list of VM sizes, select **Standard A1** and click **Select**.

A1 Standard ★

1 Core

1.75 GB

2
Data disks

2x500
Max IOPS

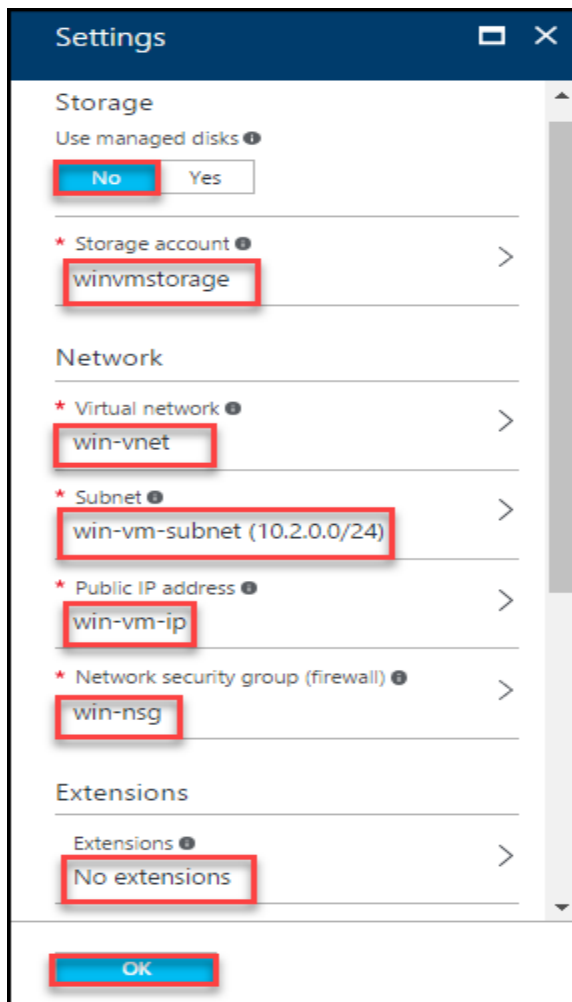
Load balancing

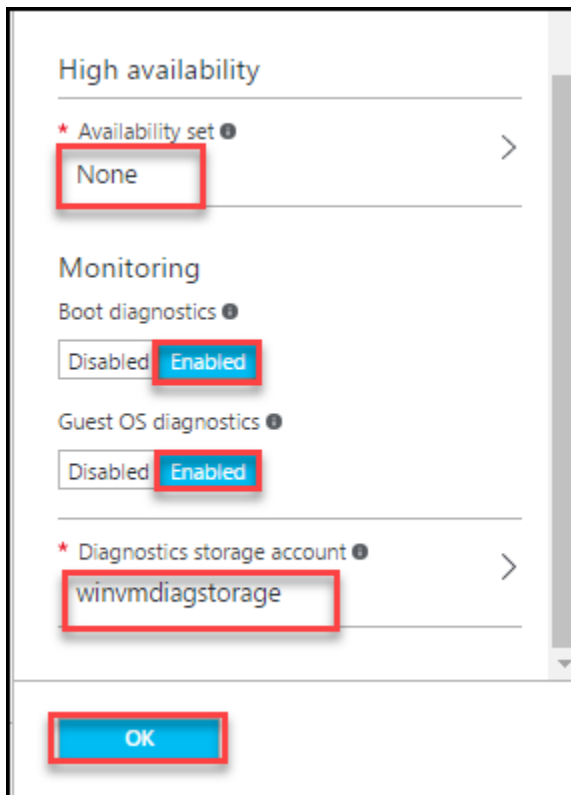
44.64
USD/MONTH (ESTIMATED)

8. In the **Settings** blade, configure as follows:

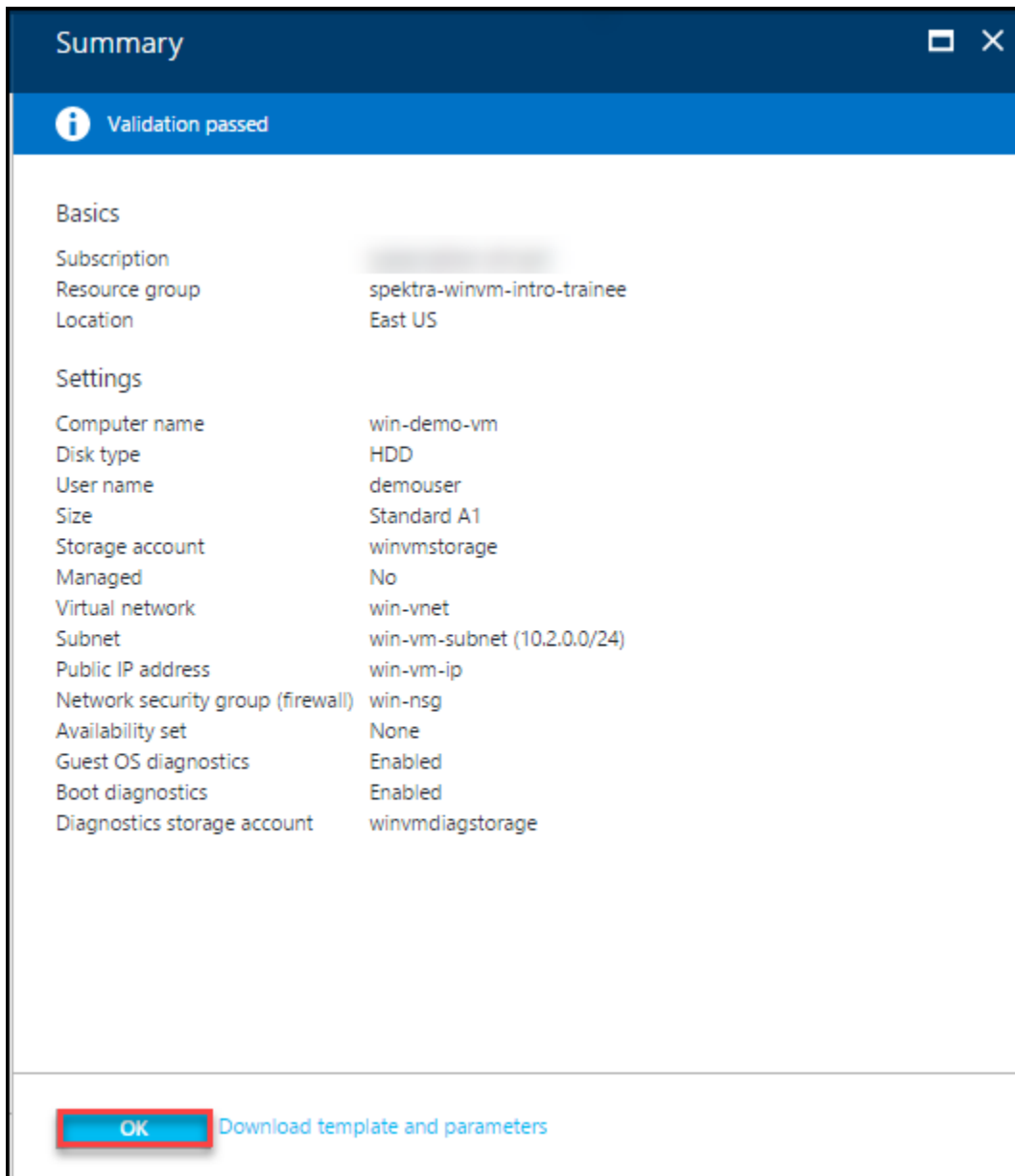
- *Use managed disks*: **NO**
- *Storage account*: **winvmstorage** (created in ex 1)
- *Virtual network*: **win-vnet** (Created in exercise 2)
- *Subnet*: **win-vm-subnet** (Created in exercise 2)
- *Network security group (firewall)*: **win-nsg** (Created in exercise 3)
- *Public IP address*: **win-vm-ip** (Created in exercise 4)
- *Availability set*: **None**
- *Boot diagnostics*: **Enabled**
- *Guest OS diagnostics*: **Enabled**
- *Diagnostics storage account*: **winvmdiagstorage** (Choose from the list)

Click on **OK** after providing details.

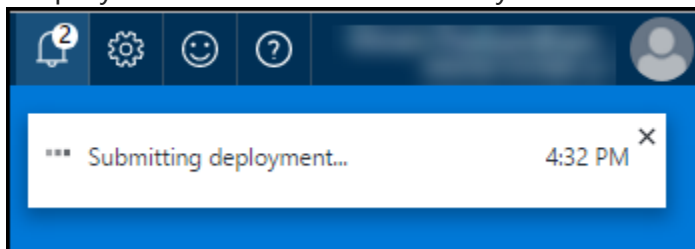




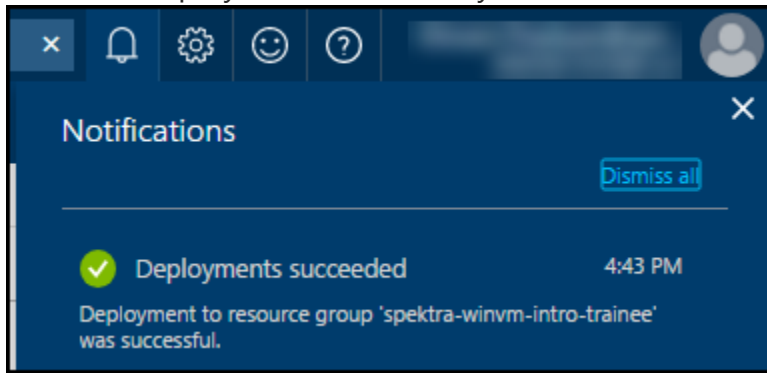
9. In the **Summary** blade, verify everything is correct, and click **OK**.



10. Deployment will start automatically. You can see the notification on the **notification icon**.



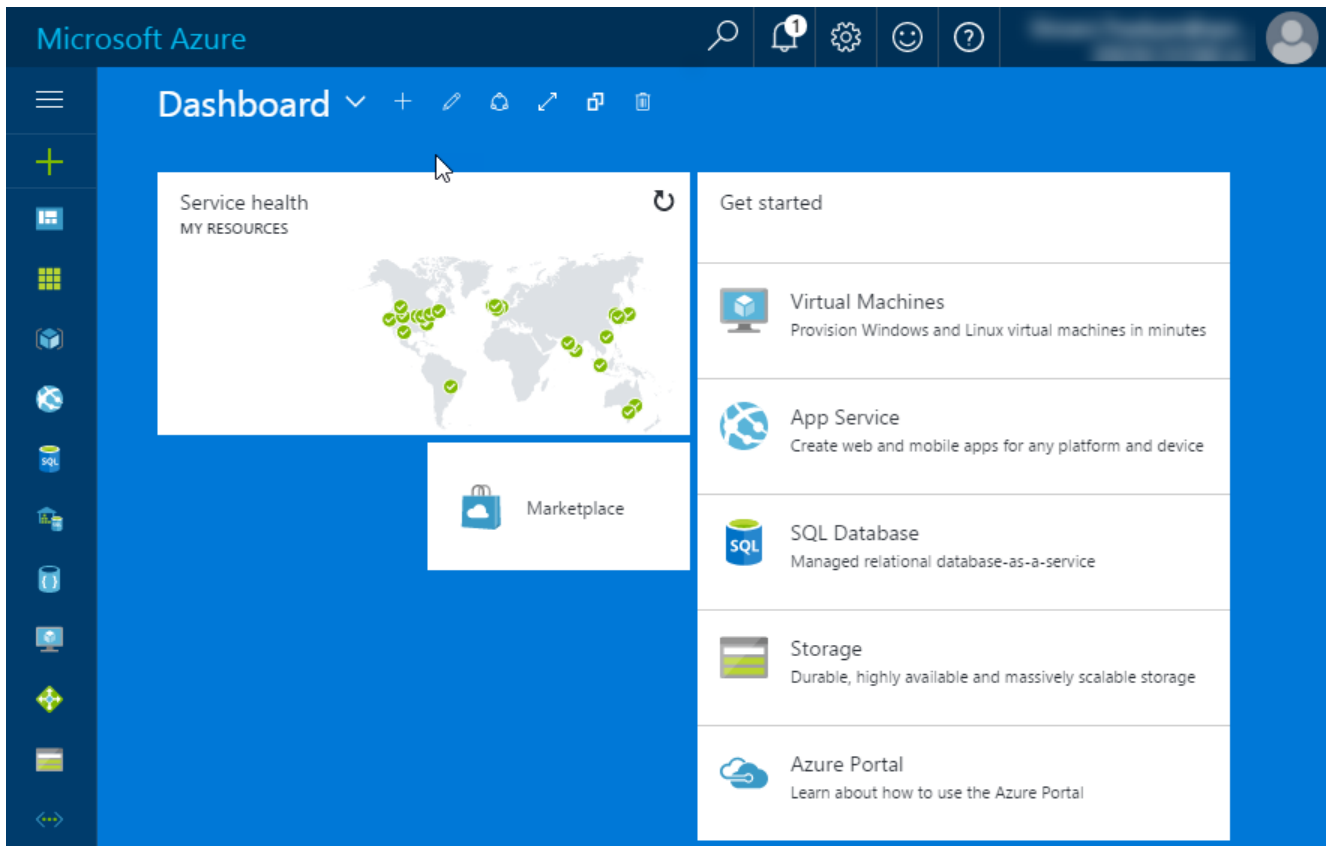
11. Once the deployment is finished, you can view the status from the notification tab at the top.



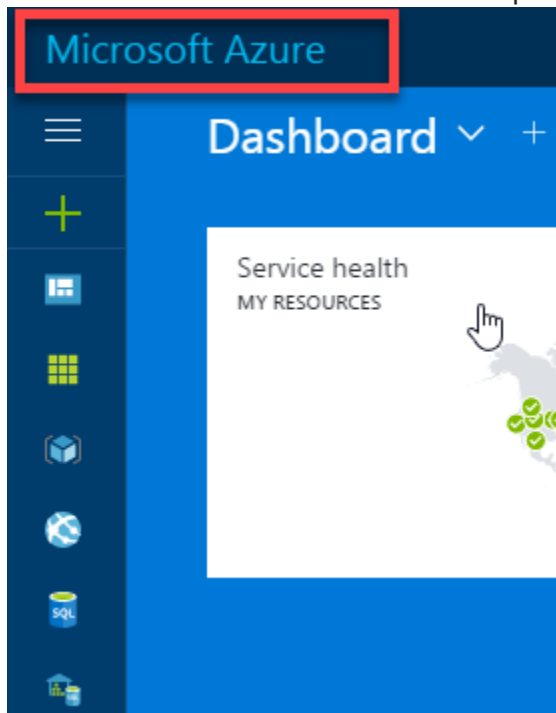
Exercise 6: Verify the deployed resources

In this exercise, you will verify the resources that were deployed during the virtual machine creation.

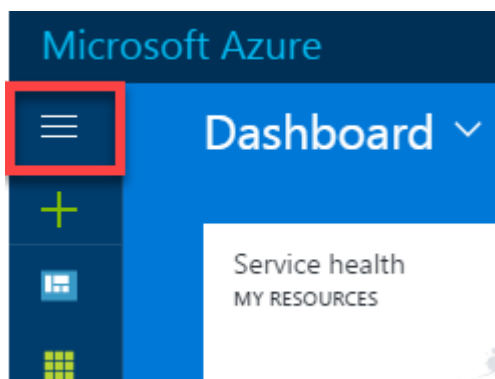
1. **Launch** a browser and **Navigate** to <https://portal.azure.com>. **Login** with your Microsoft Azure credentials.



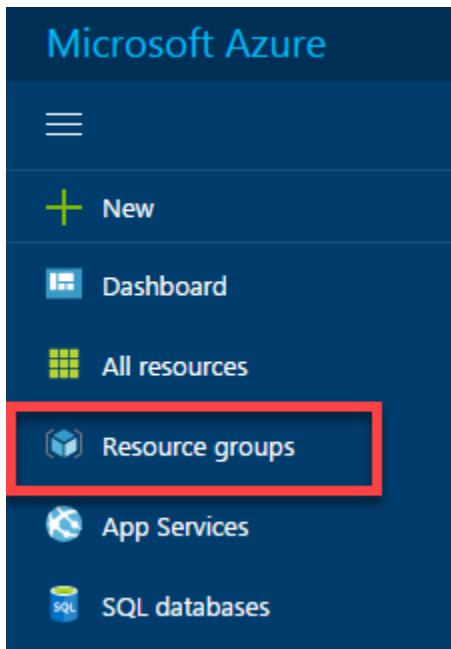
2. **Click** on **Microsoft Azure** at the top left corner of the screen, to view the Dashboard.



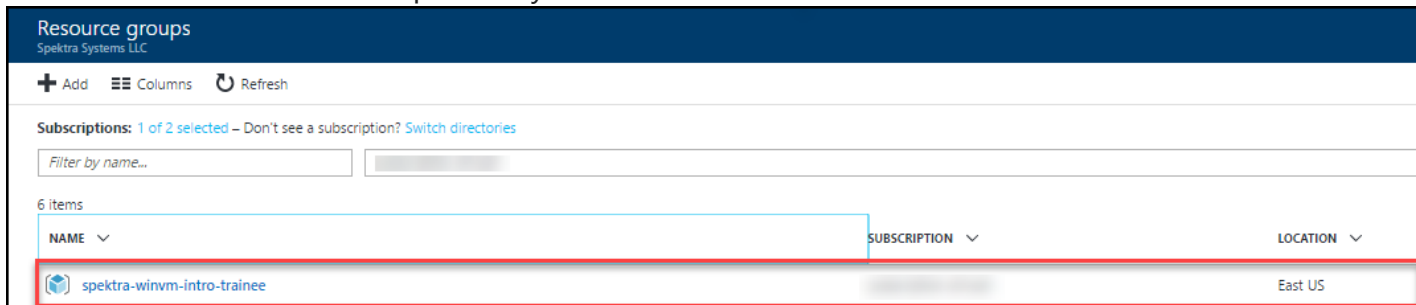
3. To toggle **show/hide** the Portal menu options with icon, **Click** on the **Show Menu** button.



4. **Click** on the **Resource groups** button in the **Menu navigation** bar to view the **Resource groups** blade.



5. You will see a Resource Group which you have access to, **click** on it.



Note:

The Resource Group shown here is for demo purpose only. Actual name of the Resource Group that you see may differ.

6. The upcoming Resource Group blade lists all the resources in the Resource Group under **Overview**.

NAME	TYPE	LOCATION
win-demo-vm	Virtual machine	East US
win-demo-vm702	Network interface	East US
win-nsg	Network security group	East US
winvmdiagstorage	Storage account	East US
win-vm-ip	Public IP address	East US
winvmstorage	Storage account	East US
win-vnet	Virtual network	East US

7. In the resources blade, **win-demo-vm** is the **Virtual Machine** that was created and **win-vnet** is the **virtual network** it is connected to. Along with those, **two storage accounts, Network Security Group, Network Interface,** and a **Public IP address** should be visible.

Lab 3: Connect to the Virtual Machine

Lab Overview

In this lab, you will connect to the **Windows Server 2012 R2 Datacenter** Virtual Machine.

Prerequisites

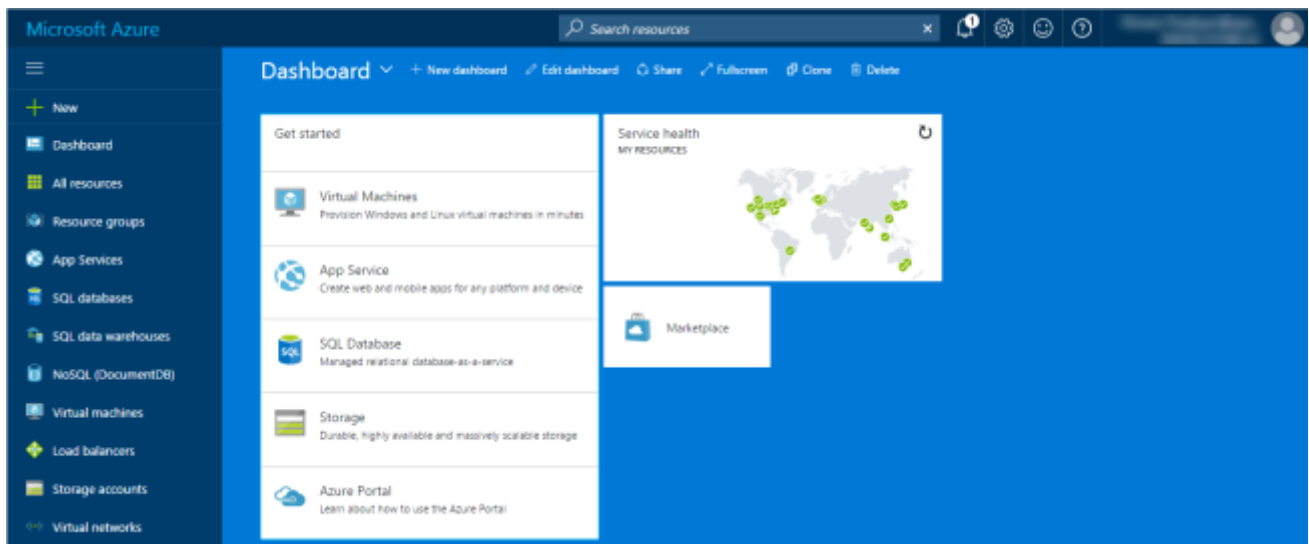
- Windows or a Mac machine with HTML5 supported browser such as Microsoft Edge, Internet Explorer, Chrome or Firefox
- Lab 2 must be completed

Time Estimate

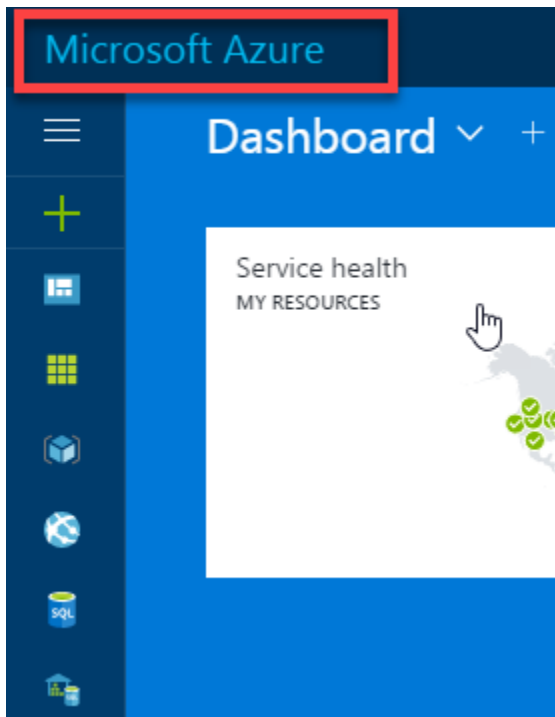
15 minutes

Exercise 1: Connect to Windows Server VM

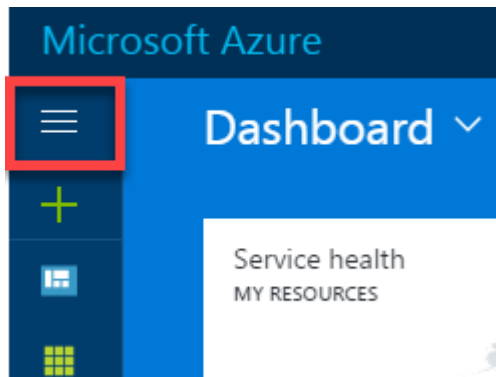
If you are using a Windows machine, **Launch** a browser and **Navigate** to <https://portal.azure.com>. **Login** with your Microsoft Azure credentials.



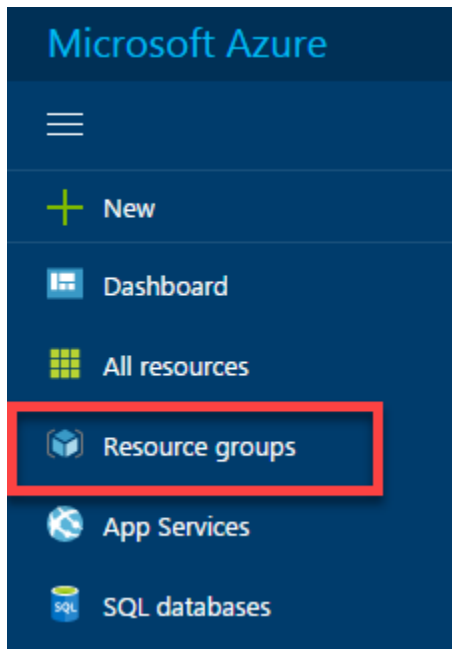
1. **Click** on **Microsoft Azure** at the top left corner of the screen, to view the Dashboard.



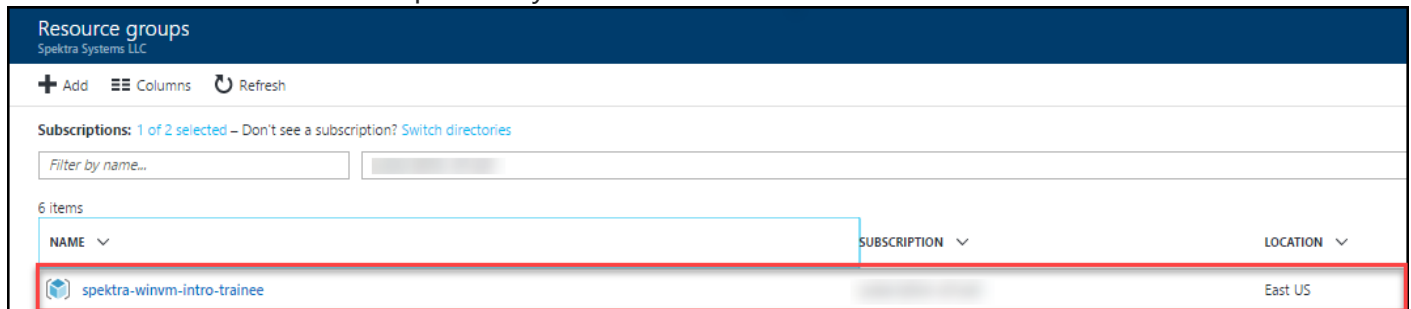
2. To toggle **show/hide** the Portal menu options with icon, **Click** on the **Show Menu** button.



3. **Click** on the **Resource groups** button in the **Menu navigation** bar to view the **Resource groups** blade.

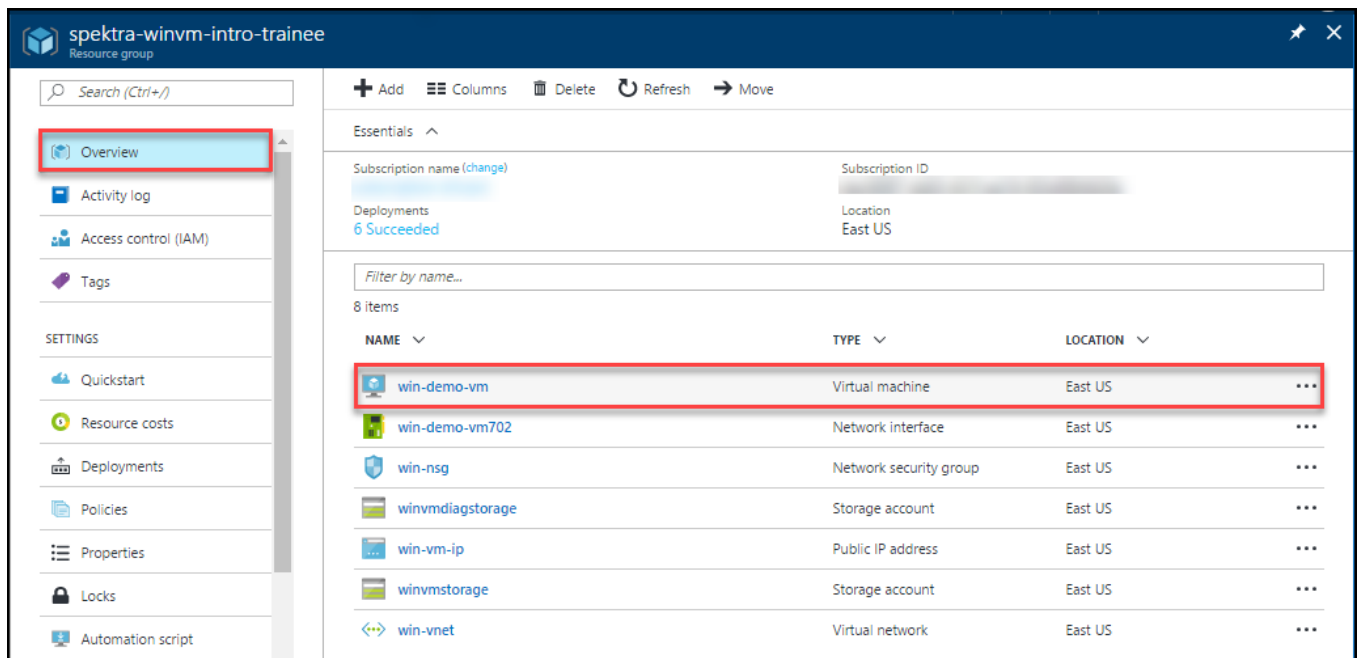


4. You will see a Resource Group which you have access to, **click** on it.

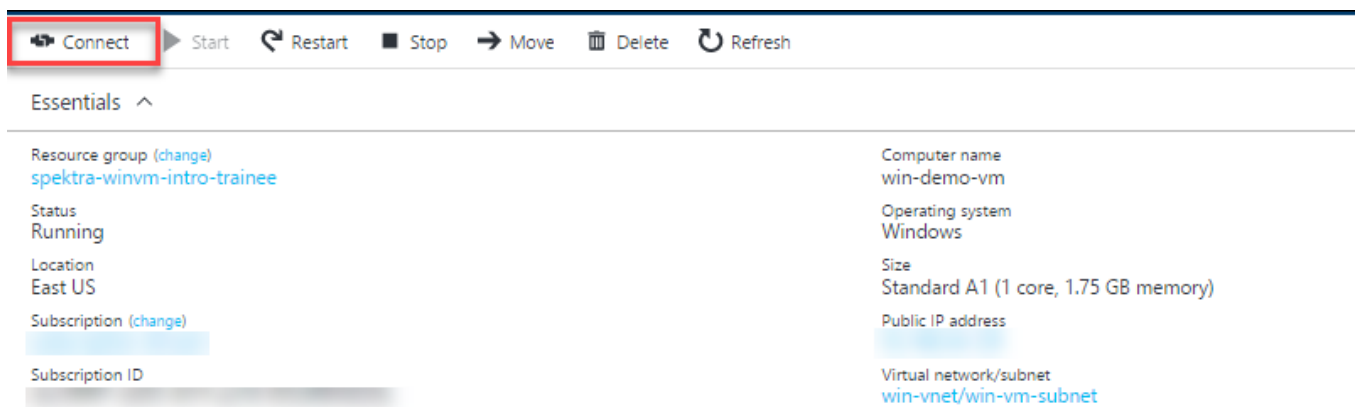


Note:
The Resource Group shown here is for demo purpose only. Actual name of the Resource Group that you see may be different.

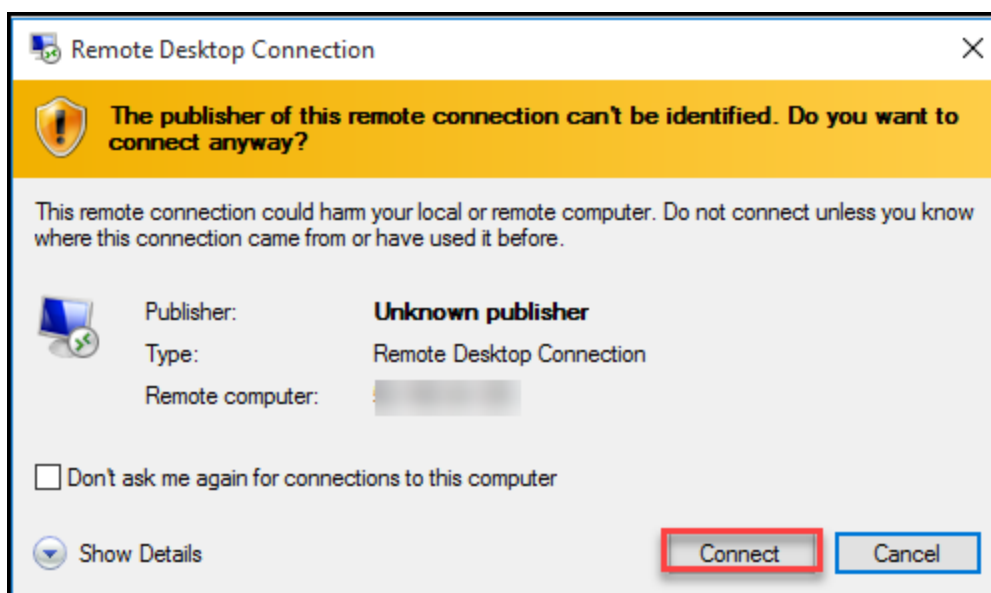
5. The upcoming Resource Group blade lists all the resources in the Resource Group under Overview.



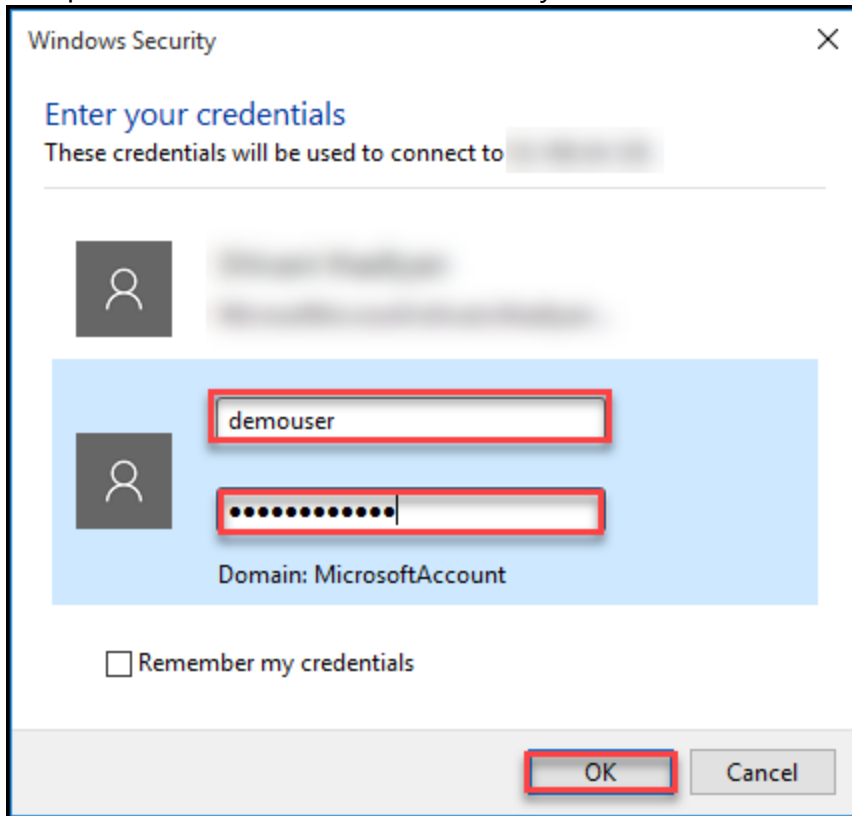
6. Click on **win-demo-vm** VM and from the **Overview** blade, click on connect.



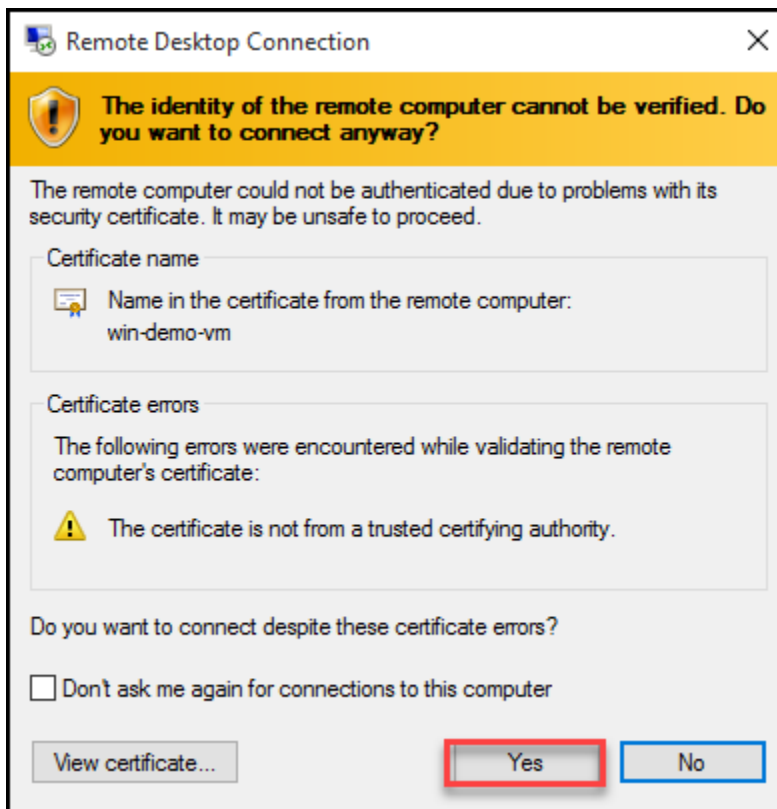
7. The **Remote desktop connection** will pop up. Click on **connect**.

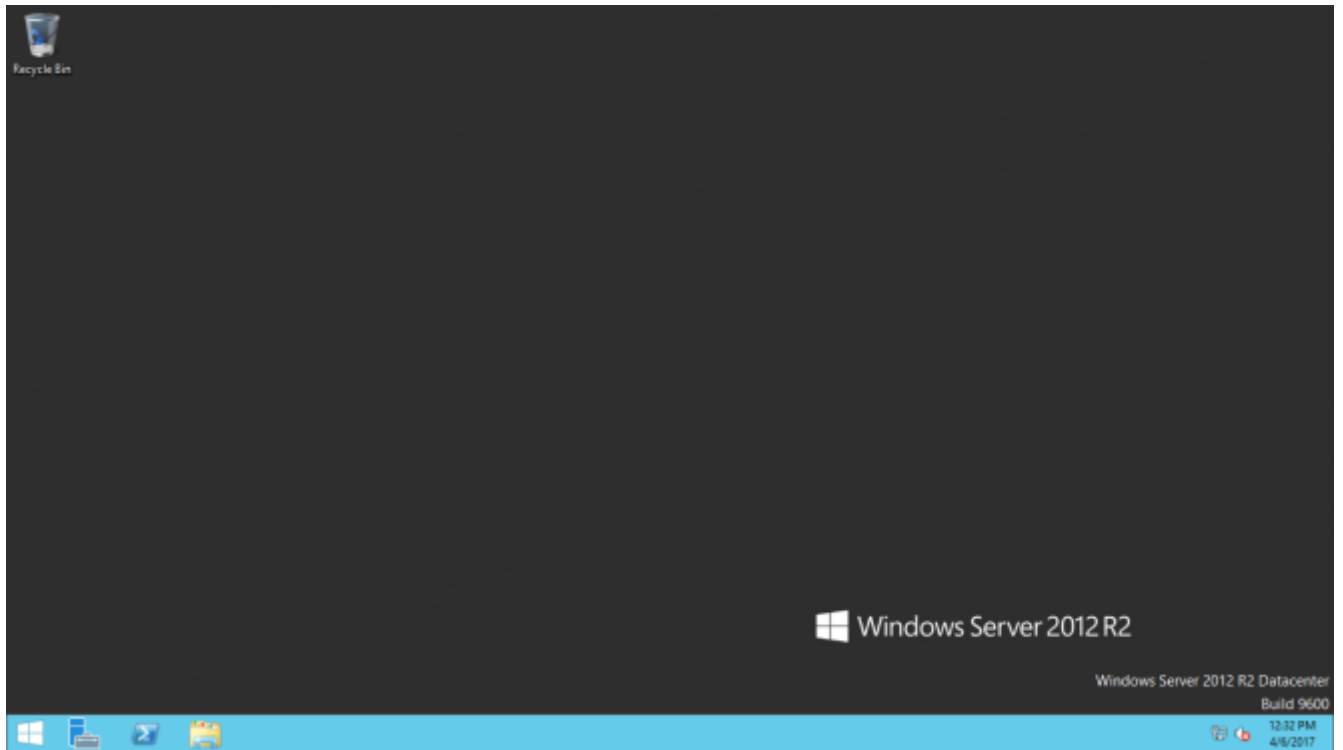


8. Enter your **username** and **password** for the **win-demo-vm**. Select **Use Other Account** if your computer's local account is selected by default.



9. After entering the username and password you can start accessing the **win-demo-vm**.

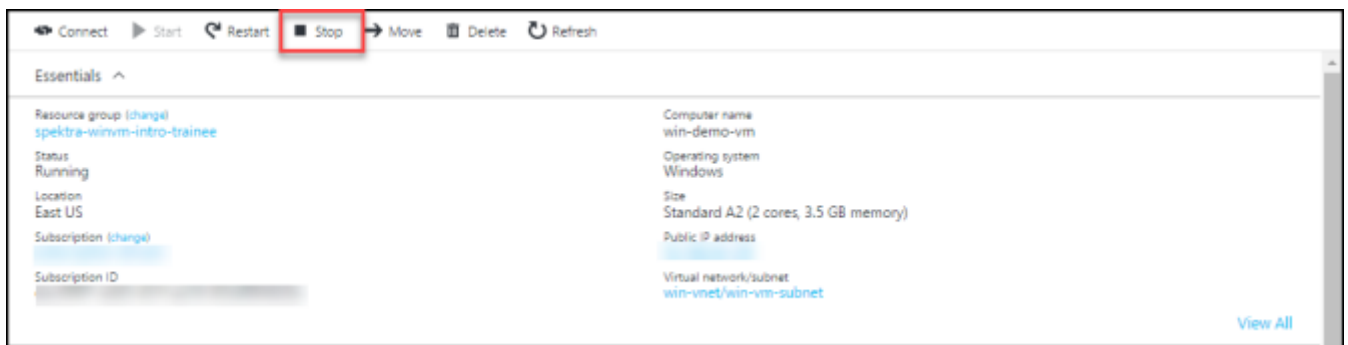




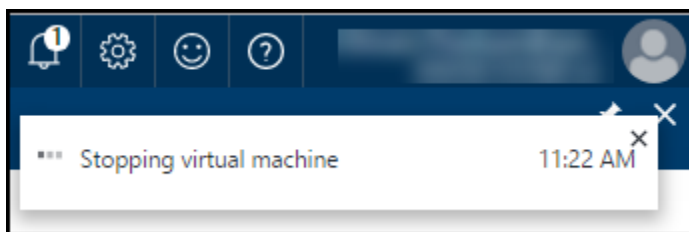
Exercise 2: Power Operations on Virtual Machine

In this exercise, you will stop & start **Virtual Machine** from Azure Portal.

1. **Click** on **Stop** in the vm's blade at the top.



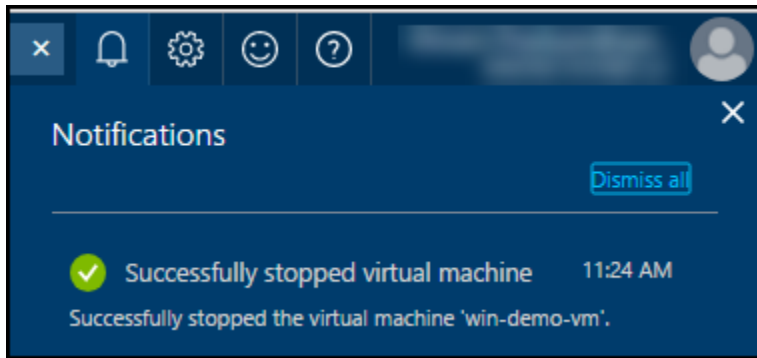
2. A notification will appear at the top right corner informing the status.



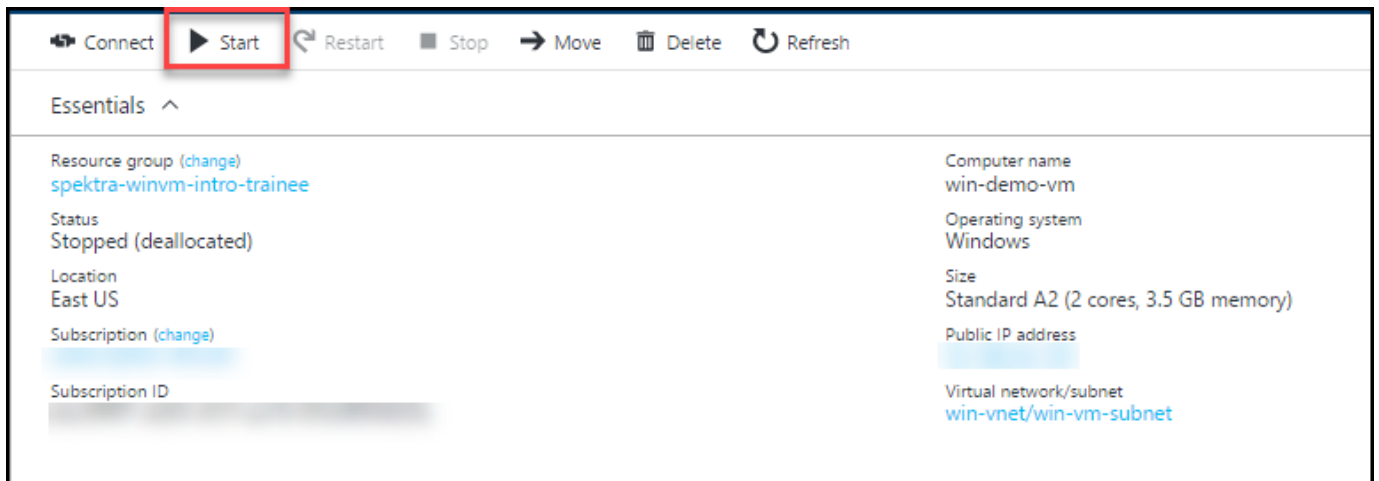
3. **Click** the **notification** icon to see the current status of deployment.



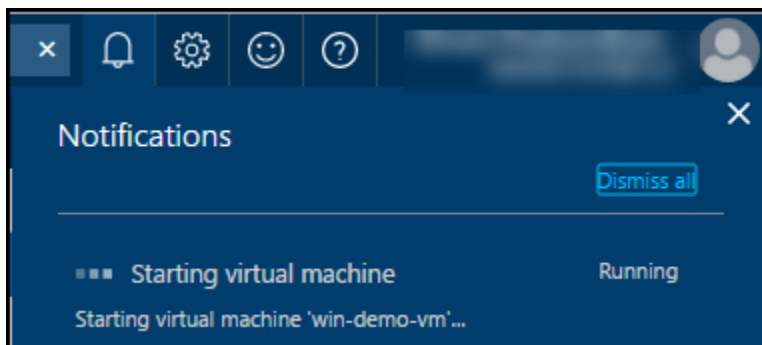
4. When the stop action is completed, a notification is raised as below.



5. **Click** on **Start** in the navigation bar at the top.



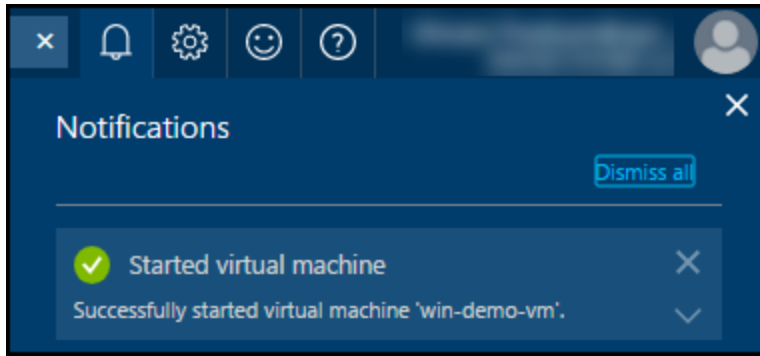
6. A notification will appear at the top right corner informing the status.



7. **Click** the **notification** icon to see the current status of deployment.



8. When the start action is completed, a notification is raised as below

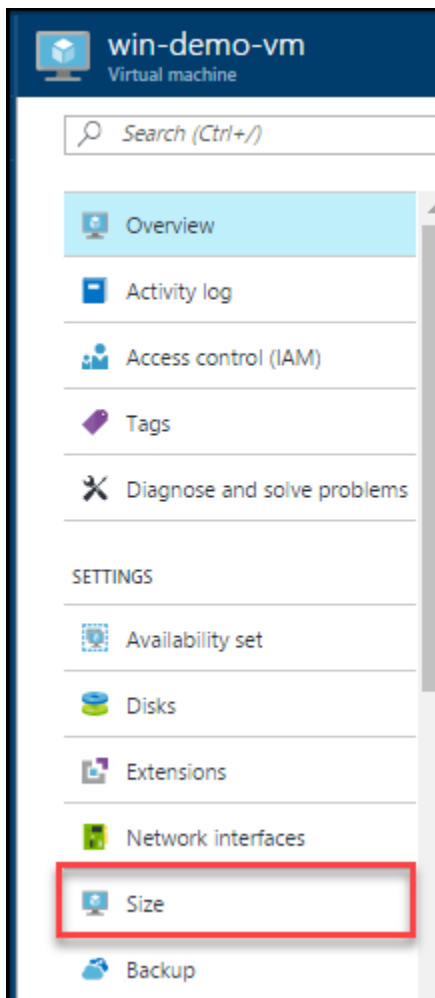


Lab 4: Managing Virtual Machines

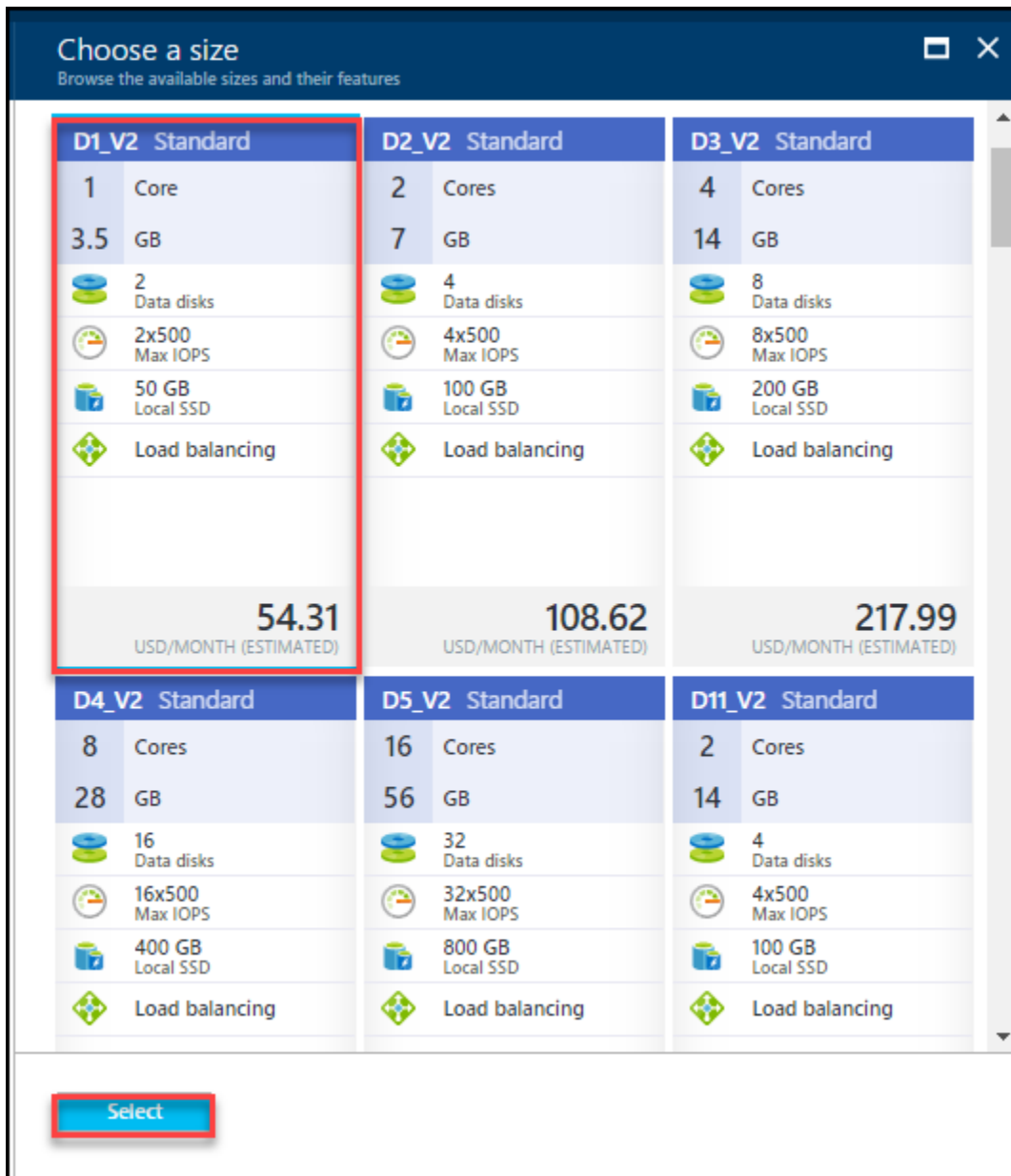
Exercise 1: Resize Virtual Machine

In this exercise, you will resize the **Virtual Machine** from Azure Portal.

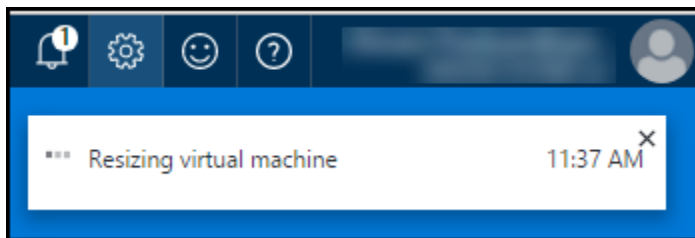
1. **Click** on **win-demo-vm** VM and from the **Overview** blade, click on size.



2. In the **Size** blade, Click on **View all**.



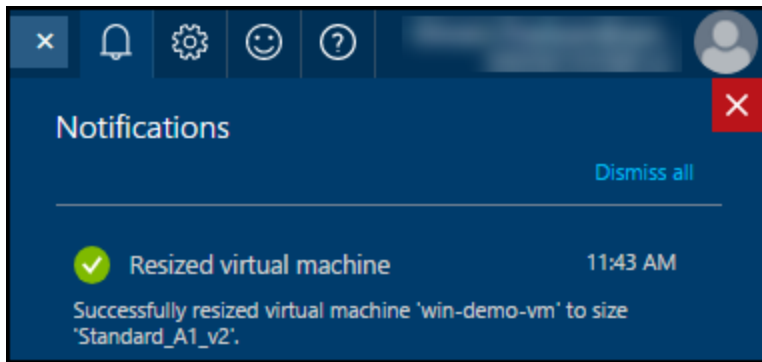
3. A notification will appear at the top right corner informing the status.



4. Click the **notification** icon to see the current status of deployment.



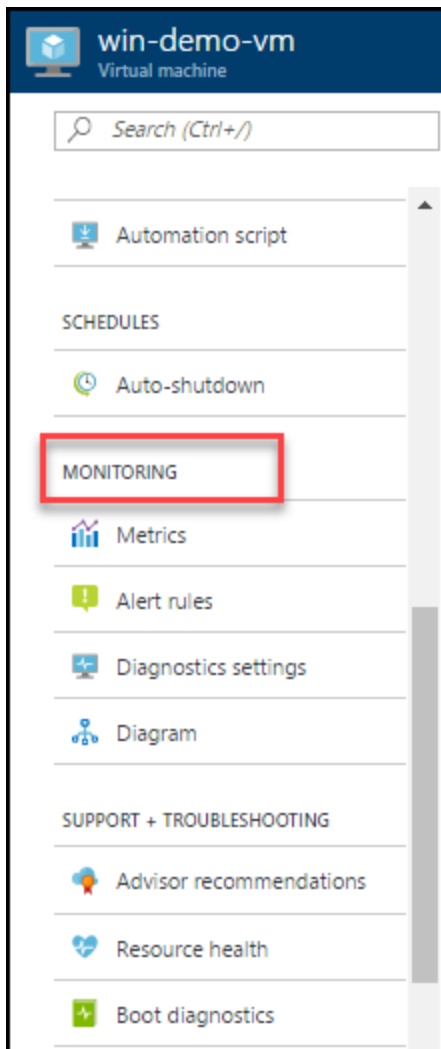
5. When the resize action is completed, a notification is raised as below.



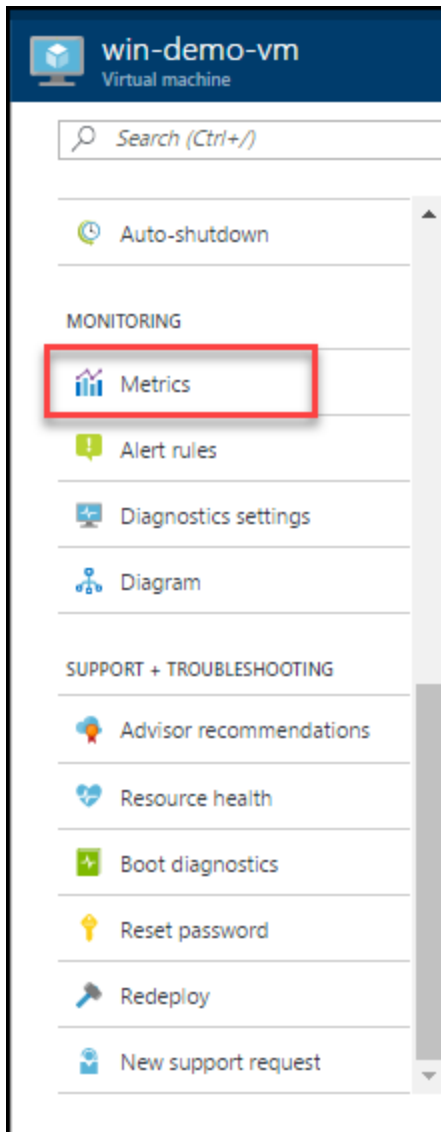
Exercise 2: Monitoring & Boot Diagnostics of Virtual Machine

In this exercise, you will monitor and boot diagnostics of **Virtual Machine** from Azure Portal.

1. Click on **win-demo-vm**, Navigate to the Monitoring tab.

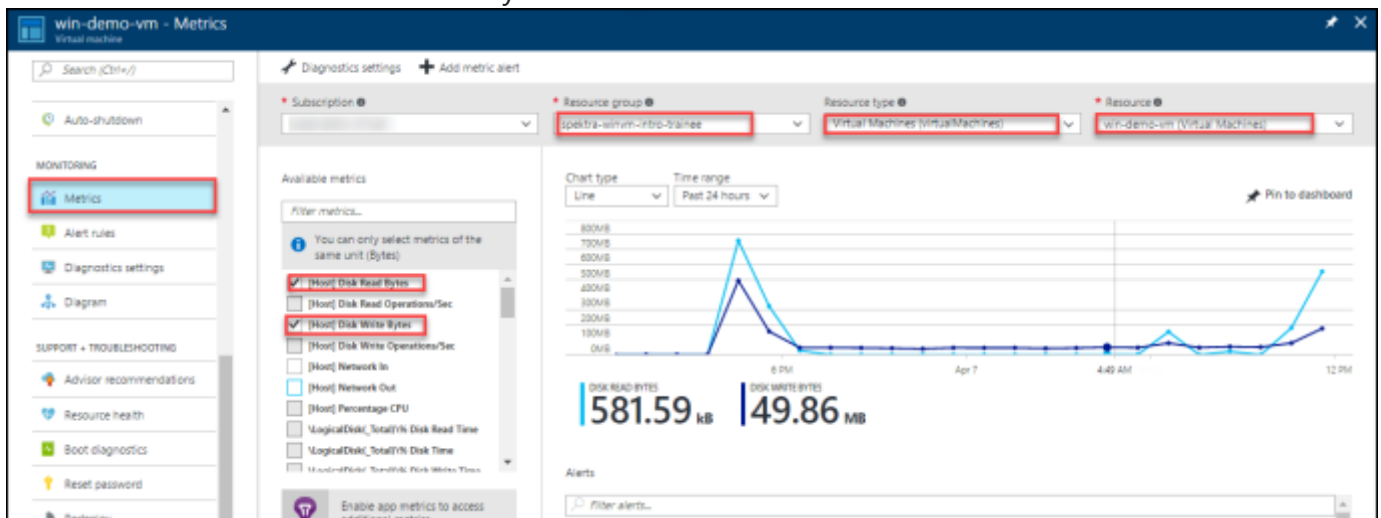


2. Navigate to the **Monitoring** tab, and then select the **Metrics** option underneath it.

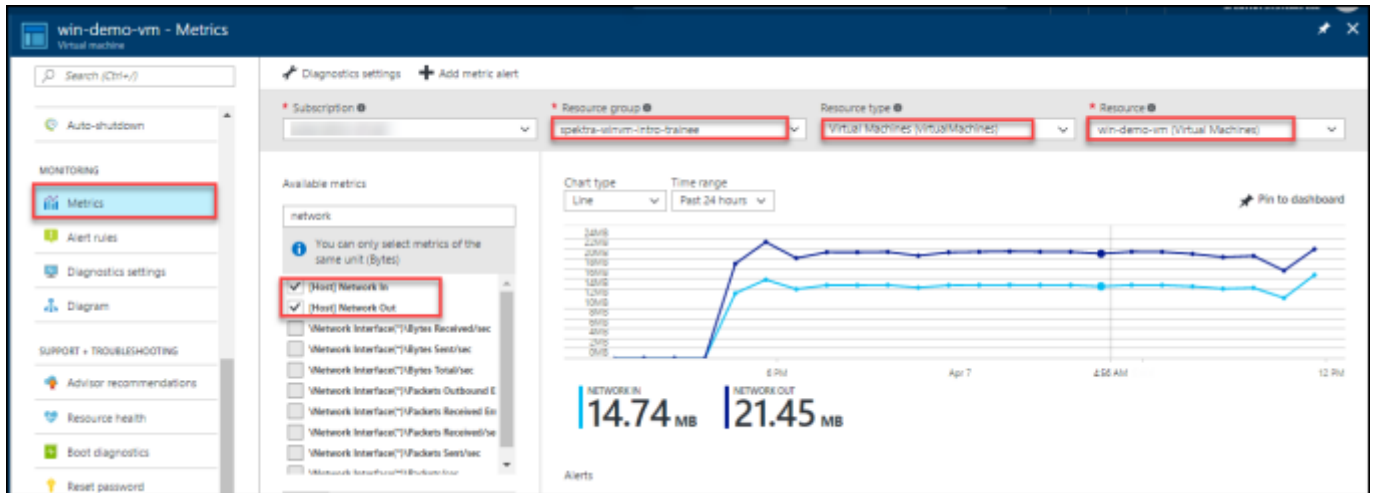


3. View the available metrics list. Then select the metric you are interested in and plot it. here we select the 4-different metrics to plot:

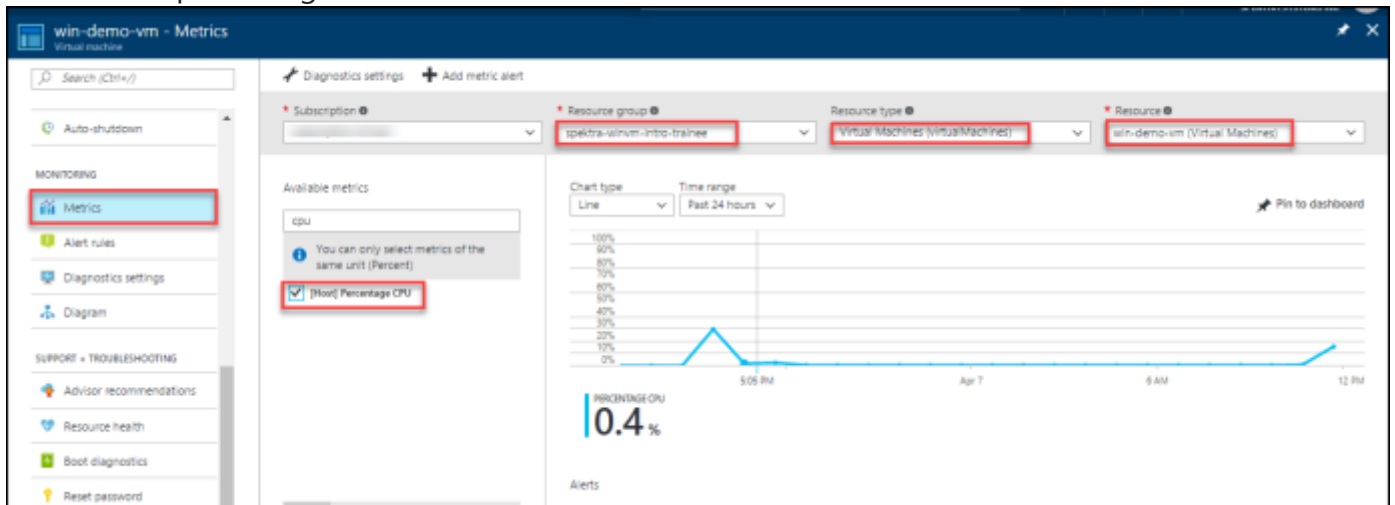
- Host Disk **Read** and **Write** Bytes.



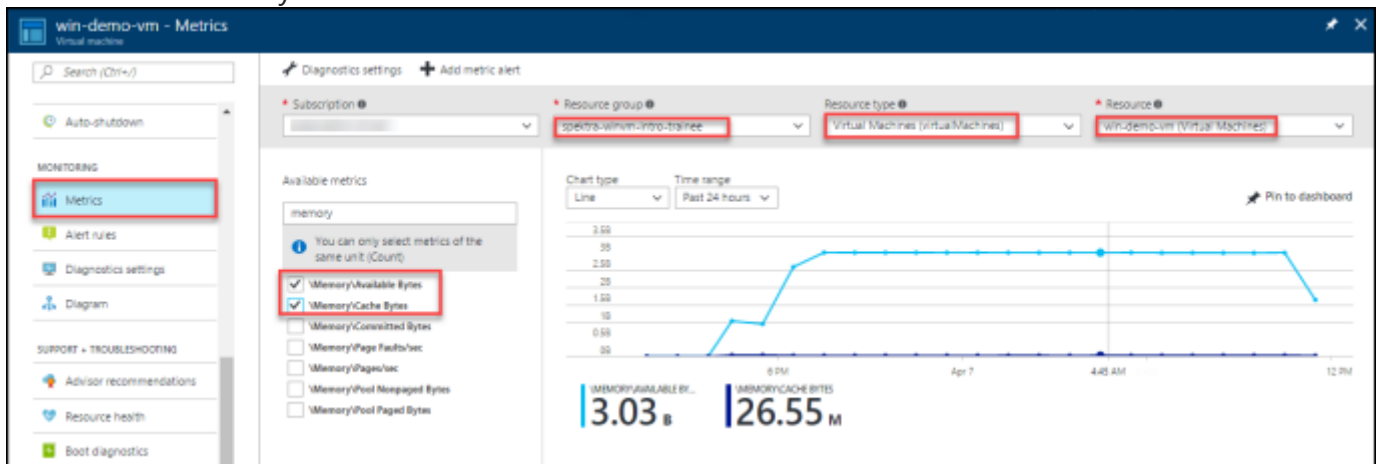
- Host Network **In** and **Out**.



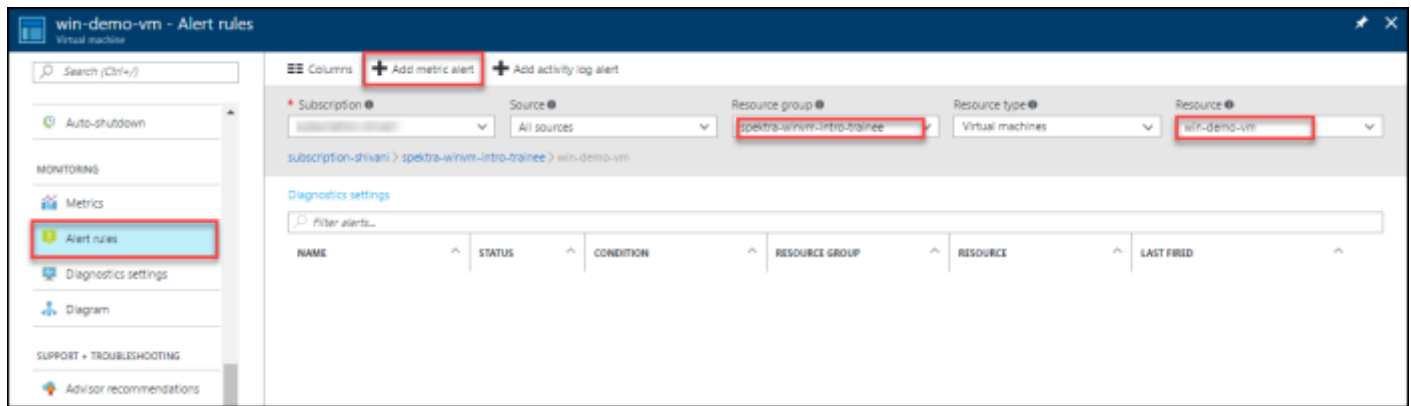
- Host percentage **CPU**.



- Host memory.



4. Navigate to the **Monitoring** tab, and then and select the **Alert rules** option underneath it. Click on Add metric alert.



5. In the **Add metric alert** blade, configure as follows:

- *Name:* **CPU80-alert**
 - *Description:* **This is alert demo for CPU Utilization**
 - *Source:* **Metrics**
 - *Subscription:* Choose your subscription.
 - *Resource Group:* **spektra-winvm-intro-trainee**
 - *Resource:* **win-demo-vm**
 - *Condition:* **Greater than**
 - *Threshold:* **50**
 - *Period:* **Over the last 5 minutes**
- After configuration is done, Click **OK**

Add rule
⊞ ×

*** Name** ●

 ✓

Description

 ✓

Source

Alert on

Criteria

Subscription

Resource group

Resource

Metric ●

Condition

*** Threshold**

 ✓ %

Period ●

Notify via

Email owners, contributors, and readers

Additional administrator email(s)

 ✓

Webhook ●

[Learn more about configuring webhooks](#)

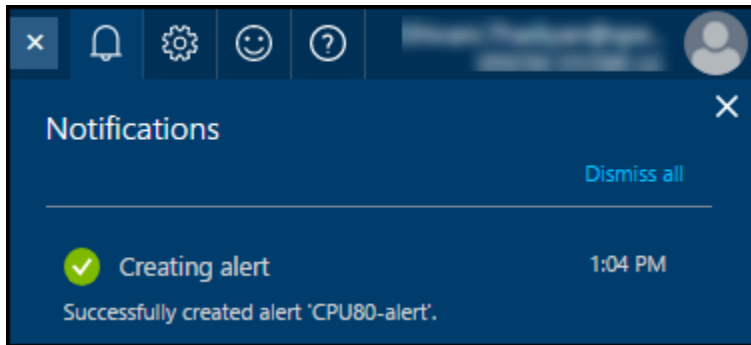
Take action ● >

Run a runbook from this alert

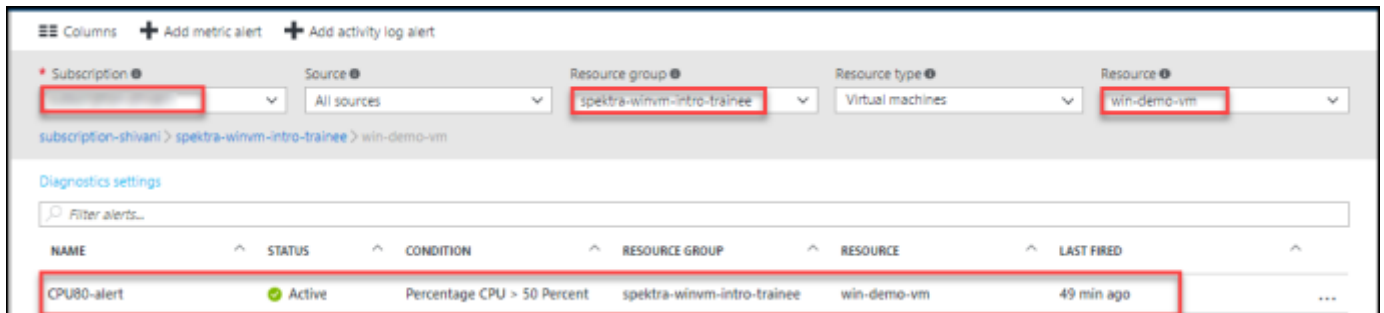
Take action ● >

Run a logic app from this alert

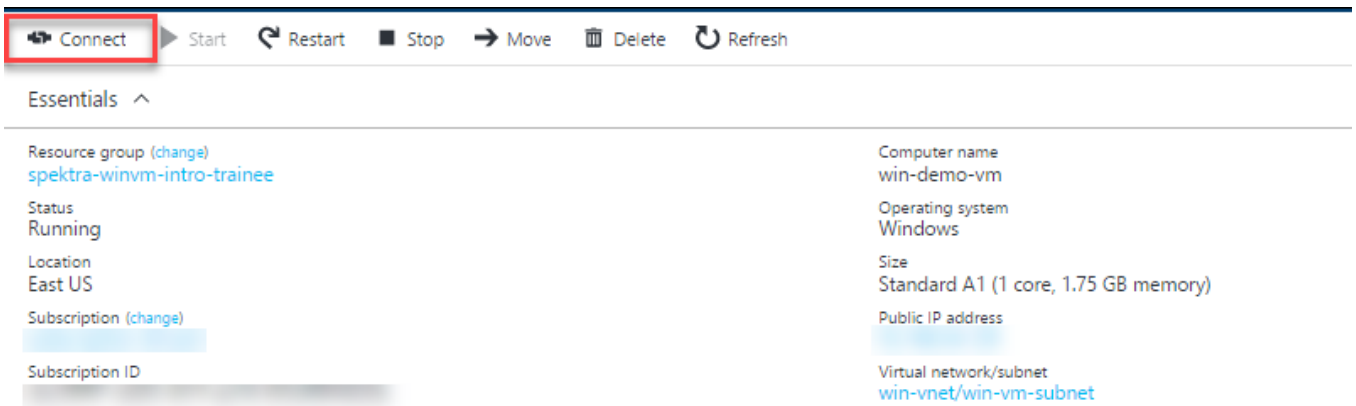
6. When the alert creation is completed, a notification is raised as below.



7. You will see the add metric alert. This alert rules can check if a metric has crossed a certain threshold. They can then notify you via email or fire a webhook.



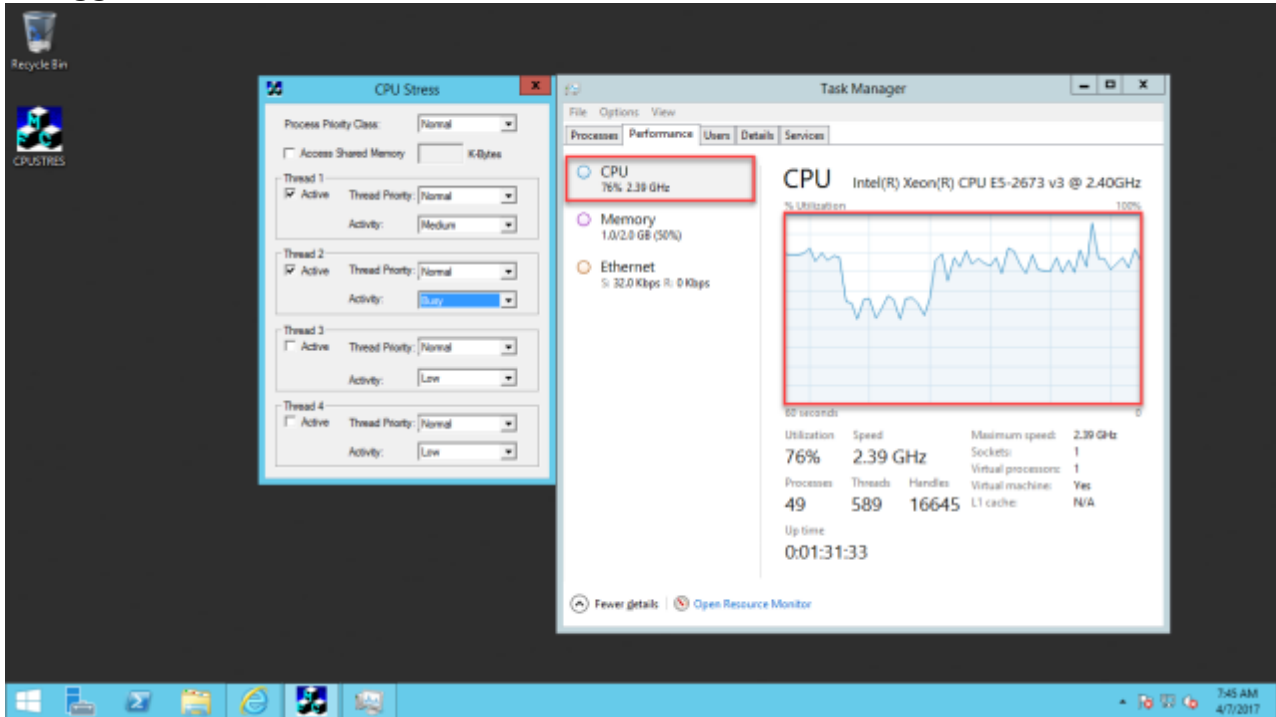
8. For checking the metric is working, we are going to perform a load test. For this first we need to connect to our virtual machine.



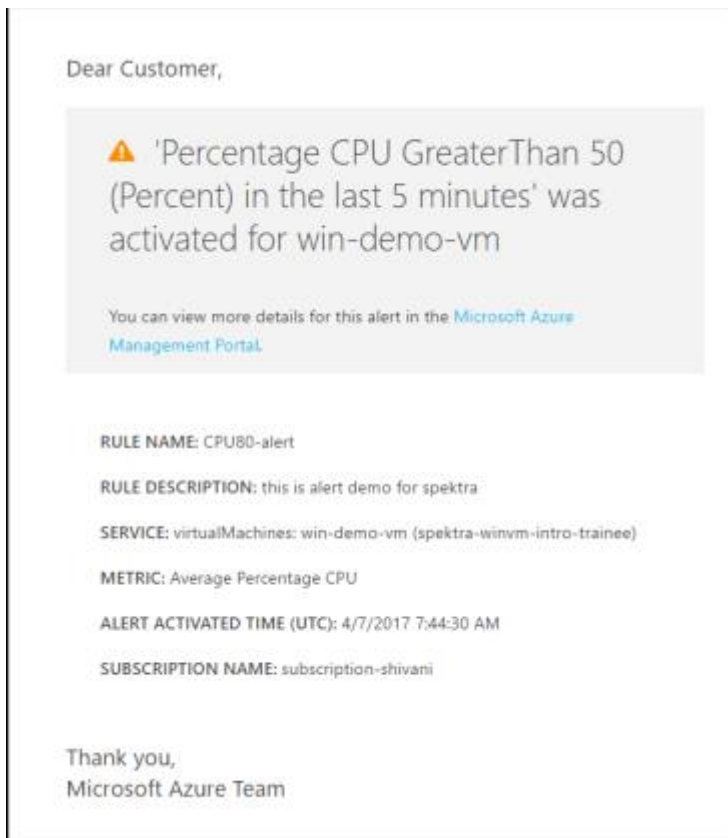
9. Here you need to download "Cpustress" Application to generate load. Now after you can set the load value greater than provided in metric to test it. Login to the machine and download this application.

Download CPUSTRESS here <http://download.sysinternals.com/files/CPUSTRES.zip>

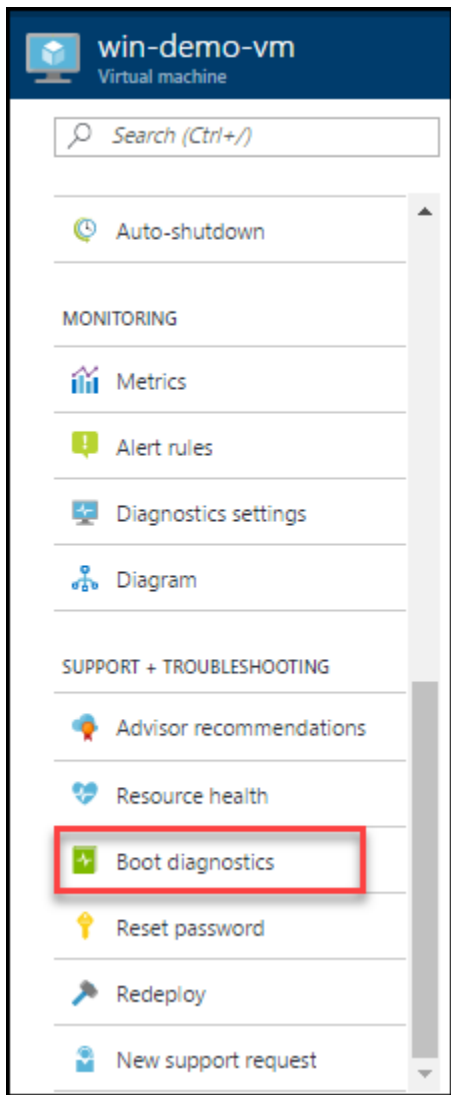
10. Here on the image as you can see the cpu threshold generated is greater than 50 i.e. required to trigger the metric.



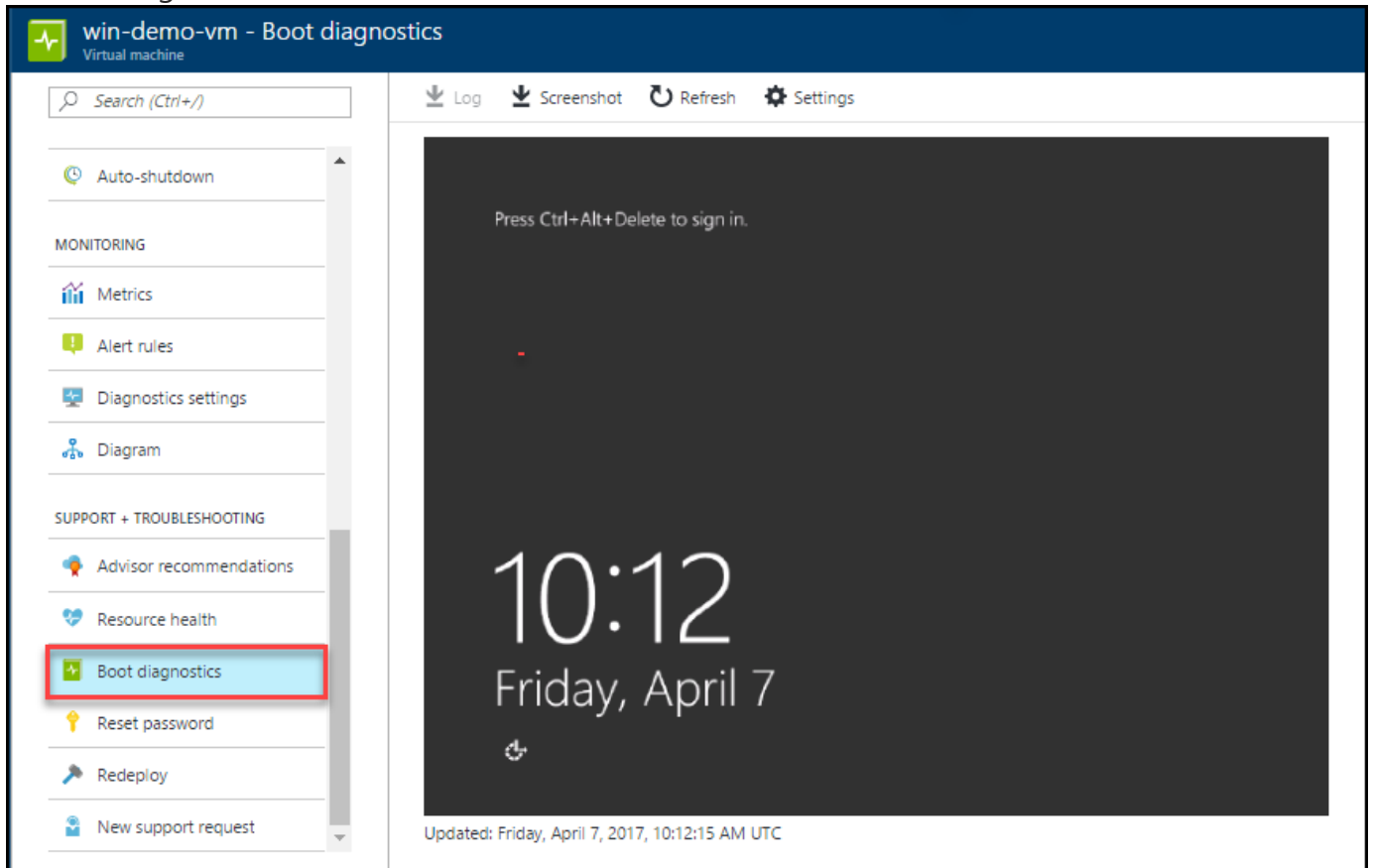
11. Here metric is triggered and the mail is send to the email address previously provided at the metric alert rule.



12. Now click on Boot Diagnostics under **Support + Troubleshooting**



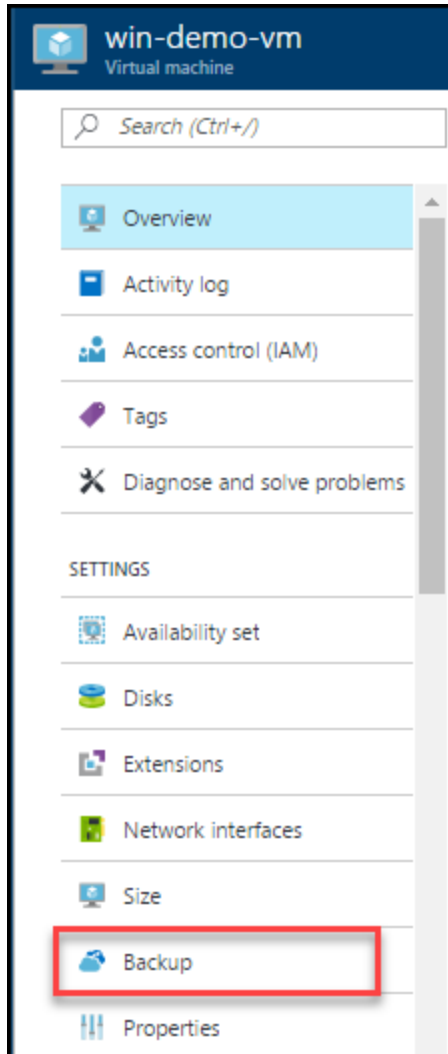
13. In this blade, you will see console view of Windows Virtual Machine which show that VM is up and running.



Exercise 3: Backup Virtual Machine

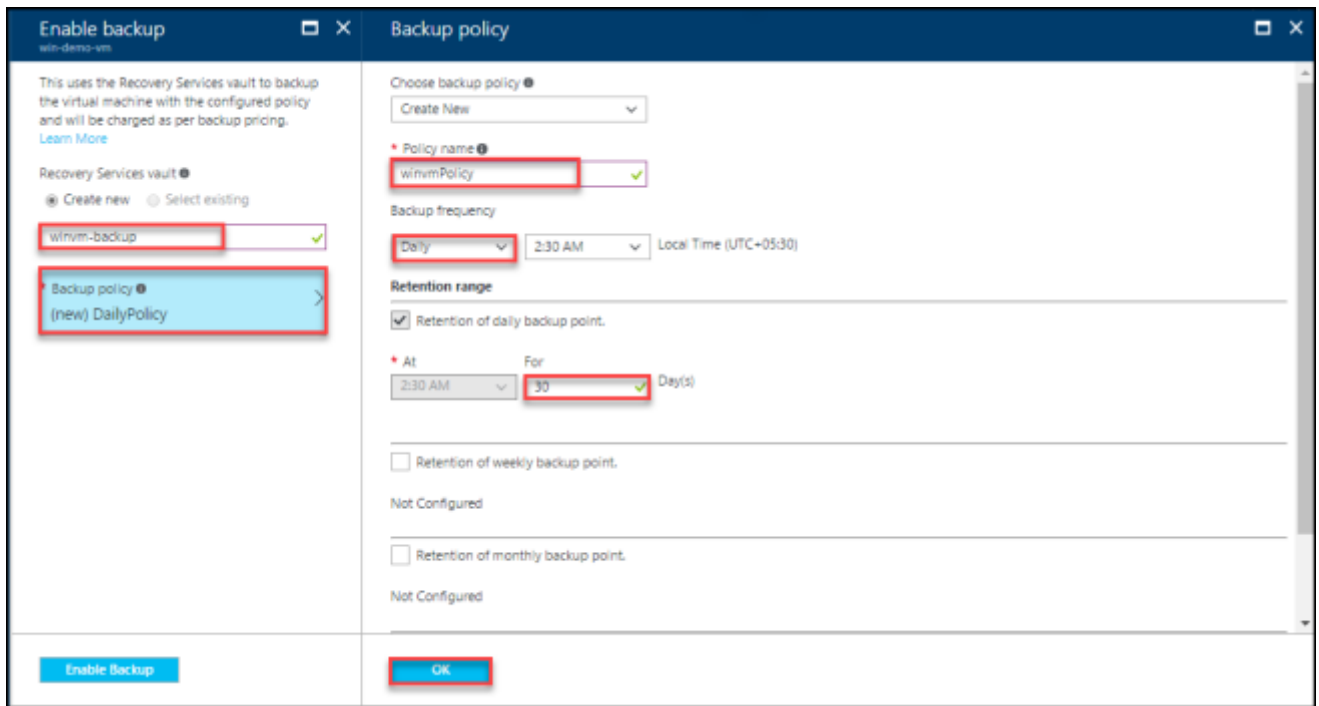
In this exercise, you will create a **Backup** for your **Virtual Machine**

1. Click on **win-demo-vm**, navigate to the Setting tab, and then and select the Backup option underneath it.



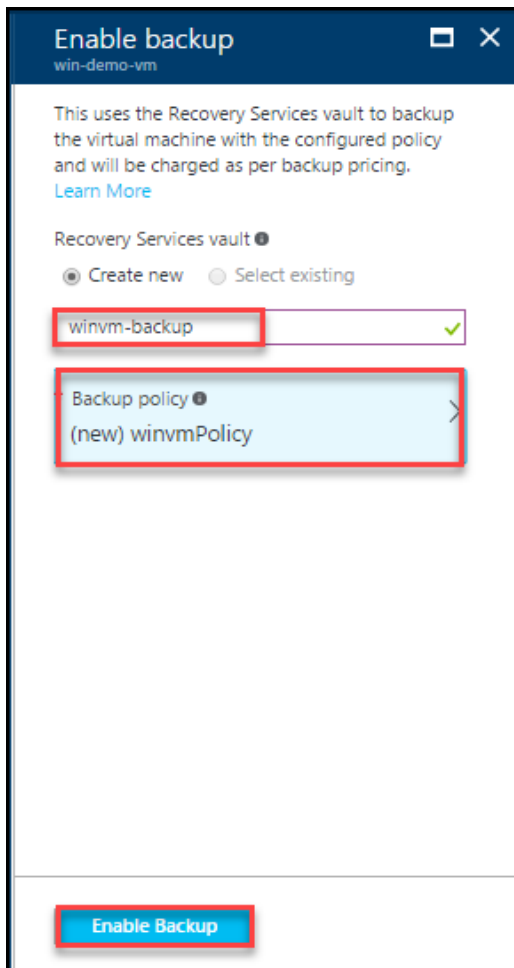
2. In the Backup blade, configure as follows:

- *Name:* **win-vm-backup**
- *Backup Policy:* **DailyPolicy**
- *Policy name:* **winvmPolicy**
- *Backup frequency:* **Daily**

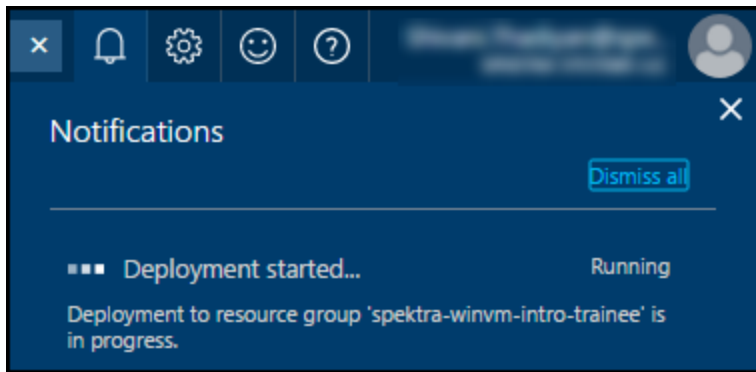


Click on OK.

2. Click on Enable Backup.



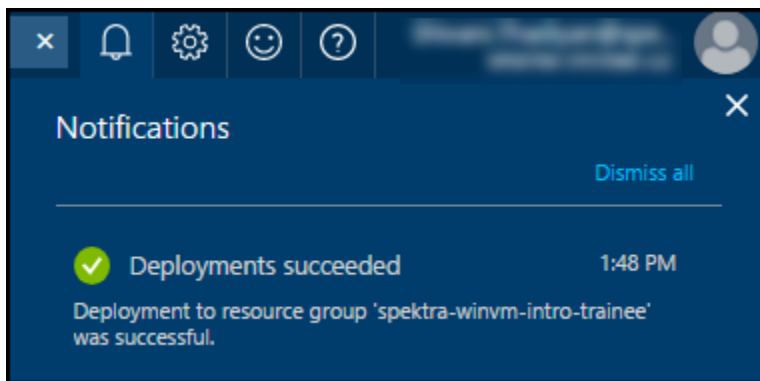
3. A notification will appear at the top right corner informing the initial status of deployment.



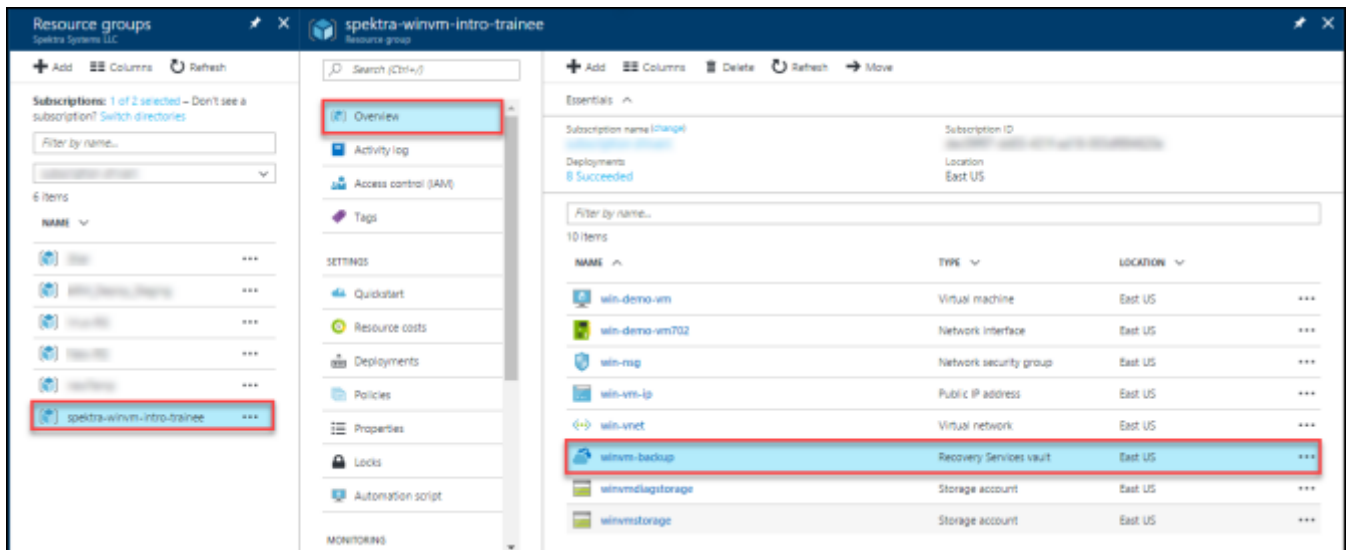
4. Click the **notification** icon to see the current status of deployment.



5. When the deployment is completed, a notification is raised as below.



6. In the **Resource Group** blade, **Select** the Resource Group **spektra-winvm-intro-trainee** in which you deployed your **Backup vault**. Then **Navigate** to **Overview** to see the **winvm backup** you created.



7. Click On the winvm backup, click the number under **Backup Items**, or click the **Backup Items** tile.

[+ Backup](#)
[+ Replicate](#)
[Delete](#)

Essentials ^

Resource group [\(change\)](#)
 spektra-winvm-intro-trainee

Status: Active
 Location: East US
 Subscription name [\(change\)](#): subscription-shivani
 Subscription ID: dec09f97-dd03-431f-ad18-003df894620e

Backup items	1
Backup management servers	0
Replicated items	0

Monitoring

Backup Alerts (last 24 ...)	
Critical	0
Warning	0

Backup Pre-Check Status (Azure VMs)

0 TOTAL
 0 CRITICAL
 0 WARNING

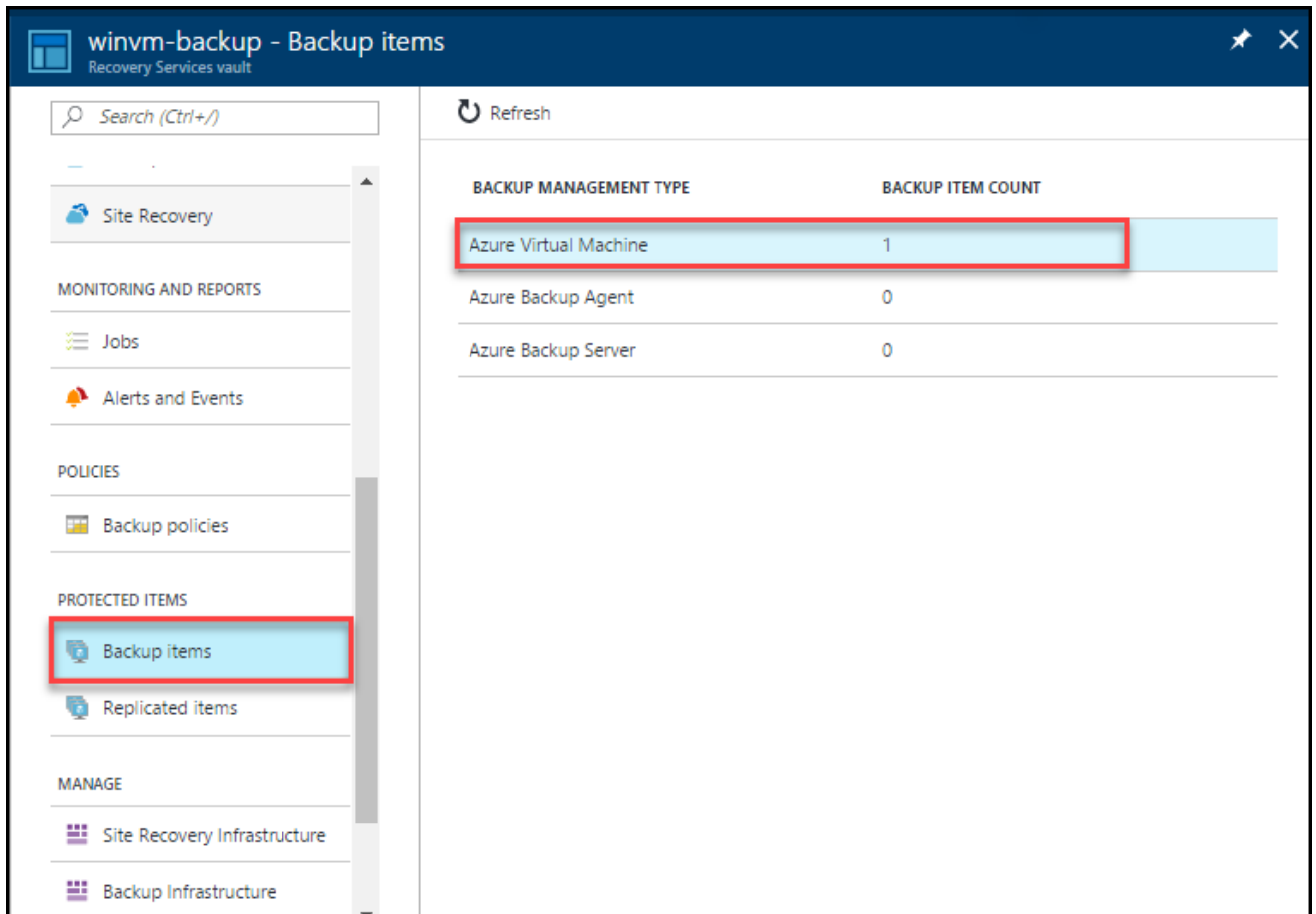
Site Recovery Health

Unhealthy serve...	0
Events	0
Updates availab...	0

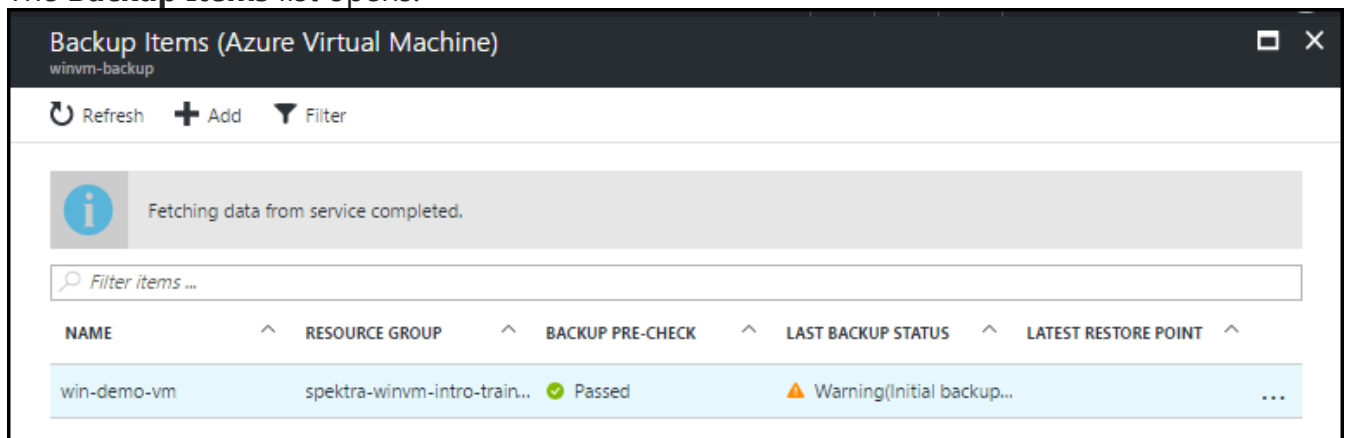
Backup

Backup Items	Backup Usage	Backup Jobs
1	Cloud - LRS 0 B	In progress 0
	Cloud - GRS 0 B	Failed 0

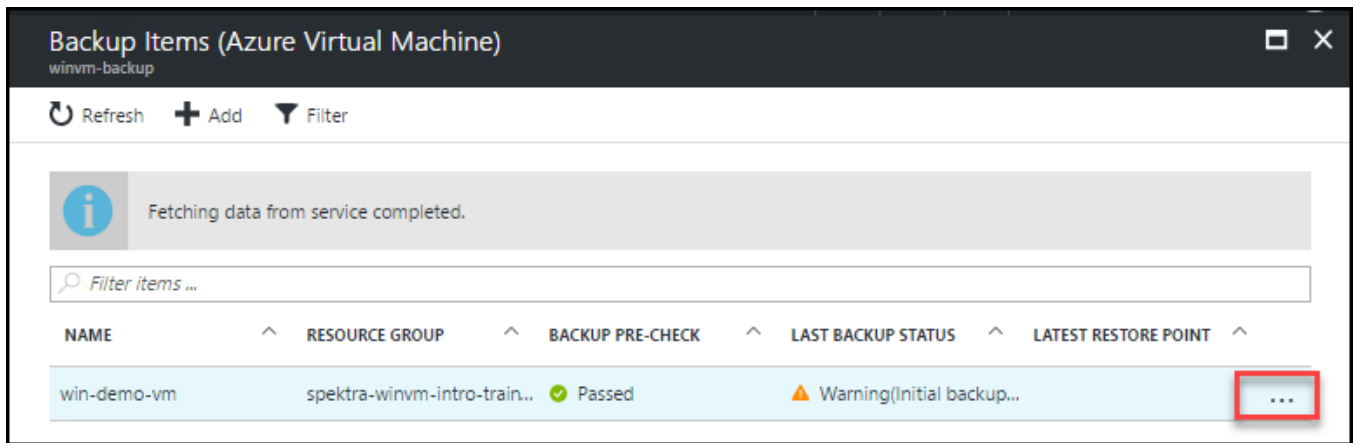
8. The **Backup Items** blade opens. select backup item.



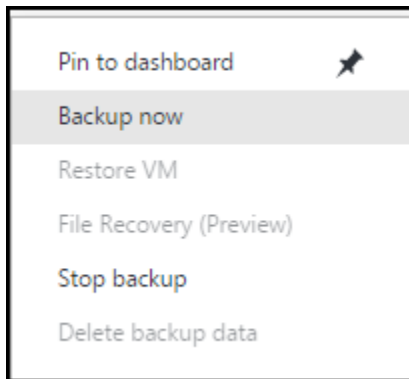
9. The **Backup Items** list opens.



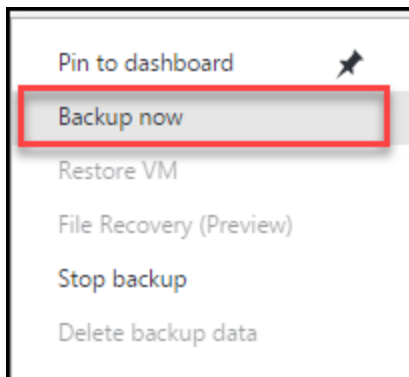
10. On the **Backup Items** list, click the ellipses ... to open the Context menu.



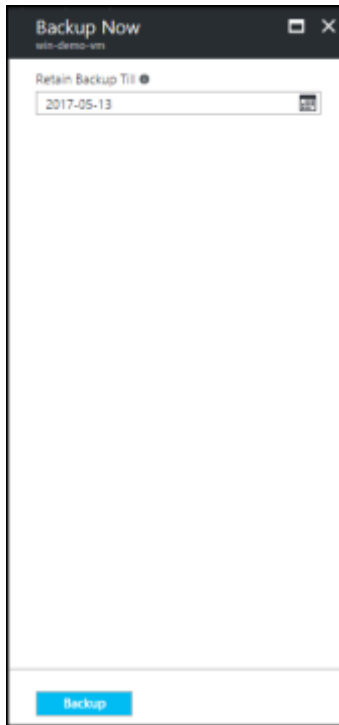
11. The Context menu appears.



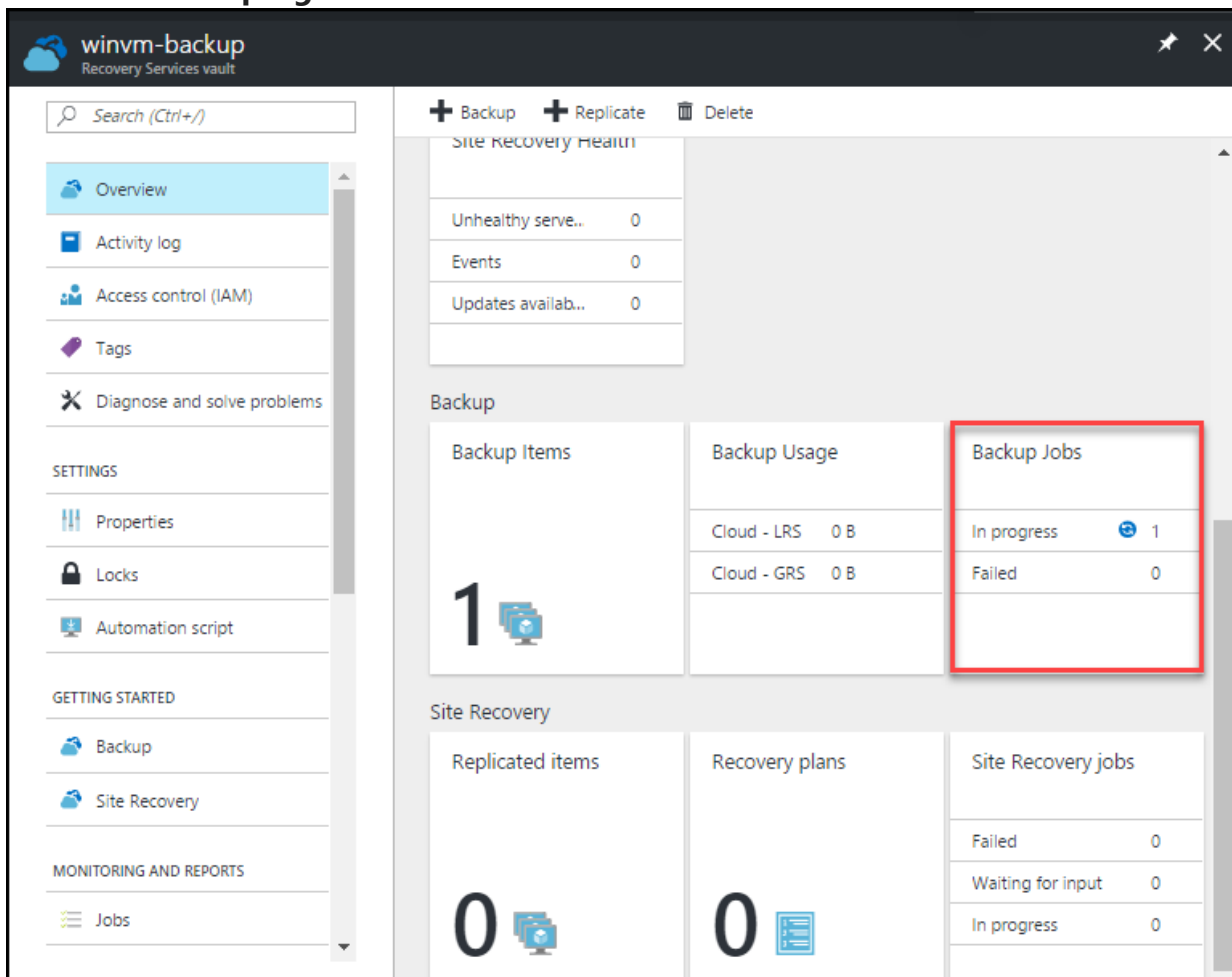
12. On the Context menu, click **Backup now**.



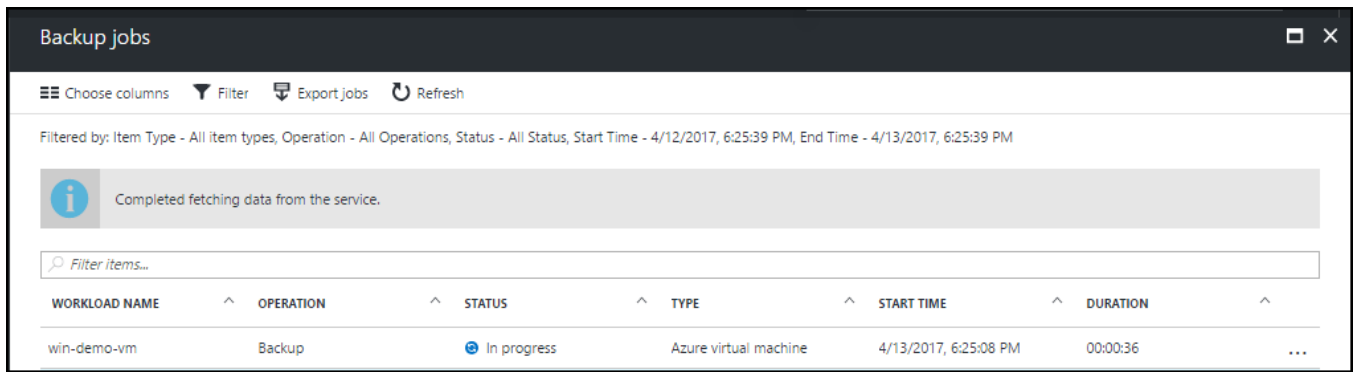
13. The Backup Now blade opens, Click on Backup button.



14. To view or track the status of the initial backup, on the vault dashboard, on the **Backup Jobs** tile click **in progress**.



15. The Backup Jobs blade opens.



16. In the **Backup jobs** blade, you can see the status of all jobs. Check if the backup job for your VM is still in progress, or if it has finished. When a backup job is finished, the status is *Completed*.

