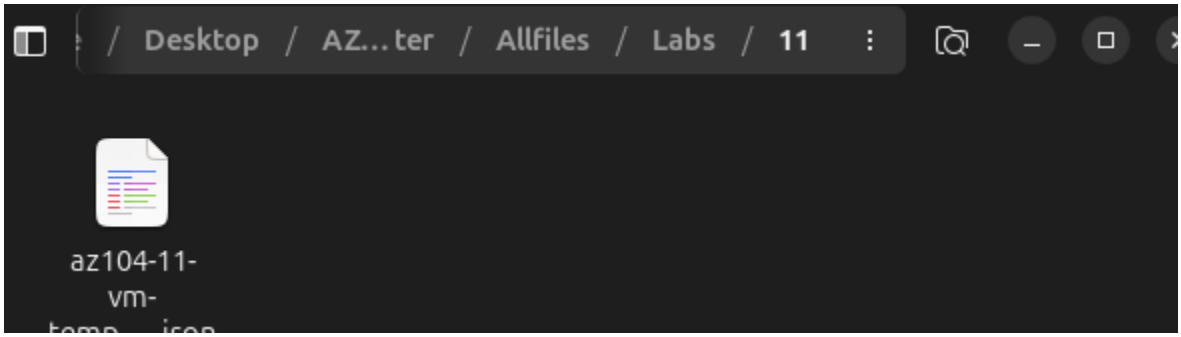
AZ-104-Microsoft Azure Administrator Kateryna Bakhmat

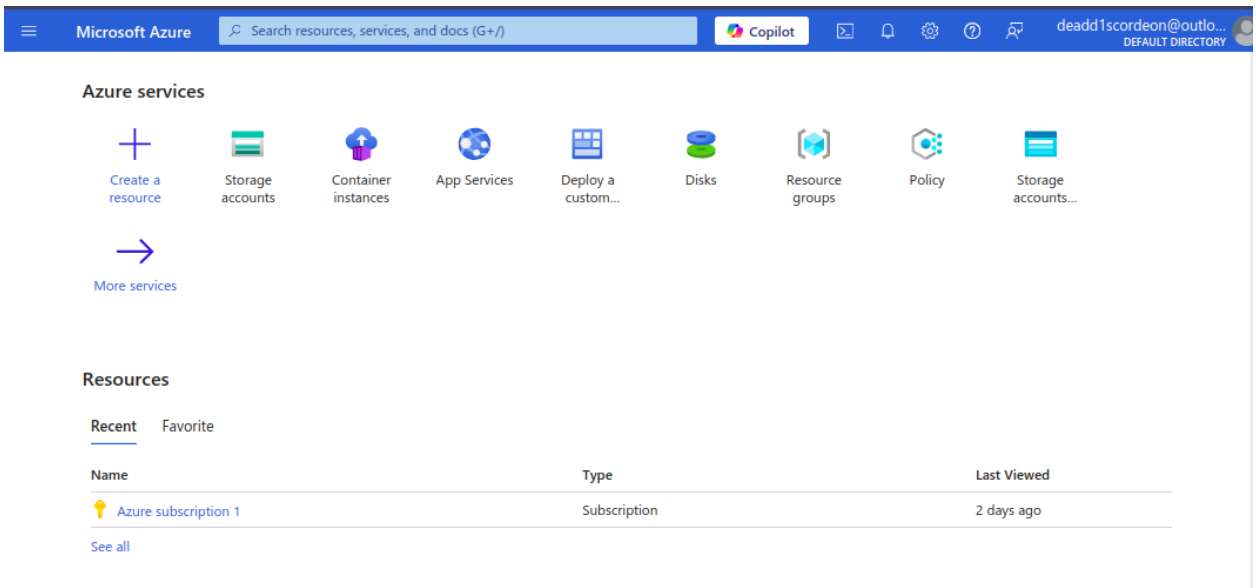
Lab 11 - Implement Monitoring

Task 1: Use a template to provision an infrastructure

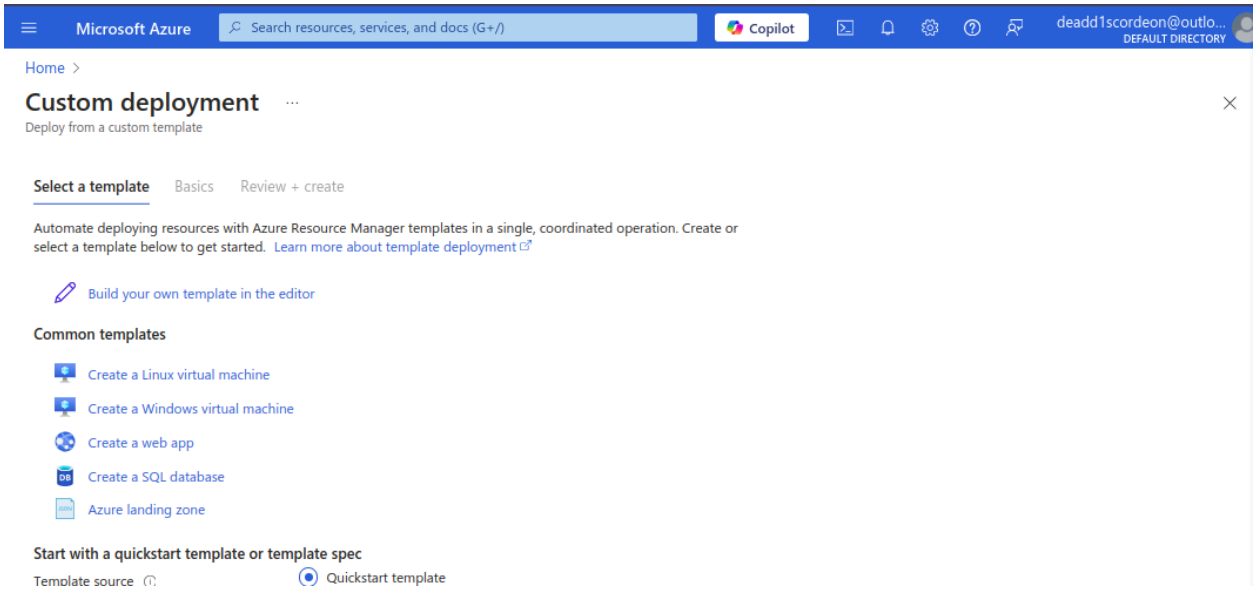
1.Download the \Allfiles\Lab11\az104-11-vm-template.json lab files to your computer.



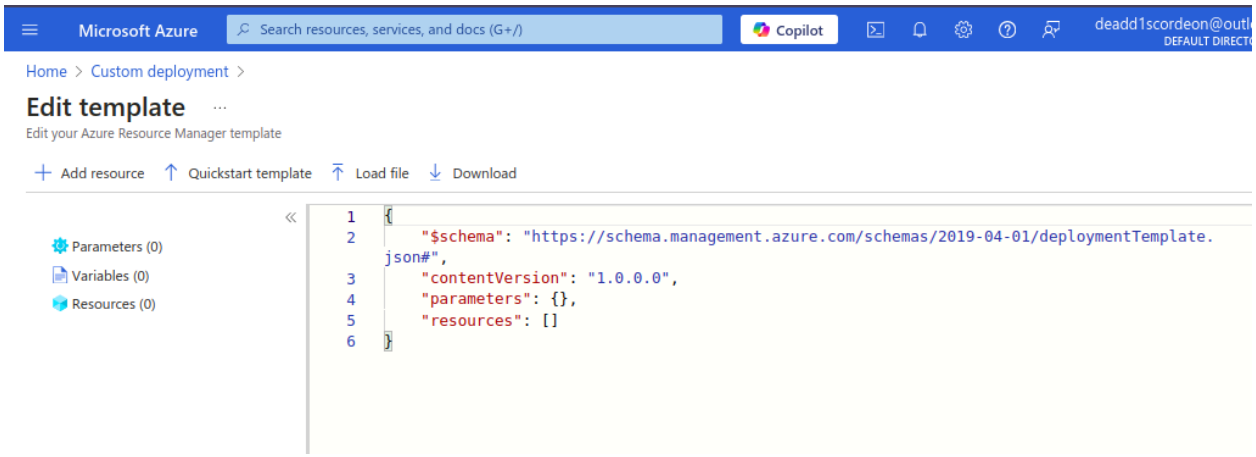
2.Sign in to the Azure portal - `https://portal.azure.com`.



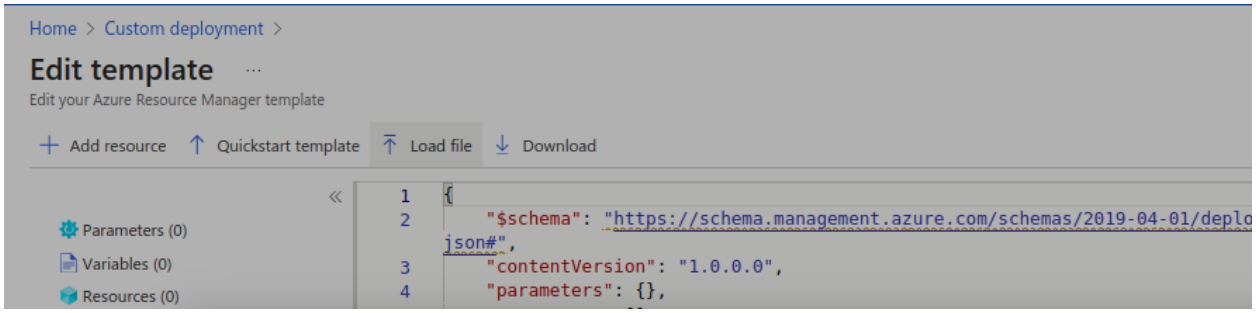
3.From the Azure portal, search for and select Deploy a custom template.



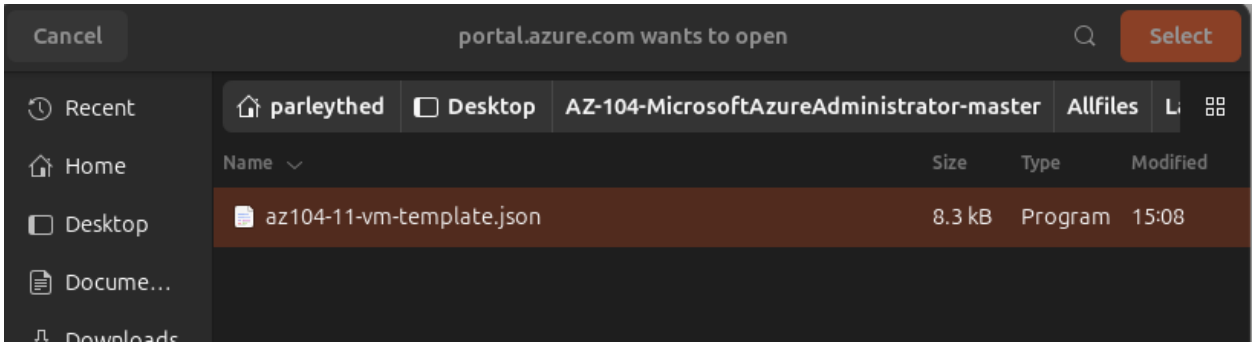
4.On the custom deployment page, select Build you own template in the editor.



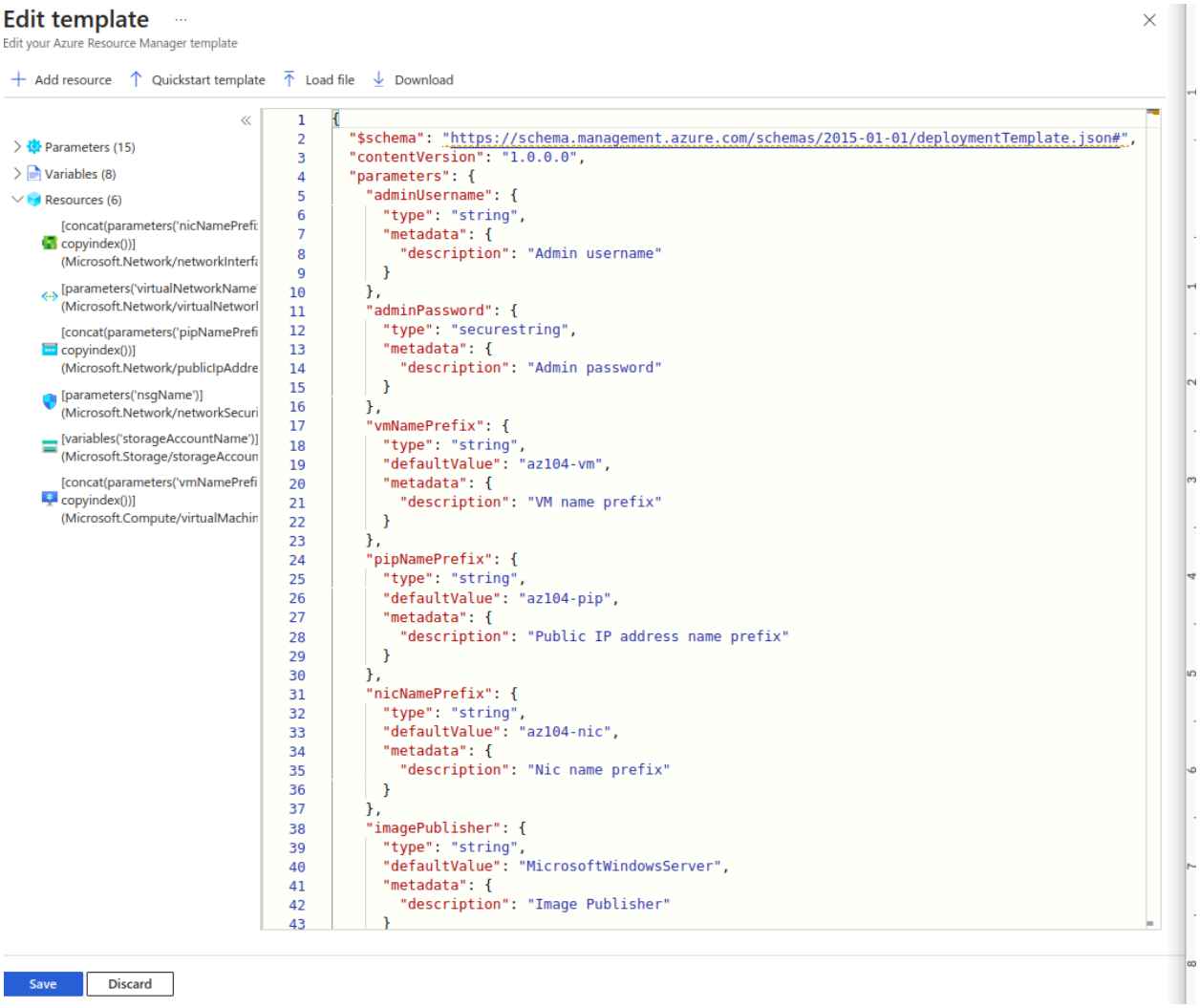
5.On the edit template page, select Load file.



6.Locate and select the \Allfiles\Labs11\az104-11-vm-template.json file and select Open.



7.Select Save.




```
{
  "$schema": "https://schema.management.azure.com/schemas/2015-01-01/deploymentTemplate.json#",
  "contentVersion": "1.0.0.0",
  "parameters": {
    "adminUsername": {
      "type": "string",
      "metadata": {
        "description": "Admin username"
      }
    },
    "adminPassword": {
      "type": "securestring",
      "metadata": {
        "description": "Admin password"
      }
    },
    "vmNamePrefix": {
      "type": "string",
      "defaultValue": "az104-vm",
      "metadata": {
        "description": "VM name prefix"
      }
    },
    "pipNamePrefix": {
      "type": "string",
      "defaultValue": "az104-pip",
      "metadata": {
        "description": "Public IP address name prefix"
      }
    },
    "nicNamePrefix": {
      "type": "string",
      "defaultValue": "az104-nic",
      "metadata": {
        "description": "Nic name prefix"
      }
    },
    "imagePublisher": {
      "type": "string",
      "defaultValue": "MicrosoftWindowsServer",
      "metadata": {
        "description": "Image Publisher"
      }
```

8.Use the following information to complete the custom deployment fields, leaving all other fields with their default values:

New! Deployment Stacks let you manage the lifecycle of your deployments. Try it now →

Select a template | **Basics** | Review + create

Template

Customized template
6 resources

Edit template | Edit parameters | Visualize

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *	Azure subscription 1
Resource group *	az104rg11

Create new

Instance details

Region *	(Canada) Canada Central
Admin Username *	localadmin
Admin Password *	••••••••••••••
Vm Name Prefix	az104-vm
Pip Name Prefix	az104-pip
Nic Name Prefix	az104-nic

9.Select Review + Create, then select Create.

Summary

Customized template
6 resources

Terms

Azure Marketplace Terms | Azure Marketplace

By clicking "Create," I (a) agree to the applicable legal terms associated with the offering; (b) authorize Microsoft to charge or bill my current payment method for the fees associated the offering(s), including applicable taxes, with the same billing frequency as my Azure subscription, until I discontinue use of the offering(s); and (c) agree that, if the deployment involves 3rd party offerings, Microsoft may share my contact information and other details of such deployment with the publisher of that offering.

Microsoft assumes no responsibility for any actions performed by third-party templates and does not provide rights for third-party products or services. See the Azure Marketplace Terms for additional terms.

Deploying this template will create one or more Azure resources or Marketplace offerings. You acknowledge that you are responsible for reviewing the applicable pricing and legal terms associated with all resources and offerings deployed as part of this template. Prices and associated legal terms for any Marketplace offerings can be found in the Azure Marketplace; both are subject to change at any time prior to deployment.

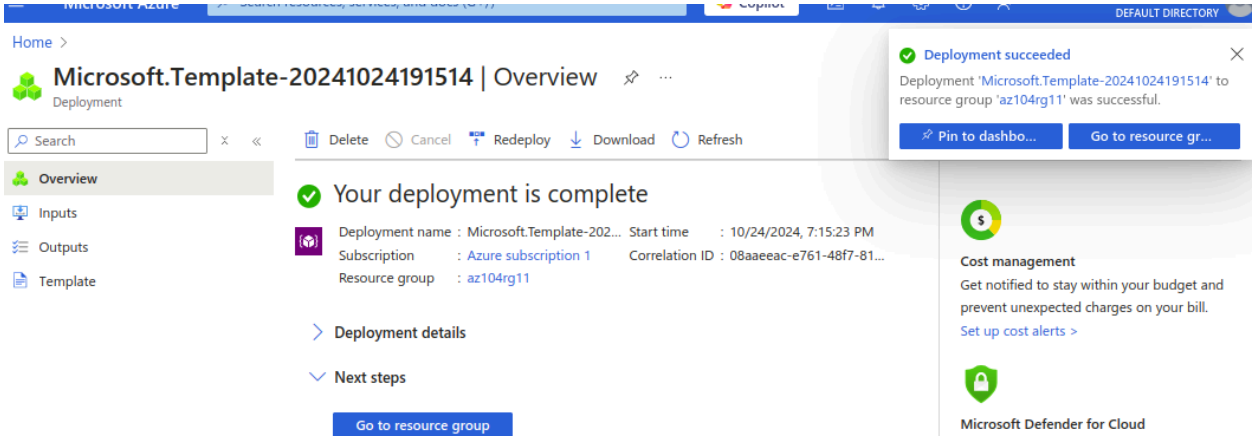
Neither subscription credits nor monetary commitment funds may be used to purchase non-Microsoft offerings. These purchases are billed separately.

If any Microsoft products are included in a Marketplace offering (e.g. Windows Server or SQL Server), such products are licensed by Microsoft and not by any third party.

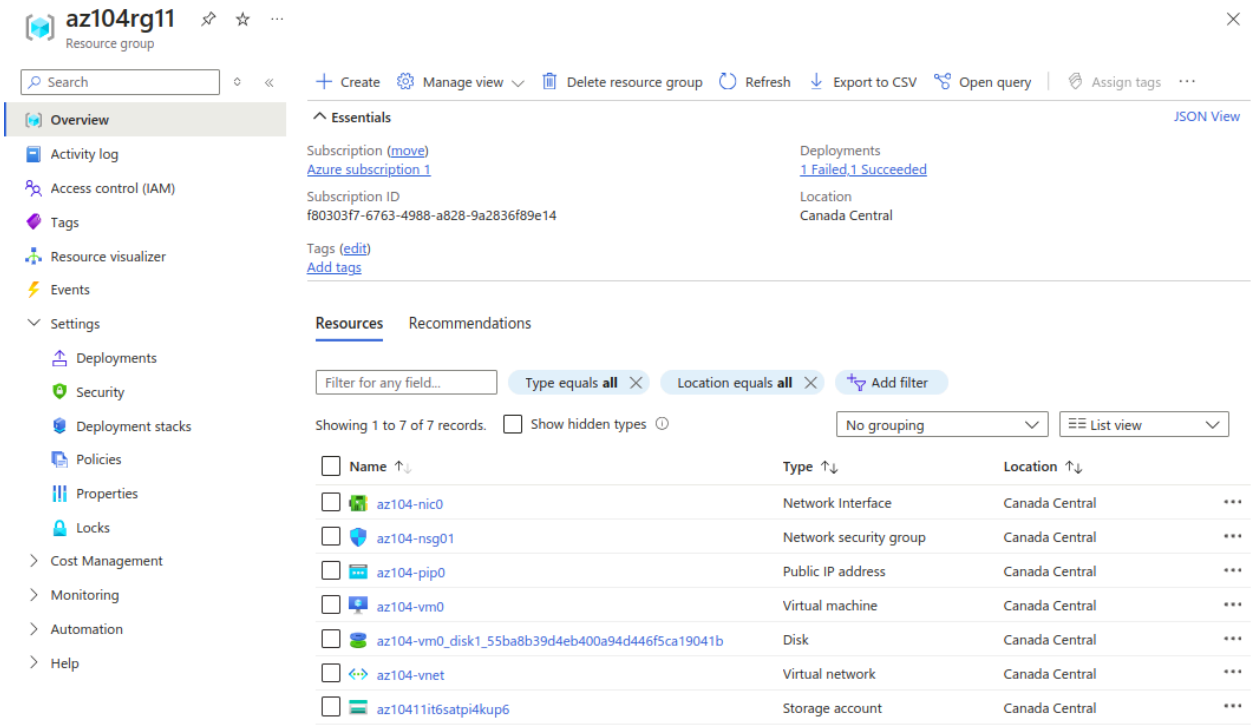
Basics

Subscription	Azure subscription 1
Resource group	az104rg11
Region	Canada Central
Admin Username	localadmin
Admin Password	**********
Vm Name Prefix	az104-vm
Pip Name Prefix	az104-pip
Nic Name Prefix	az104-nic
Image Publisher	MicrosoftWindowsServer
Image Offer	WindowsServer

10. Wait for the deployment to finish, then click Go to resource group.

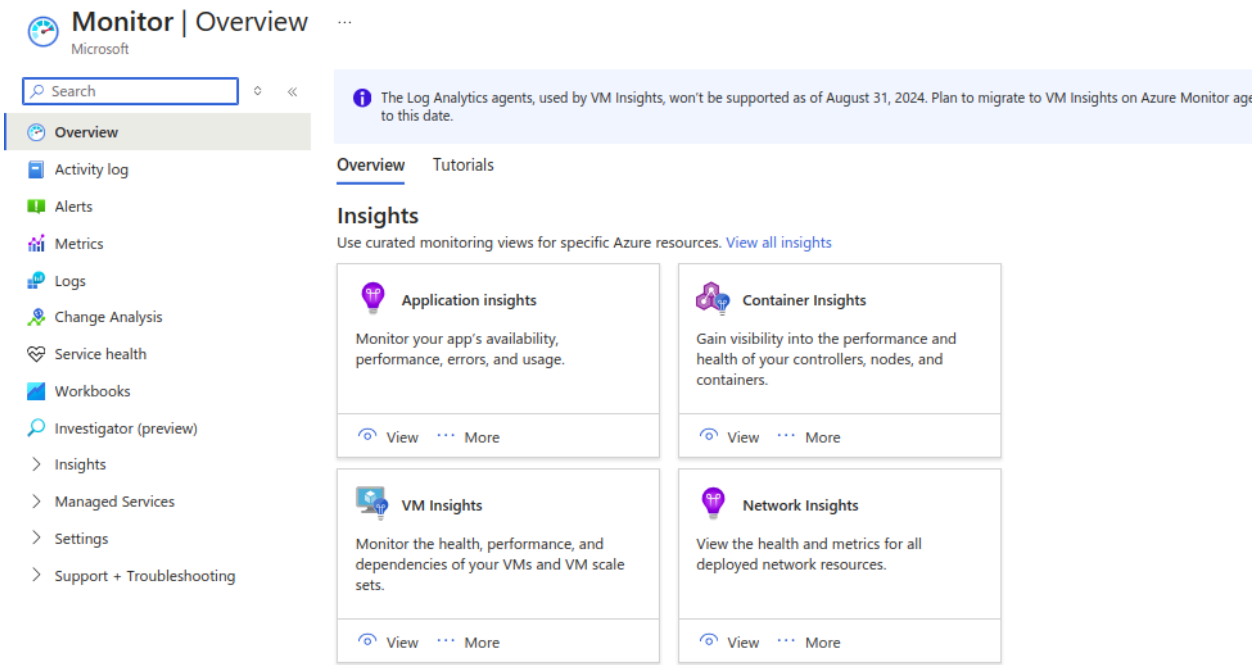


11.Review what resources were deployed. There should be one virtual network with one virtual machine.

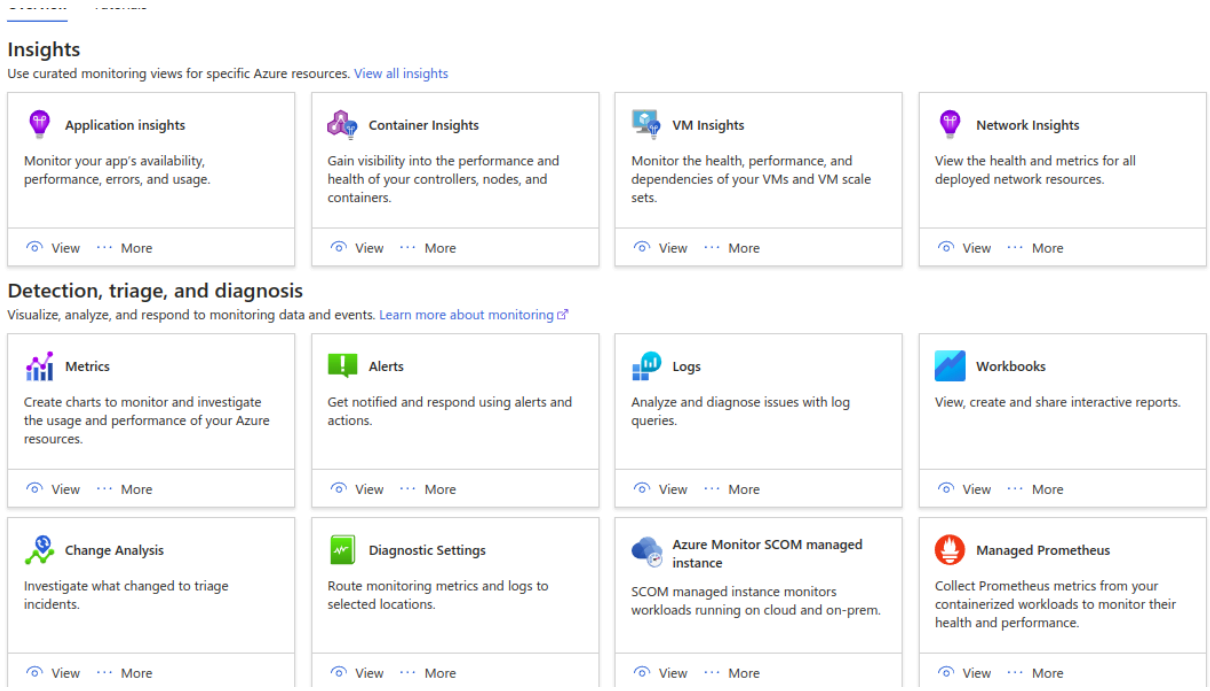


Configure Azure Monitor for virtual machines (this will be used in the last task)

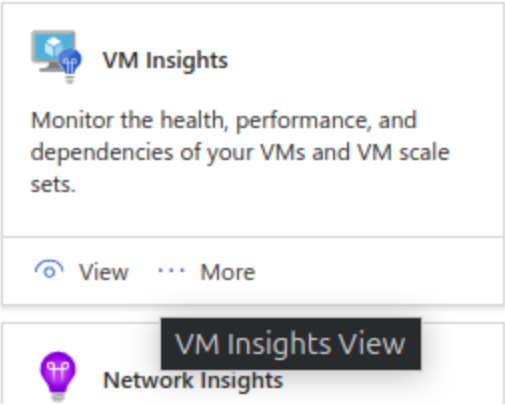
1.In the portal, search for and select Monitor.



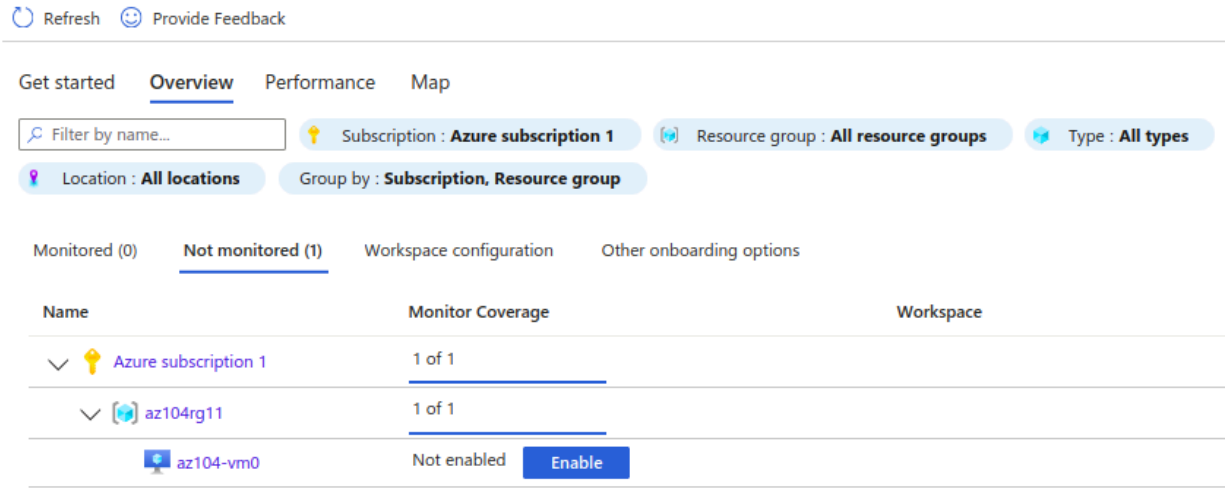
2.Take a minute to review all the insights, detection, triage, and diagnosis tools that are available.

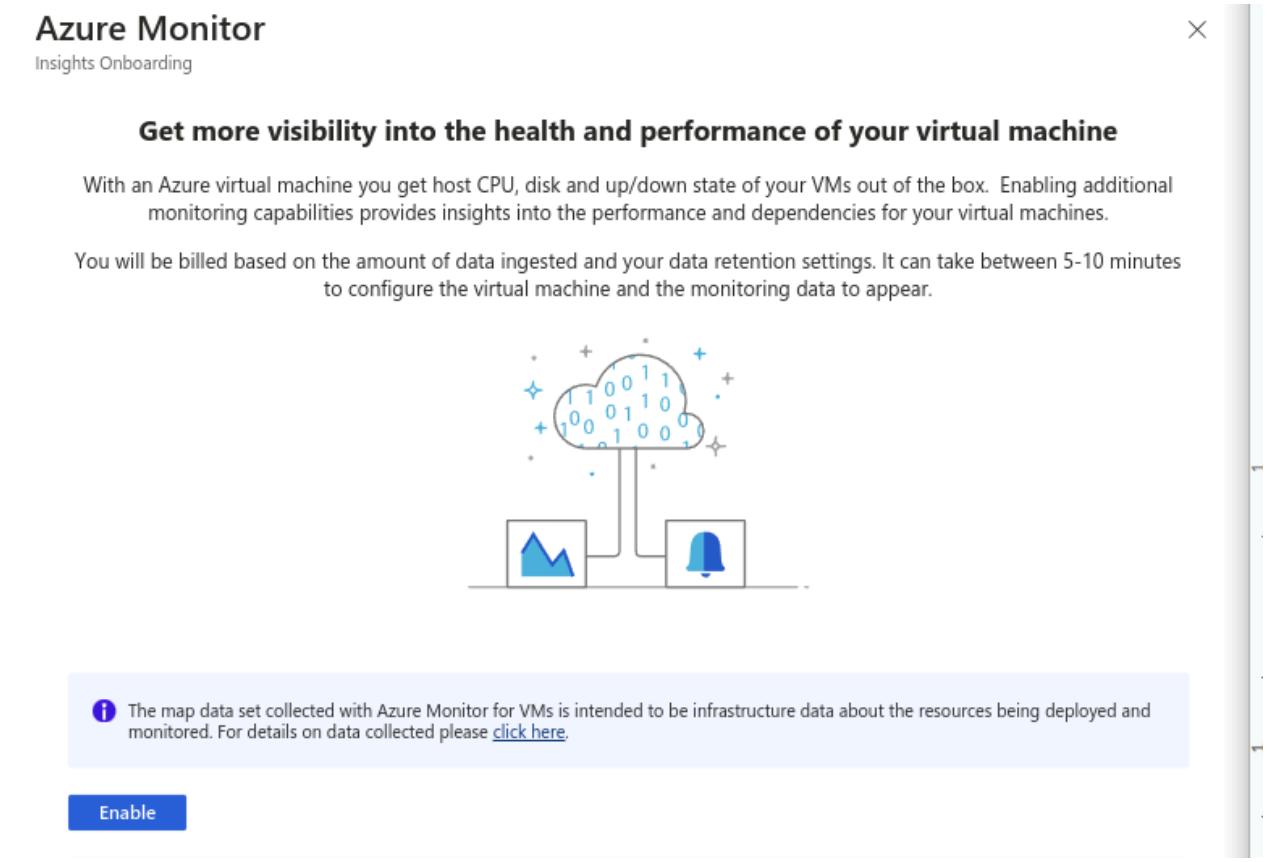


3.Select View in the VM Insights box, and then select Configure Insights.

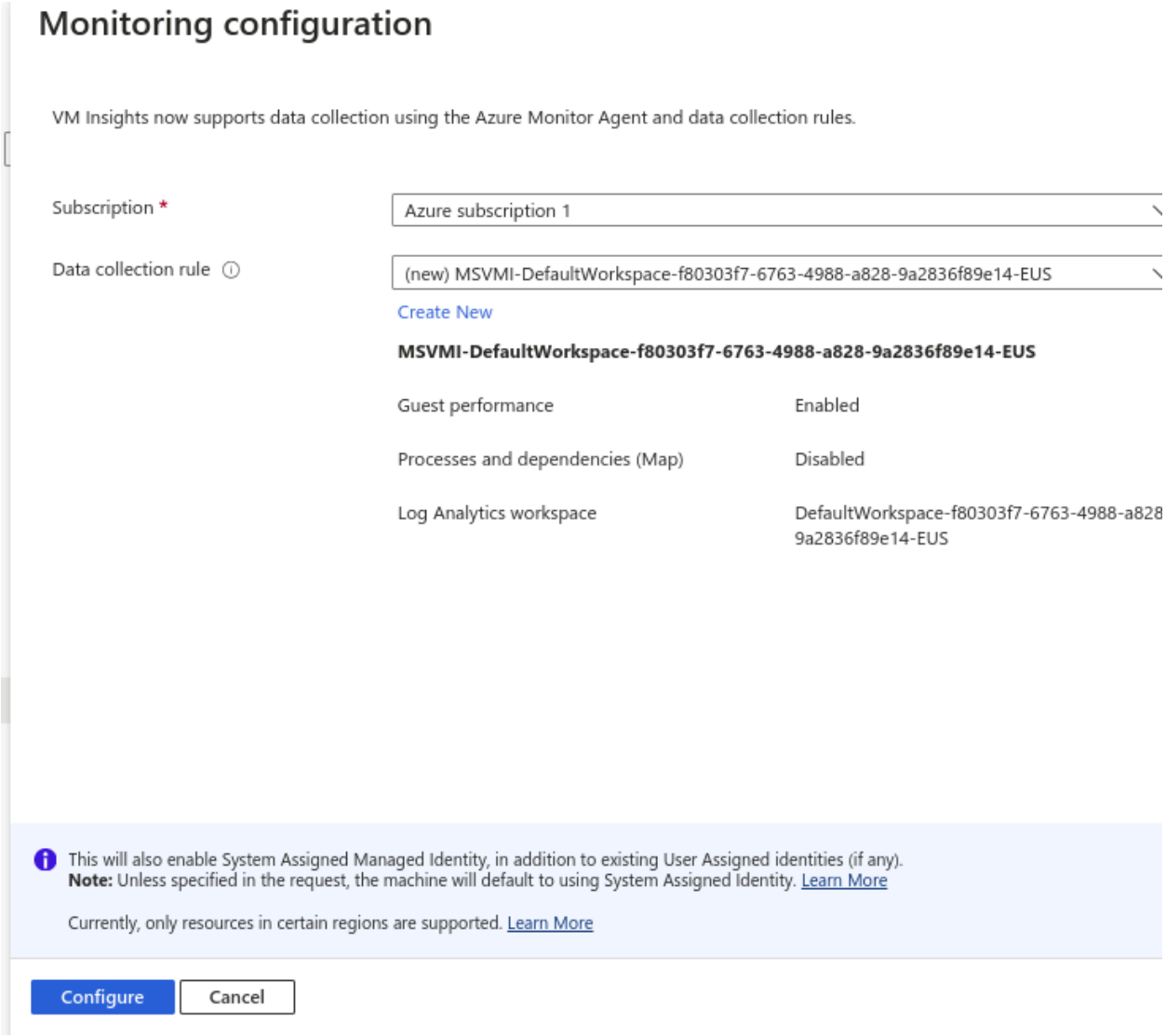


4.Select your virtual machine, and then Enable (twice).

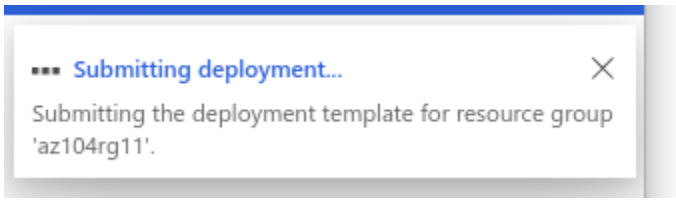


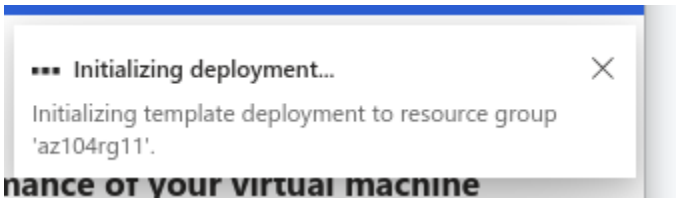


5.Take the defaults for subscription and data collection rules, then select Configure.



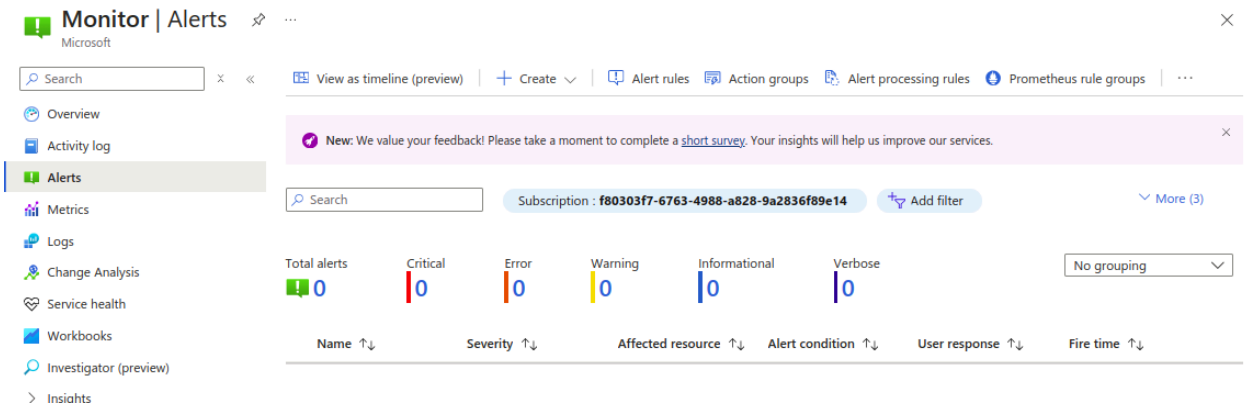
6.It will take a few minutes for the virtual machine agent to install and configure, proceed to the next step.



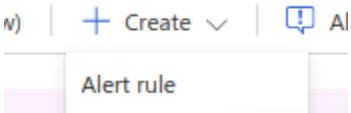


Task 2: Create an alert

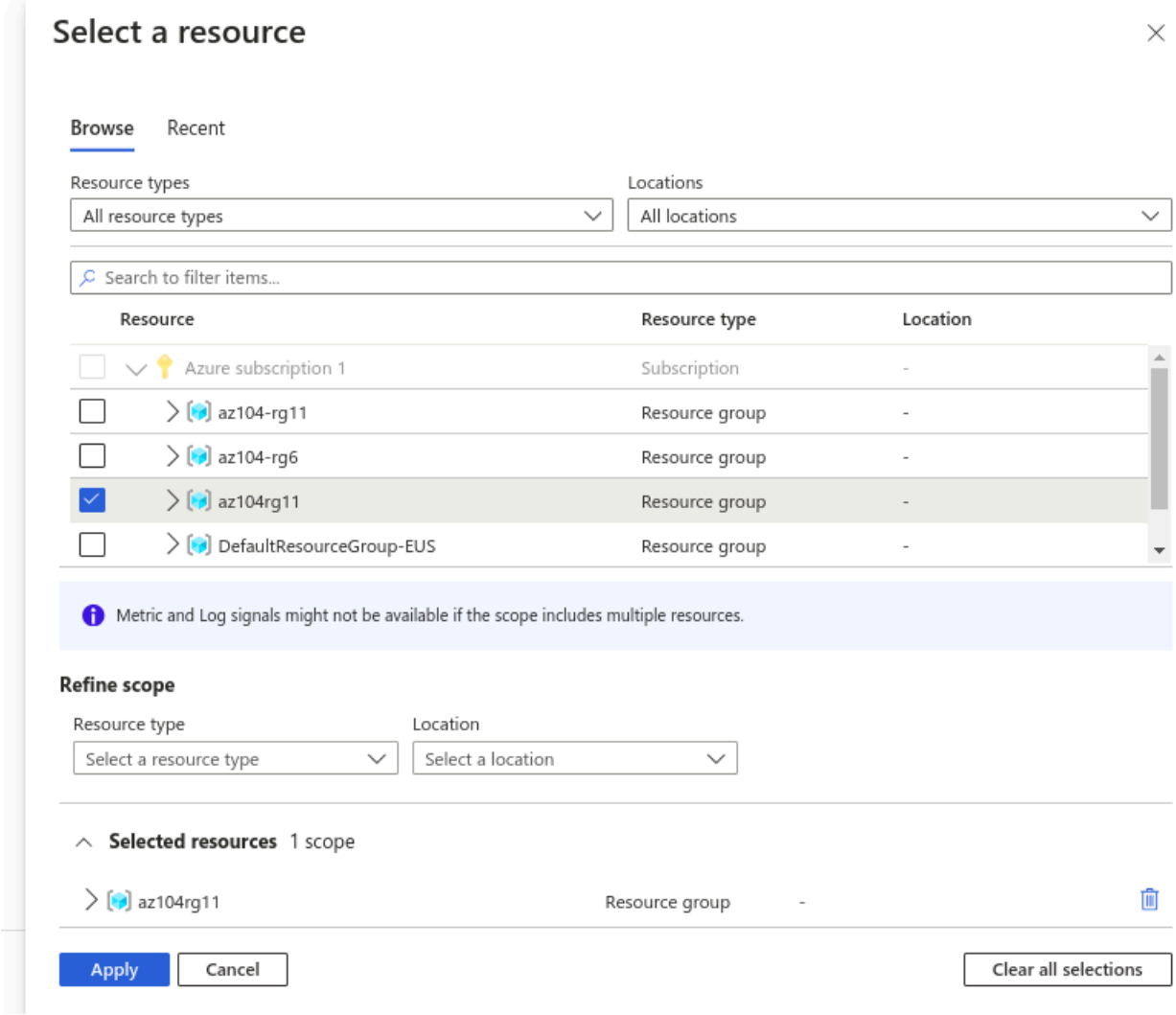
1.Continue on the Monitor page , select Alerts.



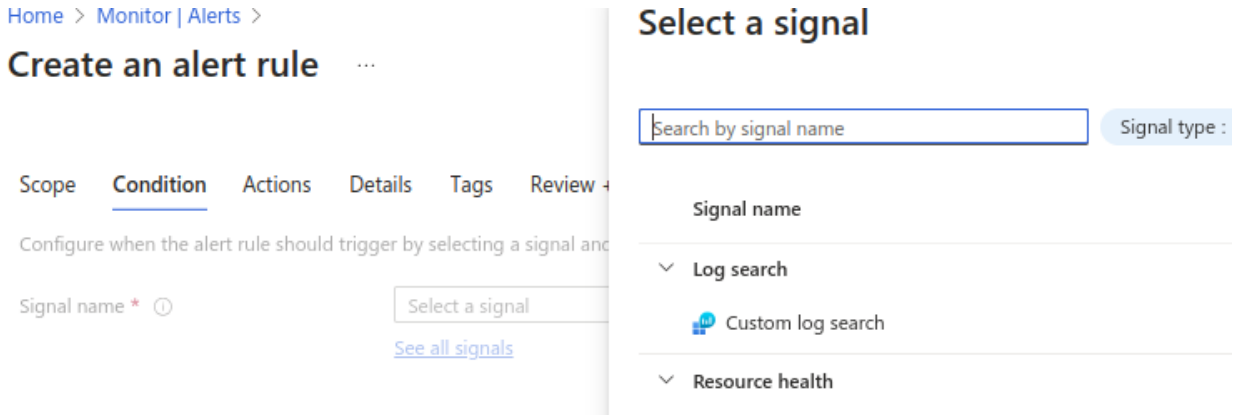
2.Select Create + and select Alert rule.



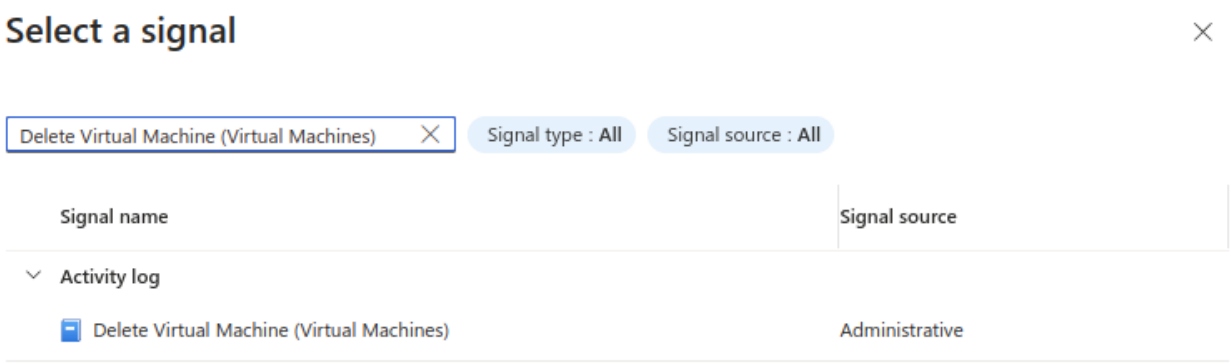
3.Select the box for the resource group, then select Apply. This alert will apply to any virtual machines in the resource group. Alternatively, you could just specify one particular machine.



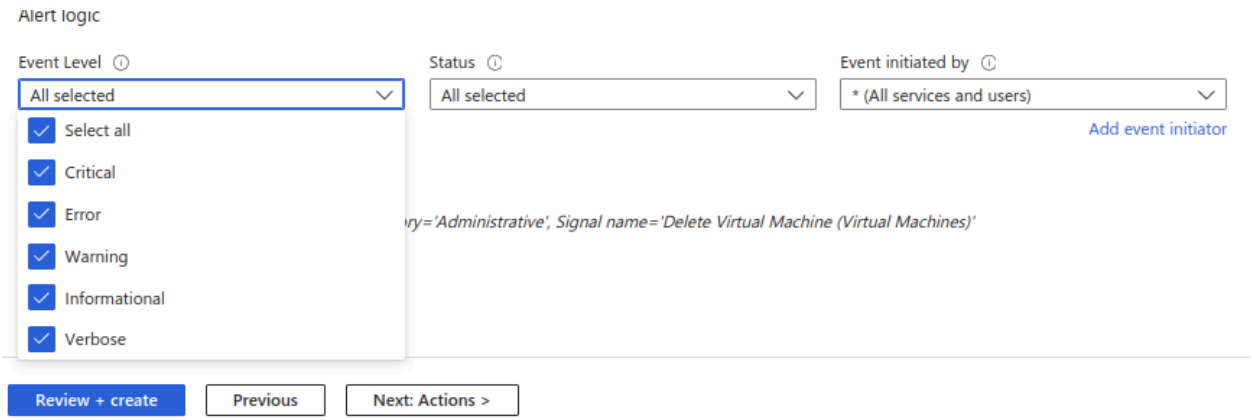
4.Select the Condition tab and then select the See all signals link.



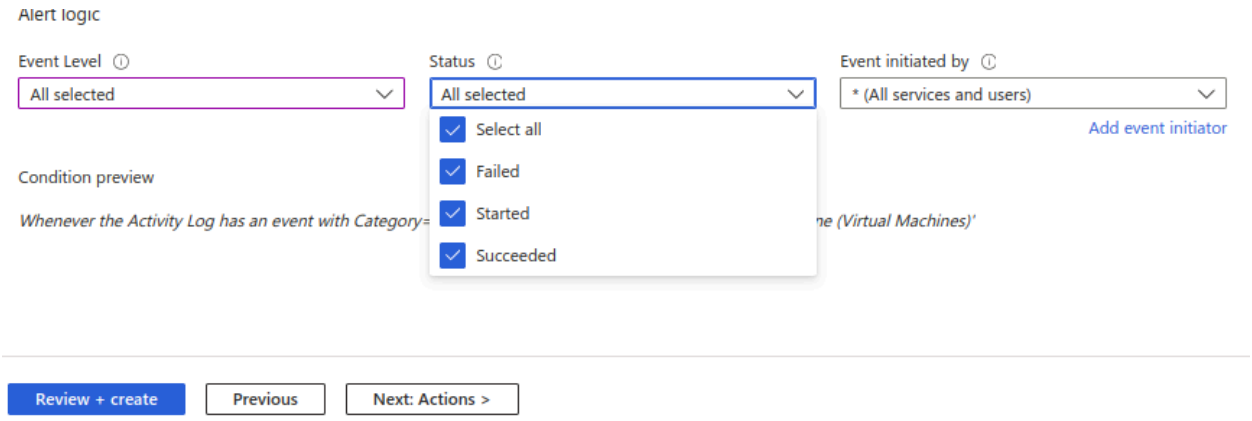
5.Search for and select Delete Virtual Machine (Virtual Machines). Notice the other built-in signals. Select Apply



6.In the Alert logic area (scroll down), review the Event level selections. Leave the default of All selected.



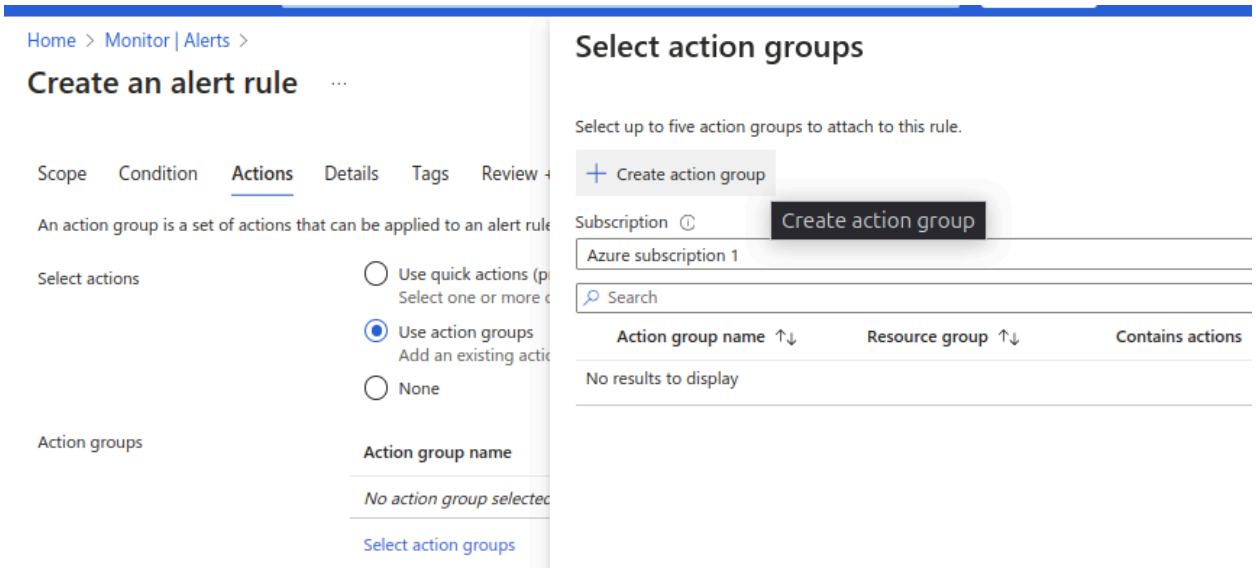
7.Review the Status selections. Leave the default of All selected.



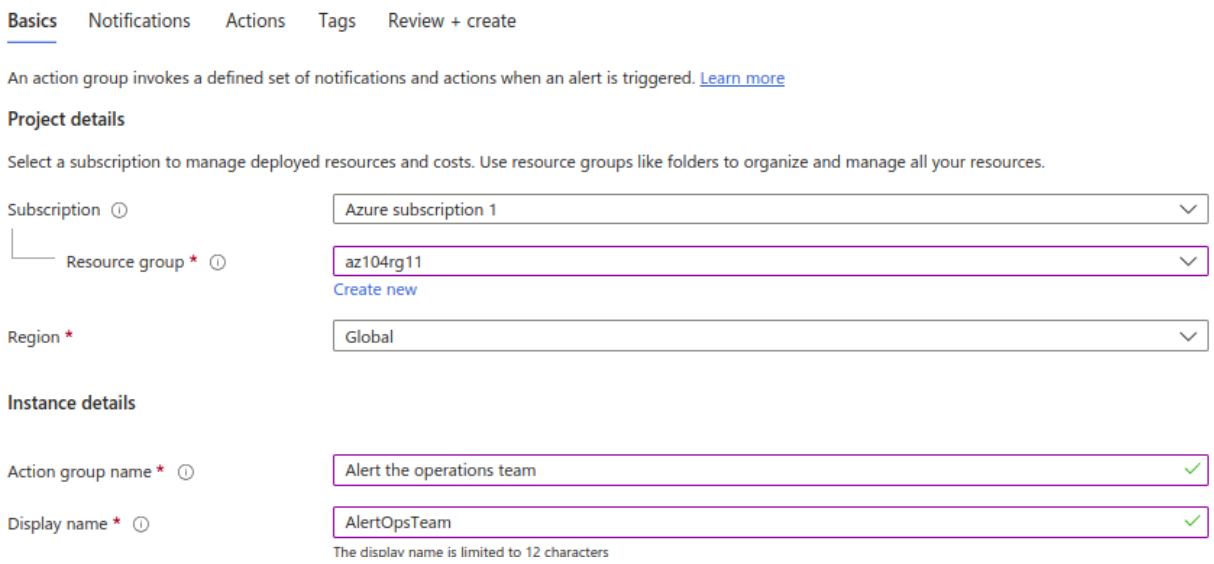
8.Leave the Create an alert rule pane open for the next task.

Task 3: Configure action group notifications

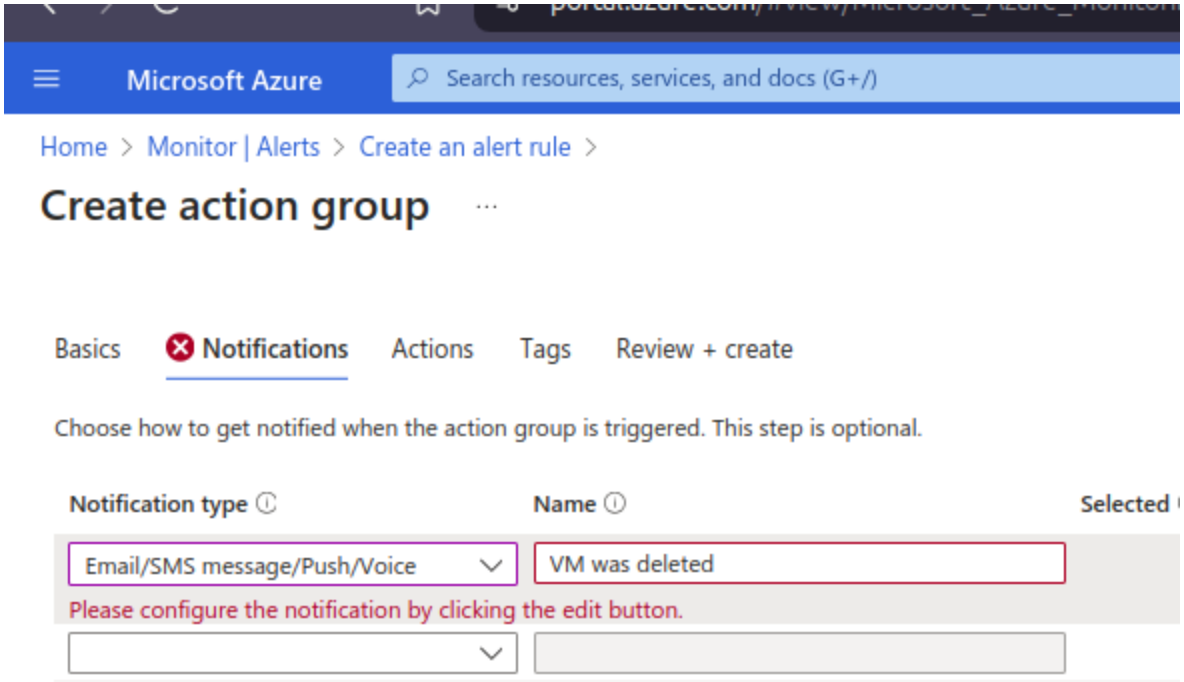
1. Continue working on your alert. Select Next: Actions, and then select Create action group.



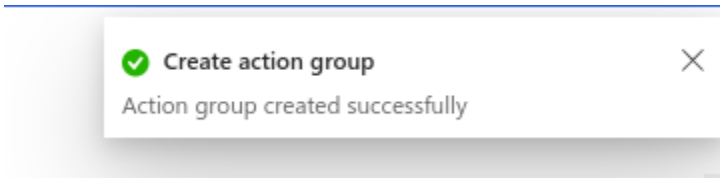
2.On the Basics tab, enter the following values for each setting.



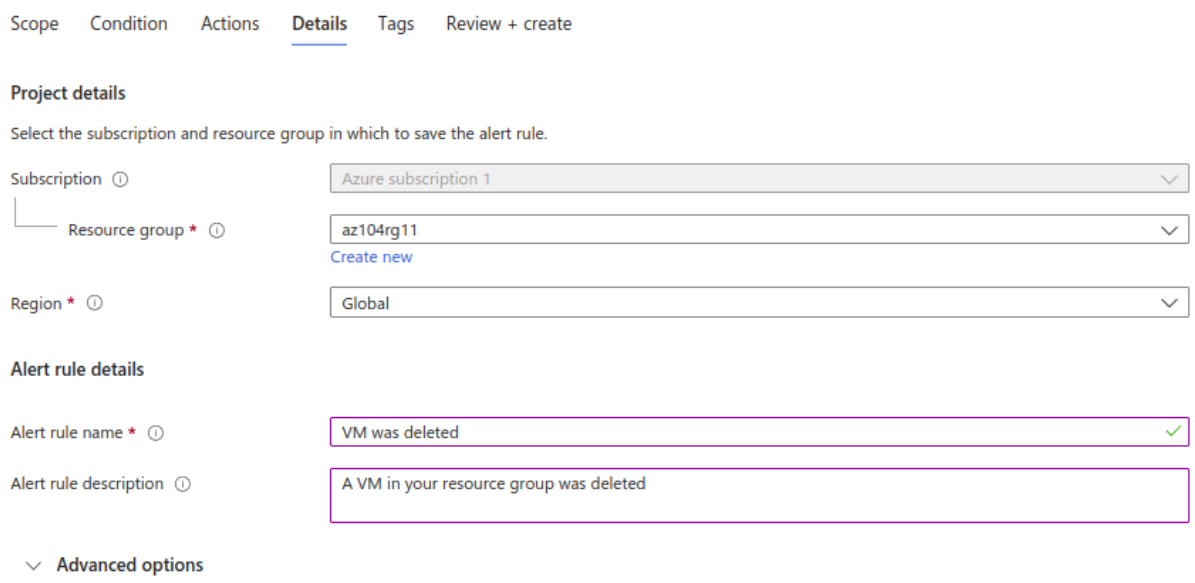
3.Select Next: Notifications and enter the following values for each setting.



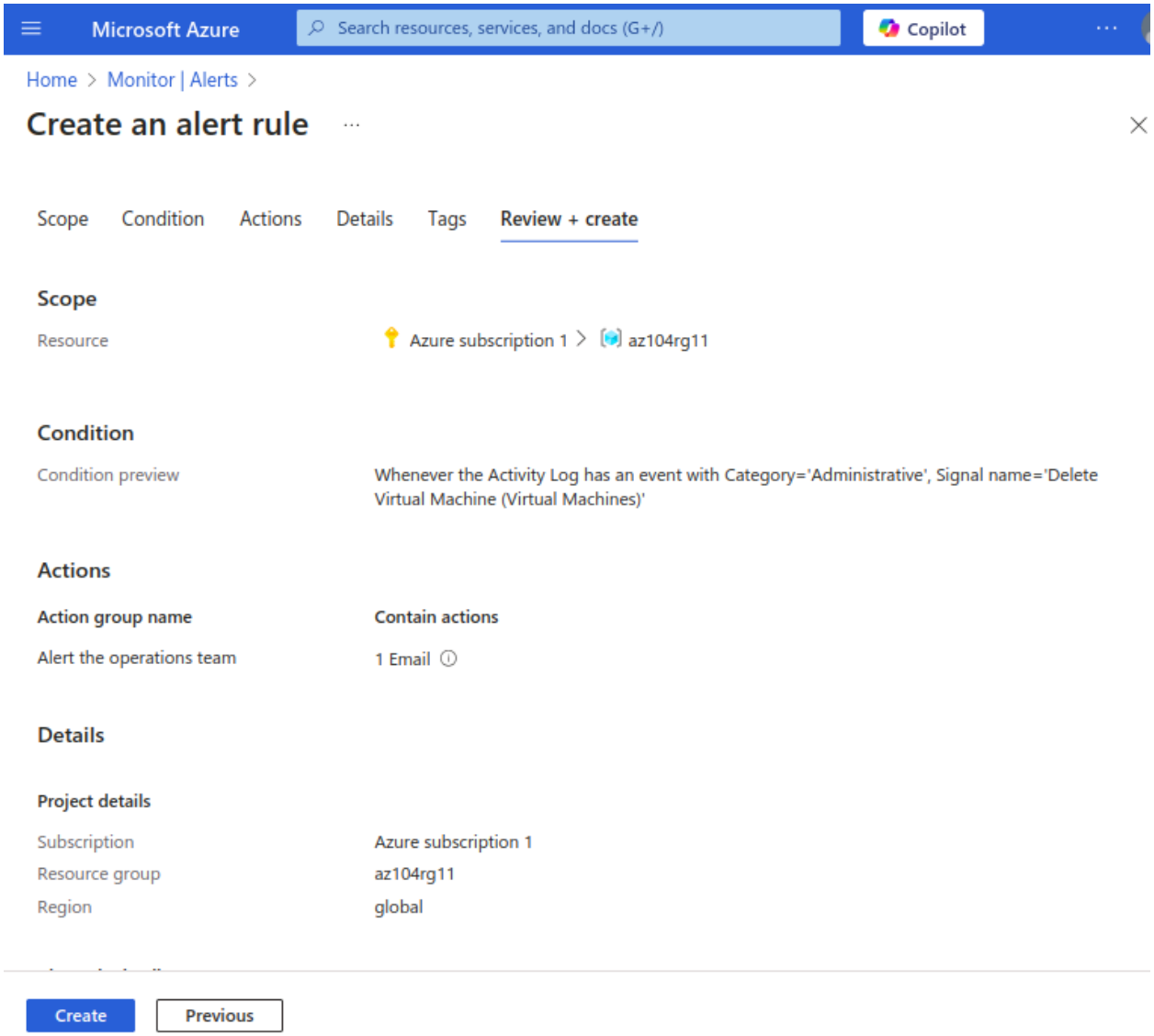
4.Select Email, and in the Email box, enter your email address, and then select OK.

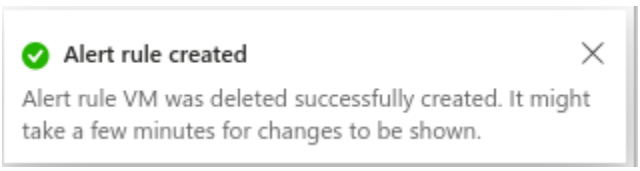


5.Once the action group is created move to the Next: Details tab and enter the following values for each setting.



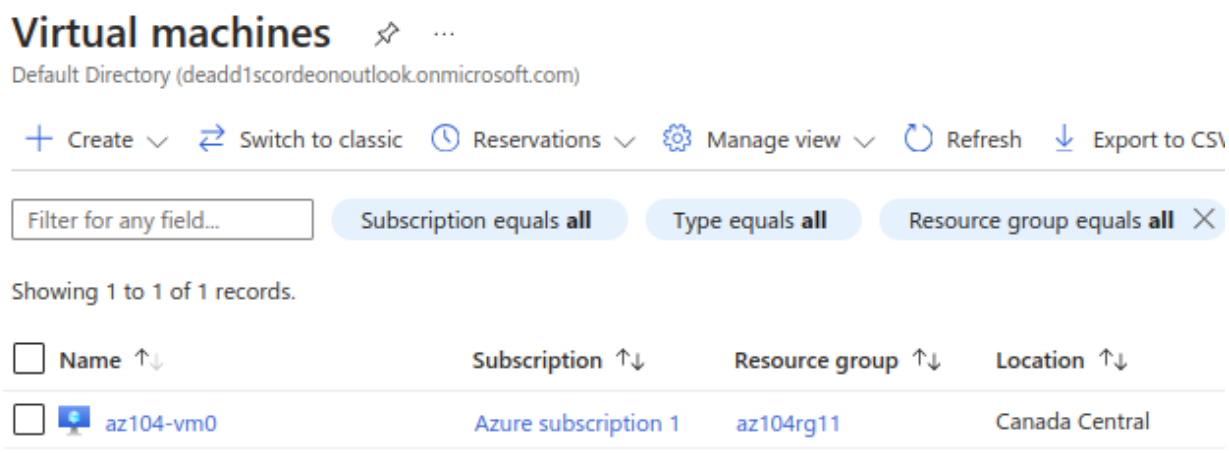
6.Select Review + create to validate your input, then select Create.



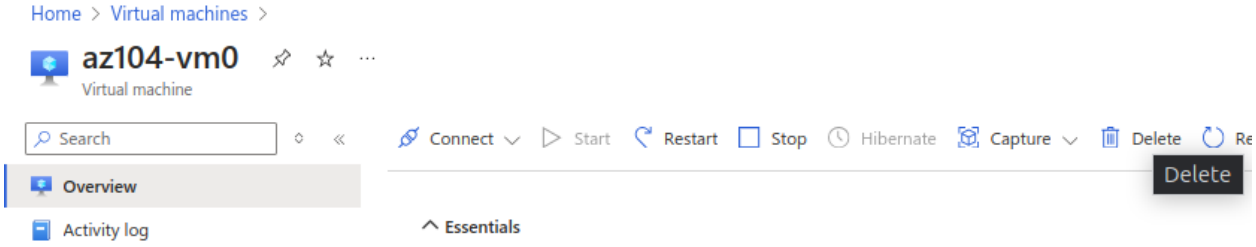


Task 4: Trigger an alert and confirm it is working

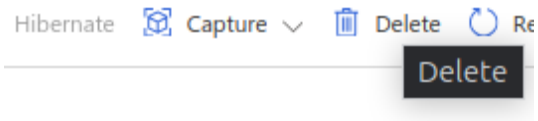
1.In the portal, search for and select Virtual machines.



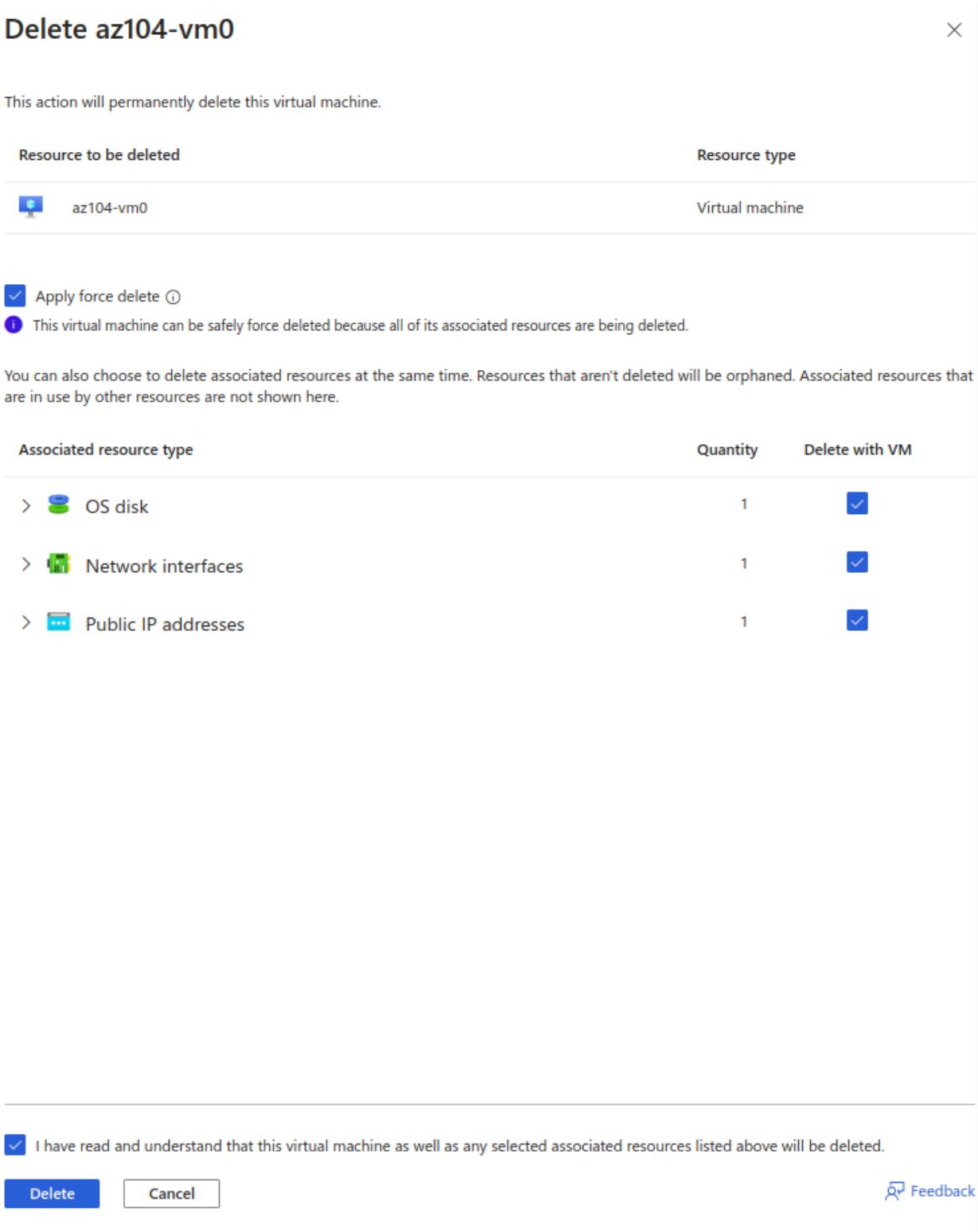
2.Check the box for the az104-vm0 virtual machine.



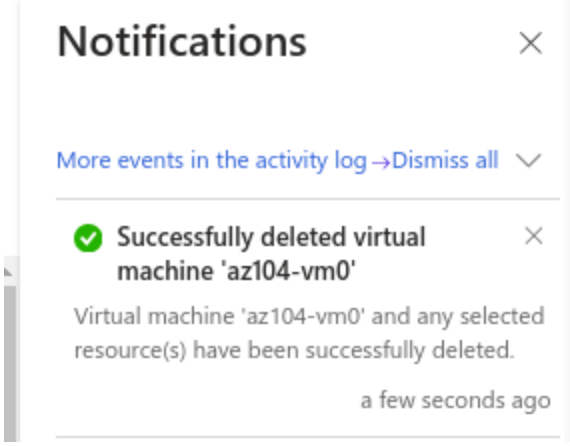
3.Select Delete from the menu bar.



4.Check the box for Apply force delete. Enter delete to confirm and then select Delete.



5.In the title bar, select the Notifications icon and wait until vm0 is successfully deleted.



6.You should receive a notification email that reads, Important notice: Azure Monitor alert VM was deleted was activated… If not, open your email program and look for an email from azure-noreply@microsoft.com.

Microsoft Azure

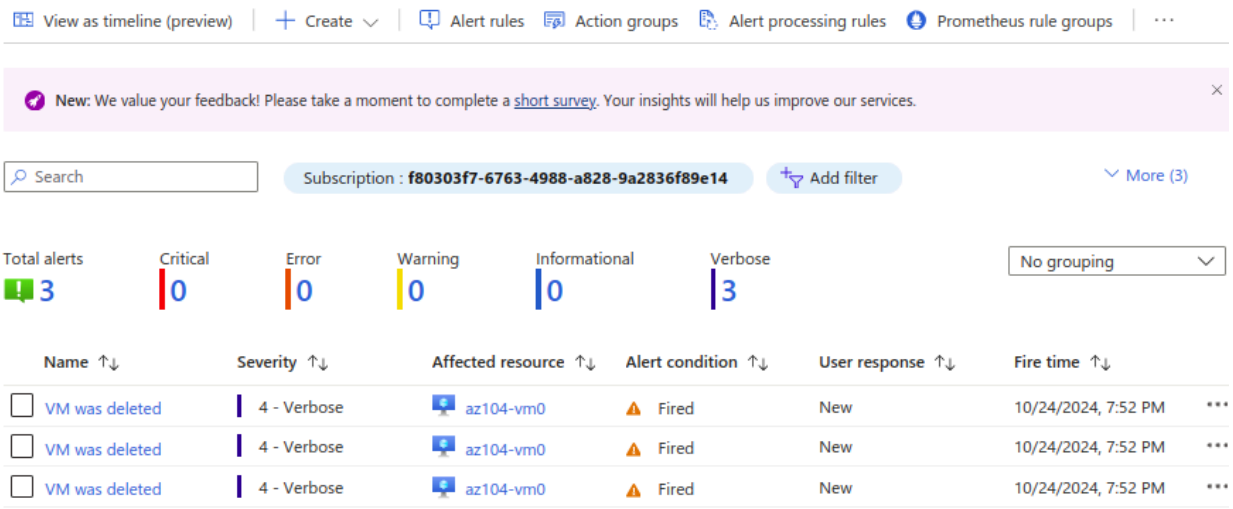
Azure Monitor alert 'VM was deleted' was activated for 'az104-vm0' at October 24, 2024 16:45 UTC

You're receiving this notification as a member of the AlertOpsTeam action group because an Azure Monitor alert was activated.

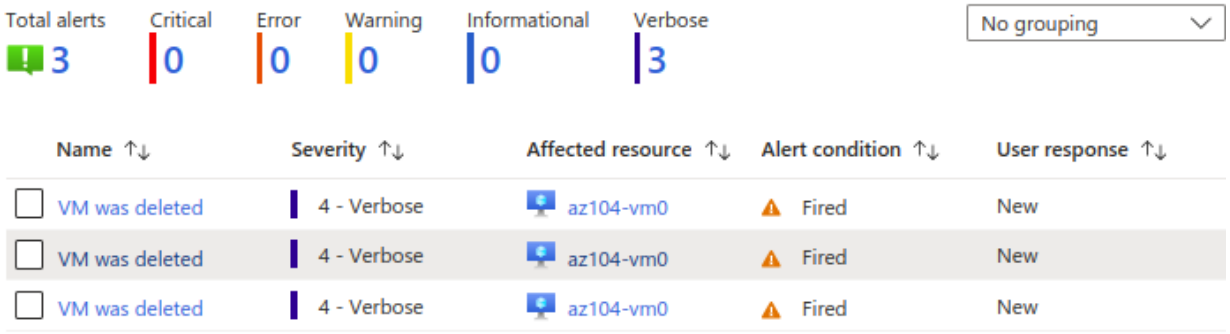
Activity log alert	VM was deleted
Time	October 24, 2024 16:45 UTC
Category	Administrative
Operation name	Microsoft.Compute/virtualMachines/delete
Correlation ID	052bb3be-0010-47c3-b4ce-5a9fd6270437
Level	Informational
Resource ID	/subscriptions/f80303f7-6763-4988-a828-9a2836f89e14/resourceGroups/az104rg11/providers/Microsoft.Compute/virtualMachines/az104-vm0
Caller	deadd1scordeon@outlook.com
Properties	{"statusCode":"Accepted","serviceRequestId":null,"eventCategory":"Administrative","entity":"/subscriptions/f80303f7-6763-4988-a828-9a2836f89e14/resourceGroups/az104rg11/providers/Microsoft.Compute/virtualMachines/az104-vm0","message":"Microsoft.Compute/virtualMachines/delete","hierarchy":"a91ad3f2-839c-4e1b-b0e8-0c2e83334265/f80303f7-6763-4988-a828-9a2836f89e14"}

View in Azure portal > Investigate >

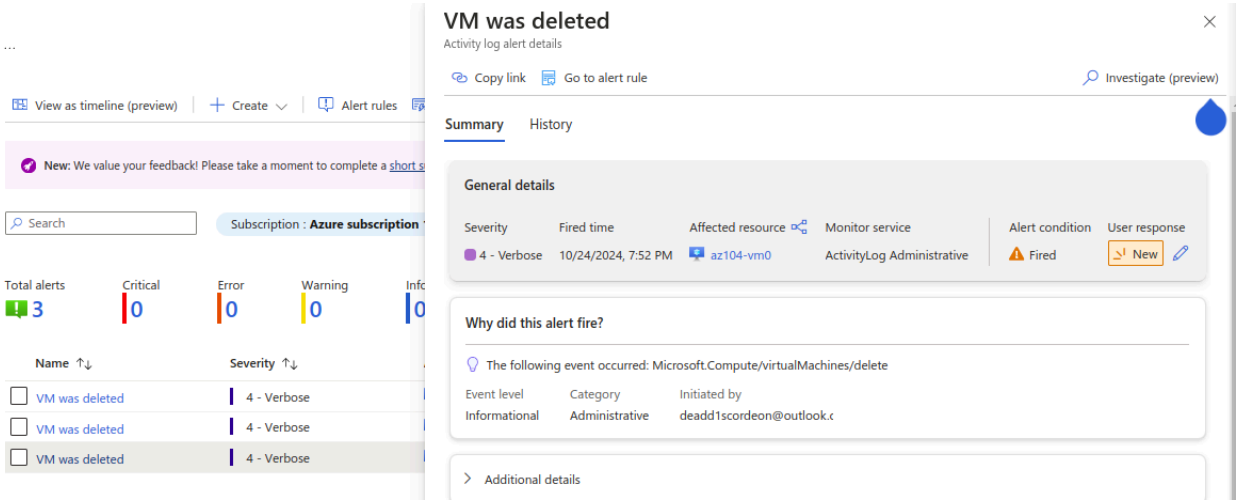
7.On the Azure portal resource menu, select Monitor, and then select Alerts in the menu on the left.



8.You should have three verbose alerts that were generated by deleting vm0.

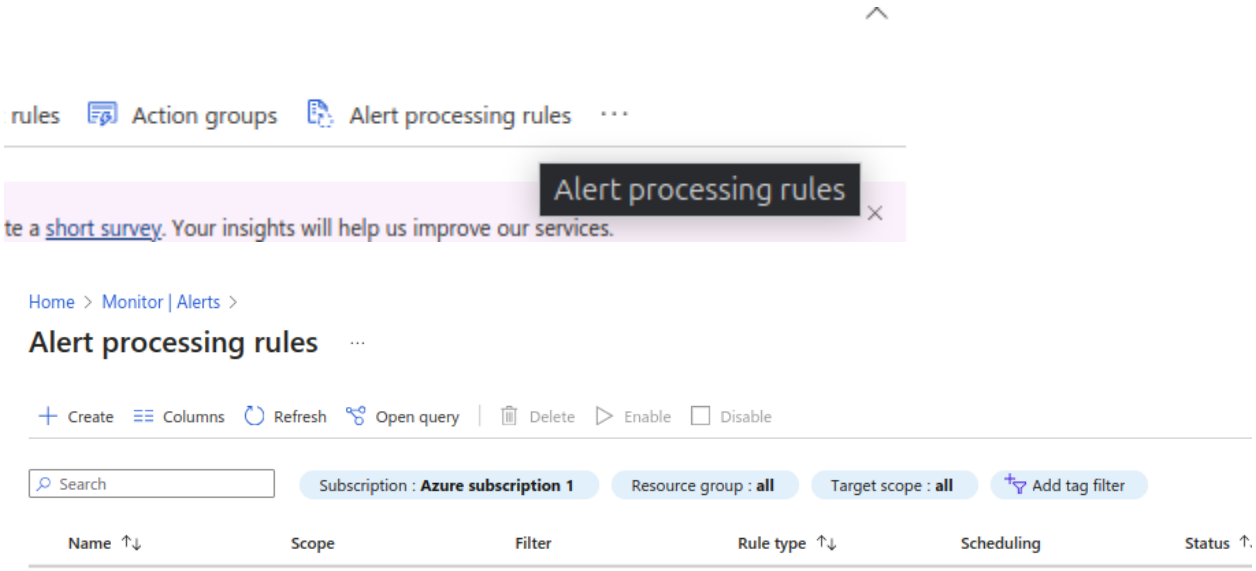


9.Select the name of one of the alerts (For example, VM was deleted). An Alert details pane appears that shows more details about the event.

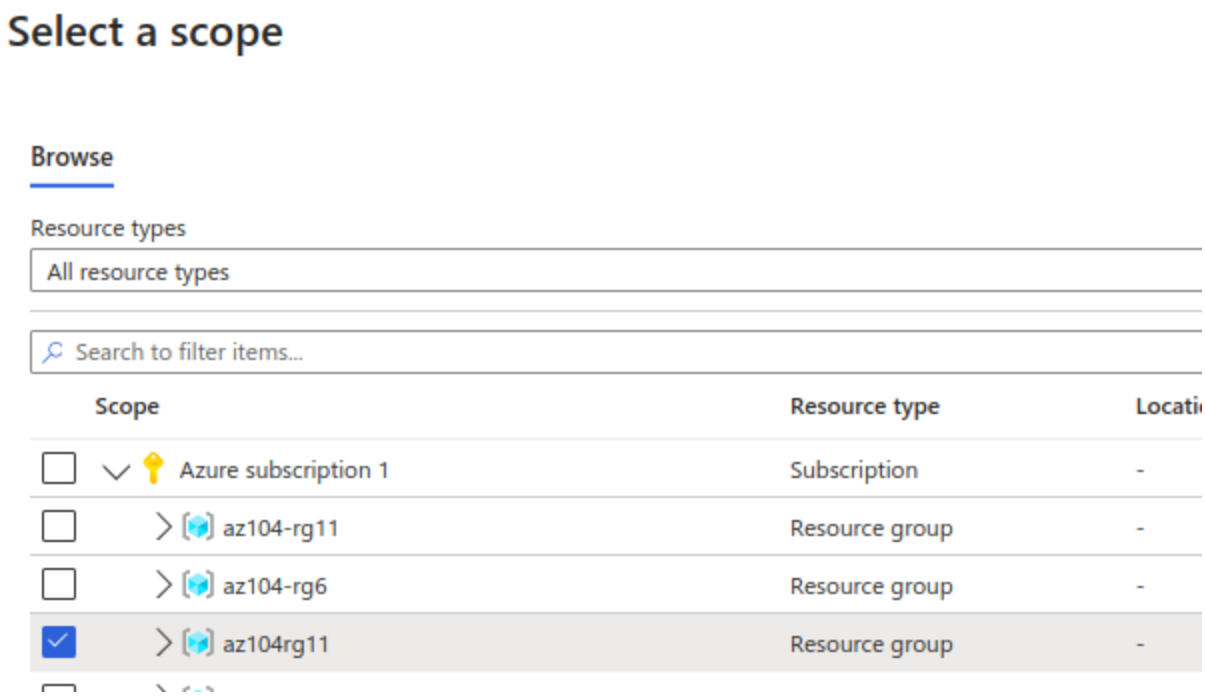


Task 5: Configure an alert processing rule

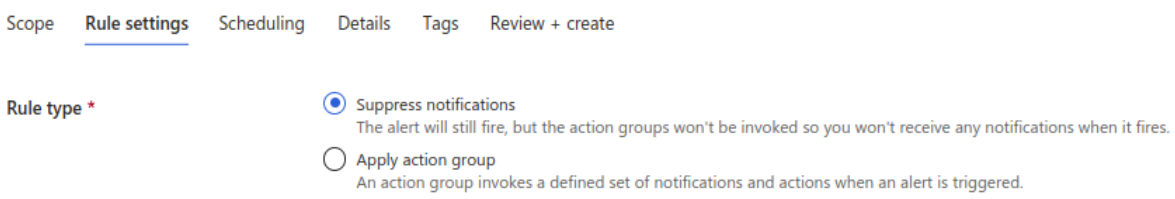
1.Continue in the Alerts blade, select Alert processing rules and then + Create.



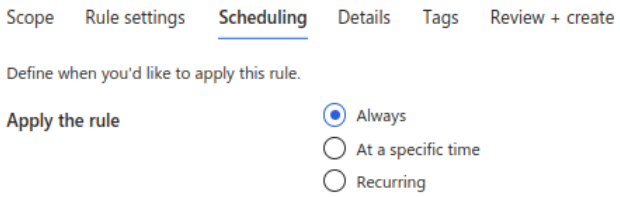
2.Select your resource group, then select Apply.



3.Select Next: Rule settings, then select Suppress notifications.



4.Select Next: Scheduling.



5.By default, the rule works all the time, unless you disable it or configure a schedule. You are going to define a rule to suppress notifications during overnight maintenance. Enter these settings for the scheduling of the alert processing rule:

Define when you'd like to apply this rule.

Apply the rule

- ○ Always
- ◉ At a specific time
- ○ Recurring

Start	10/24/2024	10:00 PM
End	10/25/2024	7:00 AM
Time zone	(UTC+02:00) Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius	
Preview	From 10/24/2024 at 10:00 PM to 10/25/2024 at 7:00 AM (UTC+02:00 Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius)	

6.Select Next: Details and enter these settings:

Project details

Subscription ⓘ	Azure subscription 1
Resource group * ⓘ	az104rg11 Create new

Alert processing rule details

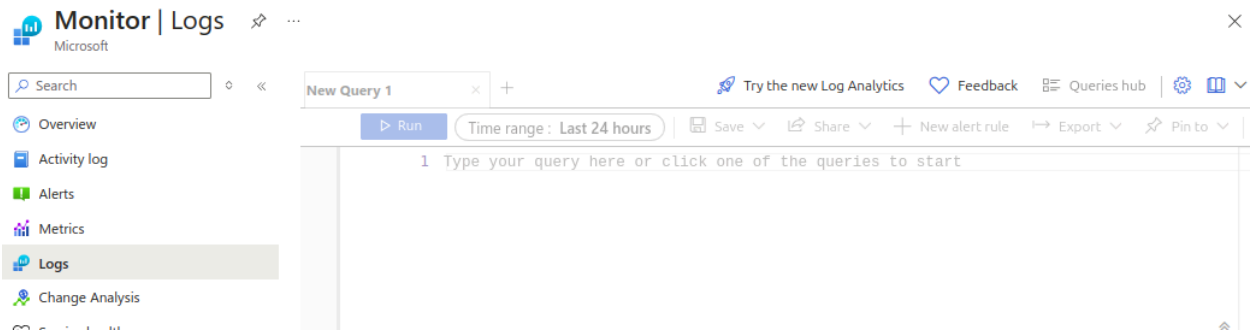
Rule name * ⓘ	Planned Maintenance
Description ⓘ	Suppress notifications during planned maintenance.
Enable rule upon creation	☑

7.Select Review + create to validate your input, then select Create.

Review + create | Previous | Next: Tags >

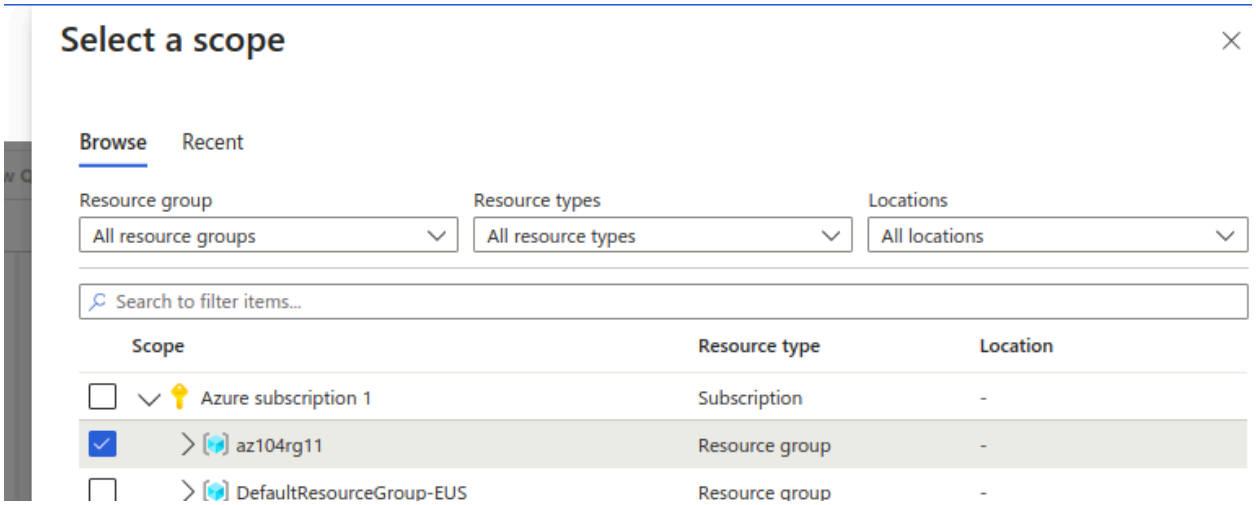
Task 6: Use Azure Monitor log queries

1.In the Azure portal, search for and select Monitor blade, click Logs.

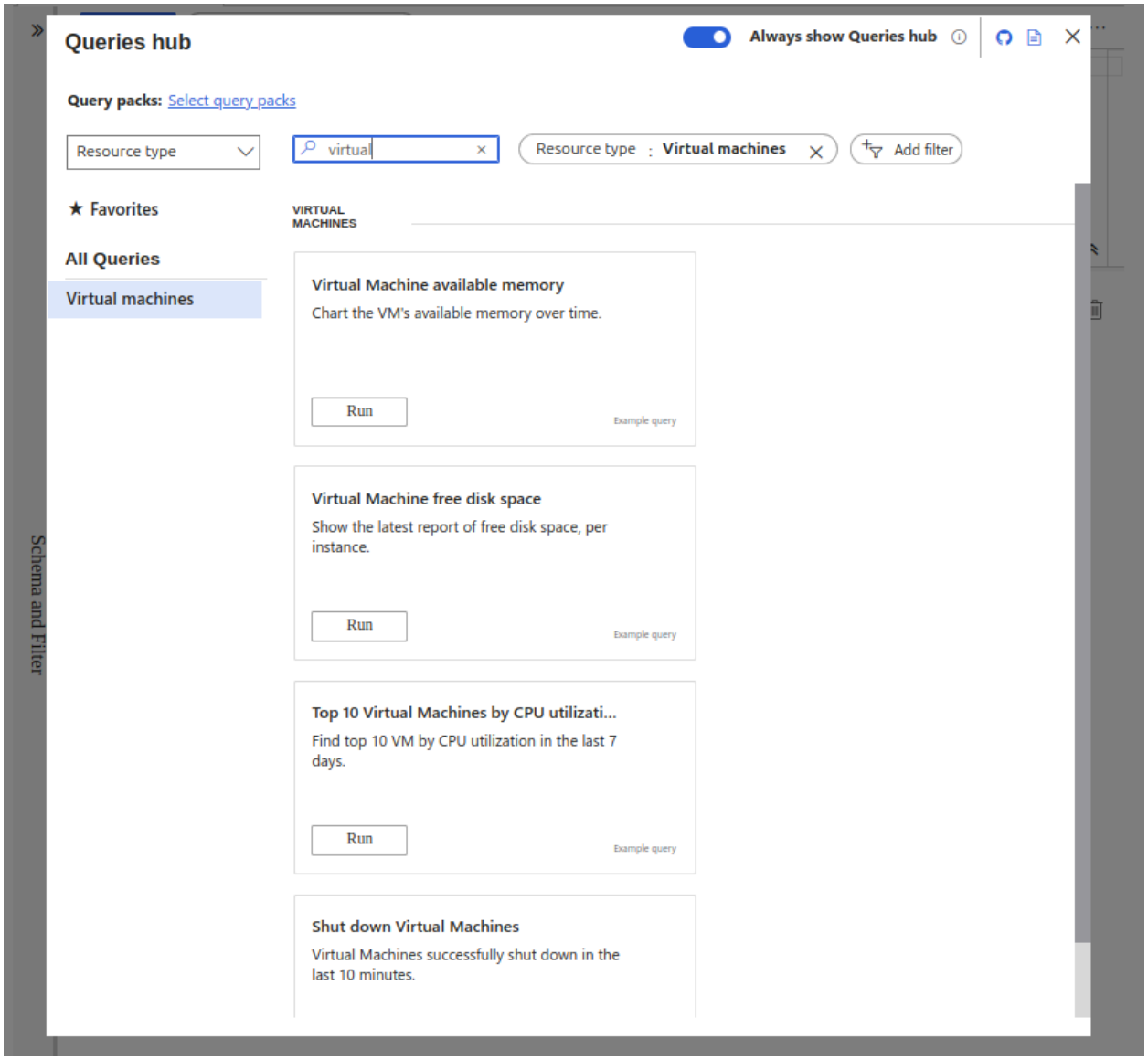


2.If necessary close the splash screen.

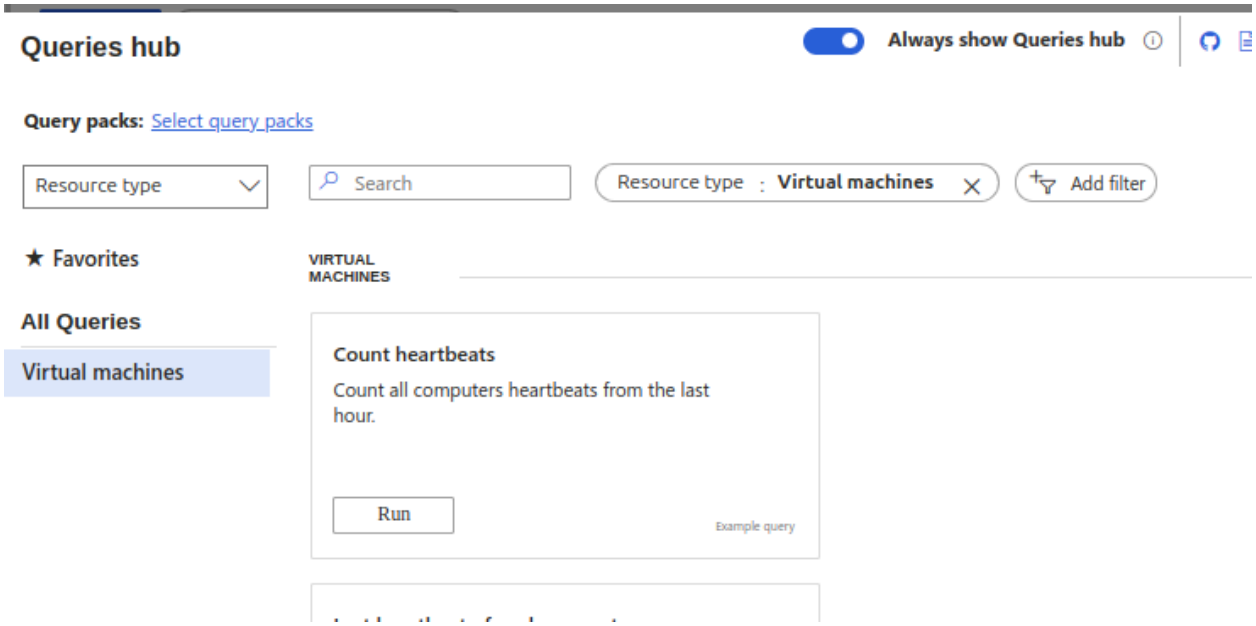
3.Select a scope, your resource group. Select Apply.



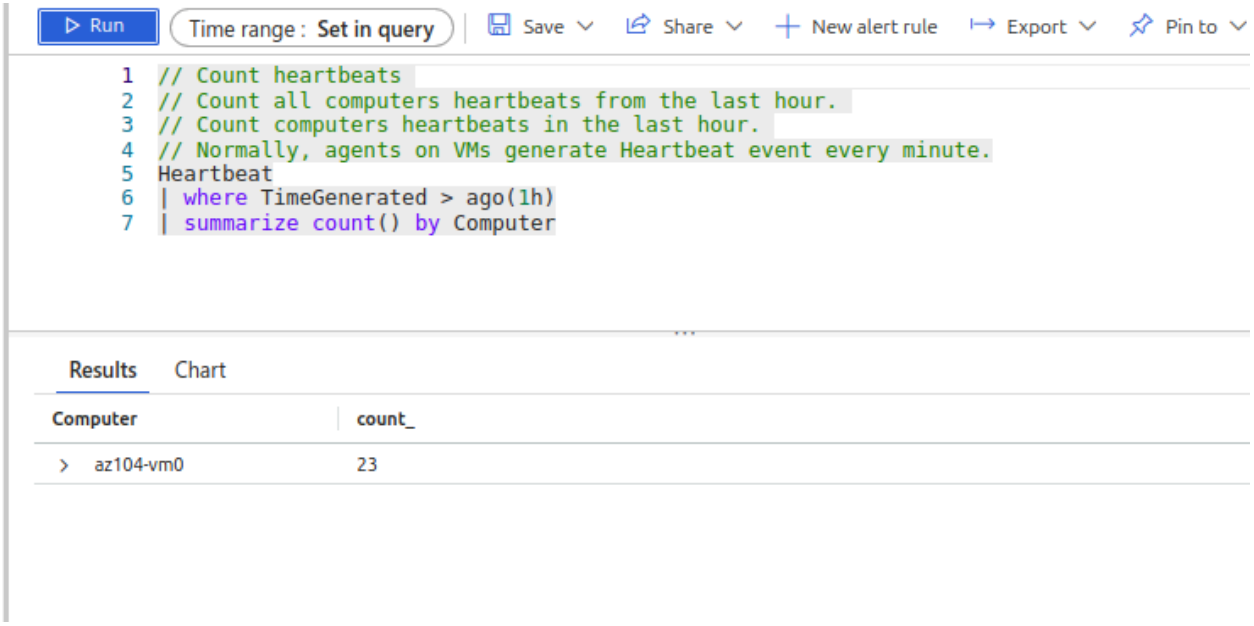
4.In the Queries tab, select Virtual machines (left pane).



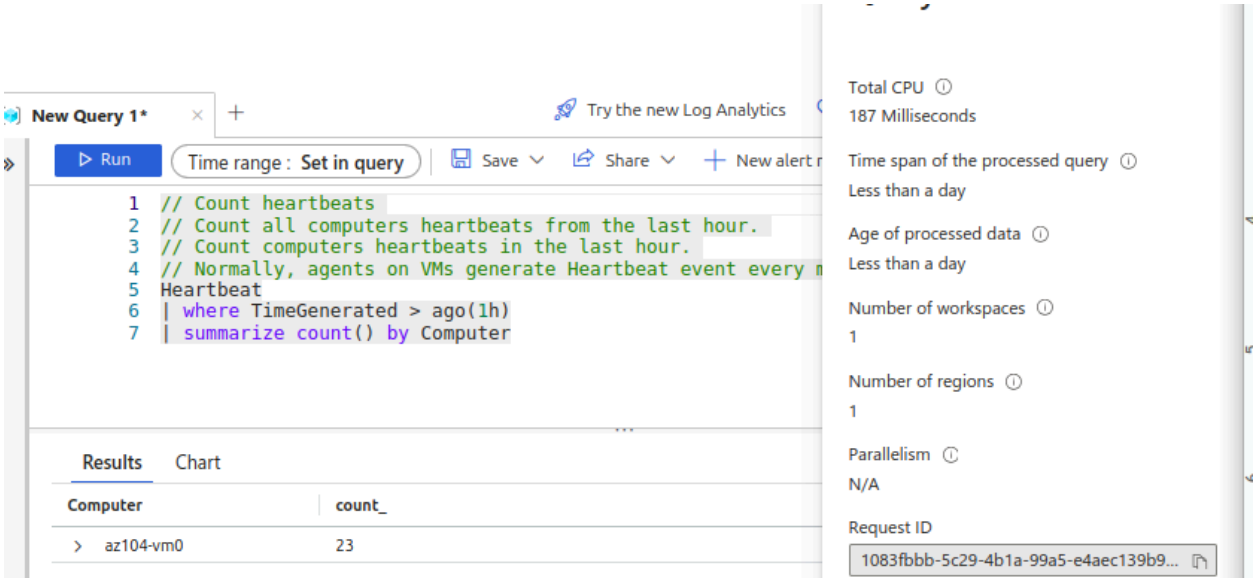
5.Review the queries that are available. Run (hover over the query) the Count heartbeats query.



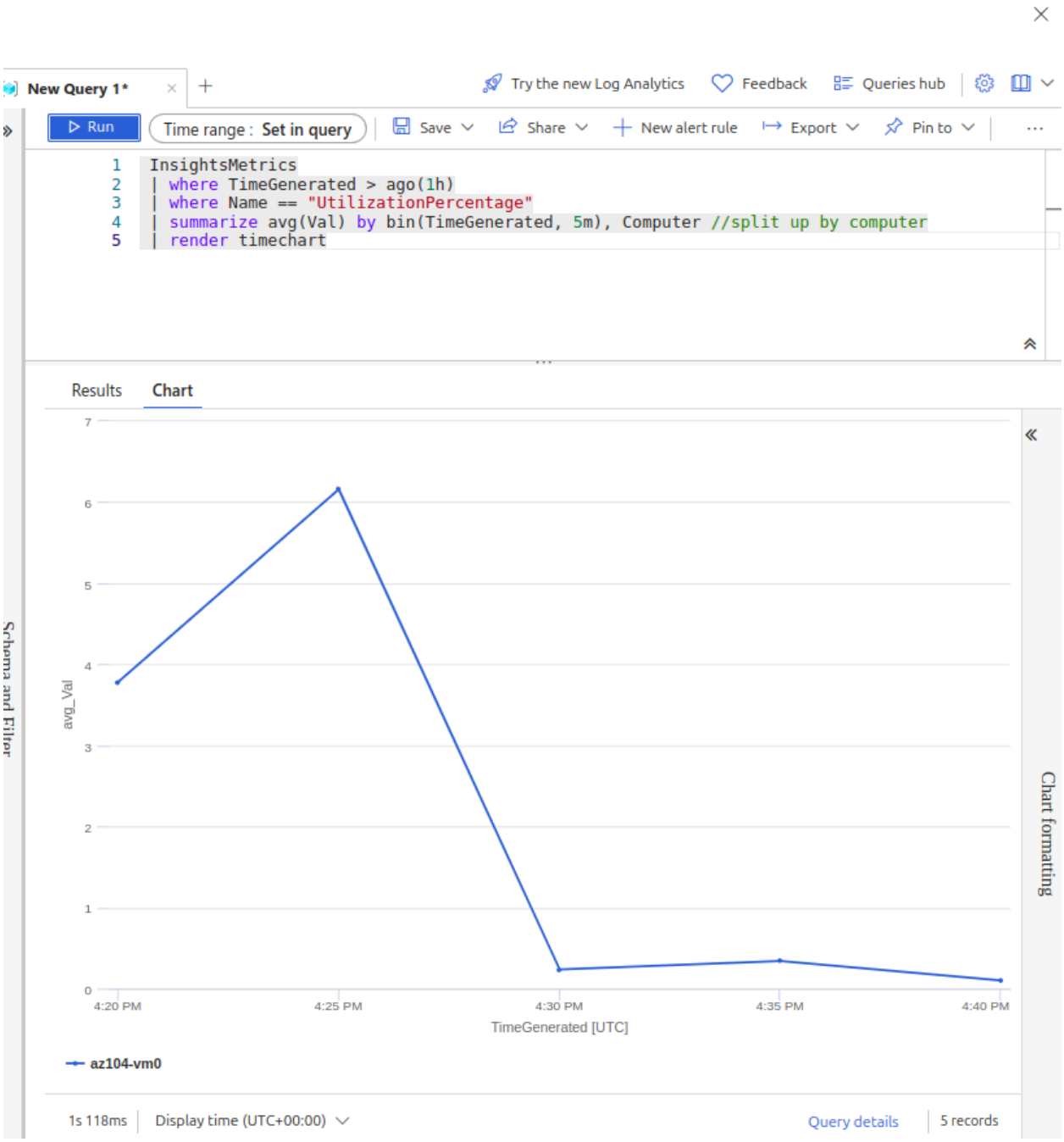
6.You should receive a heartbeat count for when the virtual machine was running.



7.Review the query. This query uses the heartbeat table.



8.Replace the query with this one, and then click Run. Review the resulting chart.



9.As you have time, review and run other queries.

Memory usage: 283 MB

New Query 1*

Try the new Log Analytics | Feedback | Queries hub

Run | Time range : Last 24 hours | Save | Share | New alert rule | Export | Pin to | ...

```
// Virtual Machine free disk space
// Show the latest report of free disk space, per instance.
// To create an alert for this query, click '+ New alert rule'
Perf
| where ObjectName == "LogicalDisk" or // the object name used in Windows records
ObjectName == "Logical Disk" // the object name used in Linux records
| where CounterName == "Free Megabytes"
| summarize arg_max(TimeGenerated, *) by InstanceName // arg_max over TimeGenerated returns the latest record
| project TimeGenerated, InstanceName, CounterValue, Computer, _ResourceId
```

Results | Chart

No results found from the last 24 hours
Try selecting another time range