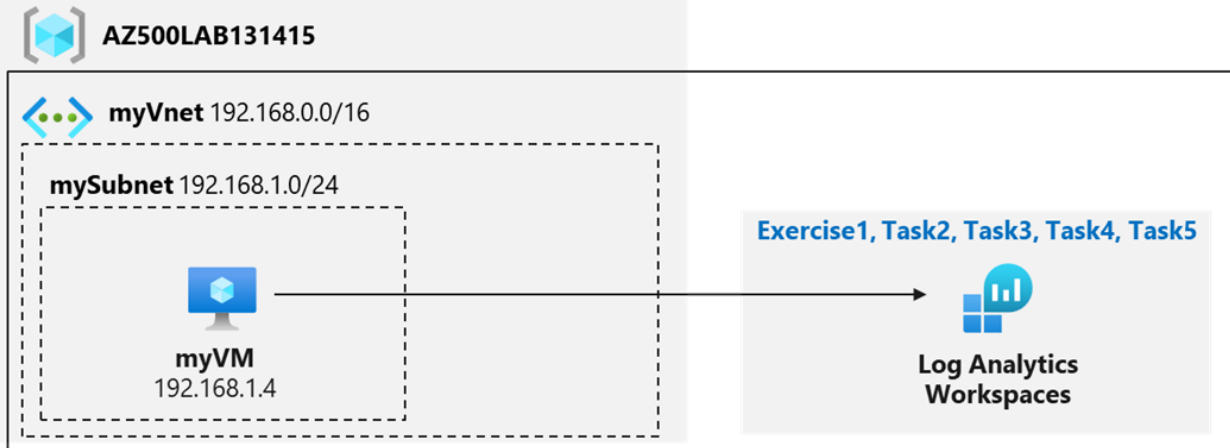


# Lab 13: Azure Monitor

## Exercise1, Task1



## Task 1: Deploy an Azure virtual machine

create a resource group `New-AzResourceGroup -Name AZ500LAB131415 -Location 'EastUS'`

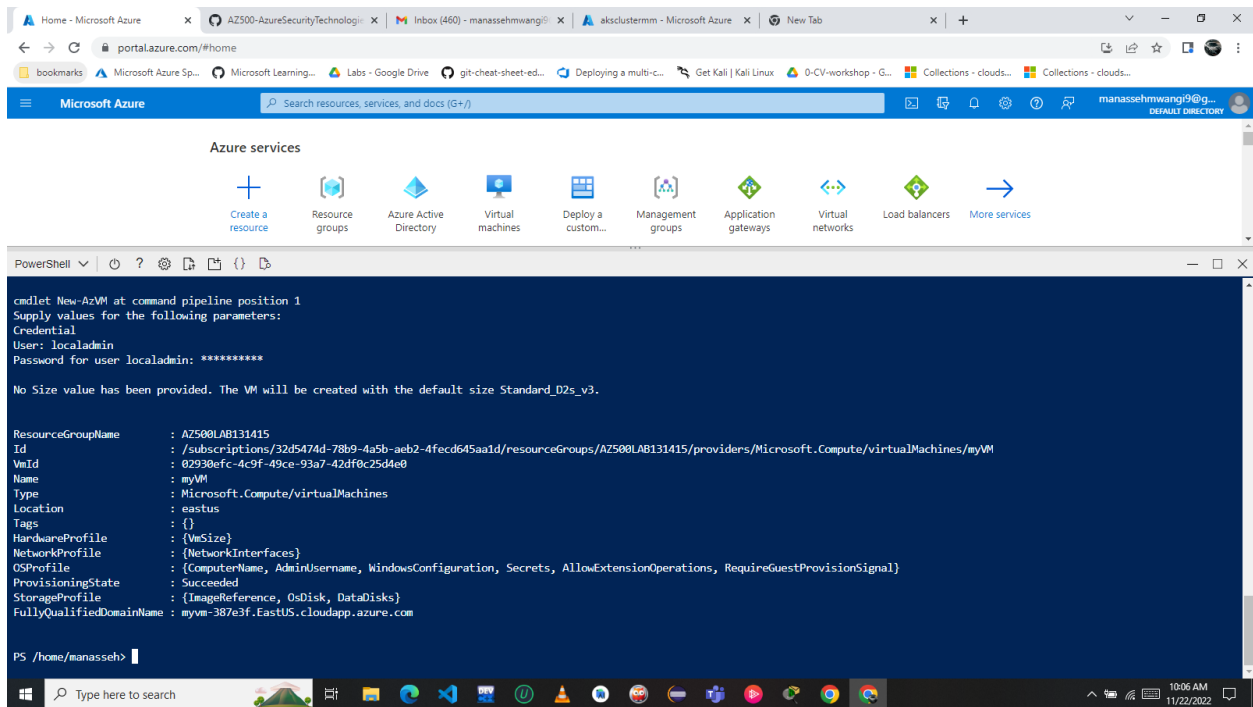
```
PowerShell 7.2.7
PS /home/manasseh> New-AzResourceGroup -Name AZ500LAB131415 -Location 'EastUS'

Confirm
Provided resource group already exists. Are you sure you want to update it?
[Y] Yes [N] No [S] Suspend [?] Help (default is "Y"): y

ResourceGroupName : AZ500LAB131415
Location           : eastus
ProvisioningState   : Succeeded
Tags               :
ResourceId          : /subscriptions/32d5474d-78b9-4a5b-aeb2-4fec645aa1d/resourceGroups/AZ500LAB131415

PS /home/manasseh> Install-Module -Name Az.Compute -Force -RequiredVersion 4.23.0
PS /home/manasseh> pwsh
PowerShell 7.2.7
Copyright (c) Microsoft Corporation.
https://aka.ms/powershell
```

## create a new Azure virtual machine



The screenshot shows the Microsoft Azure portal interface with a PowerShell terminal window open. The terminal displays the output of the `New-AzVM` command, which creates a new virtual machine named `myVM` in the `eastus` region. The output includes details such as the resource group name, VM ID, name, type, location, tags, hardware profile, network profile, OS profile, provisioning state, storage profile, and fully qualified domain name.

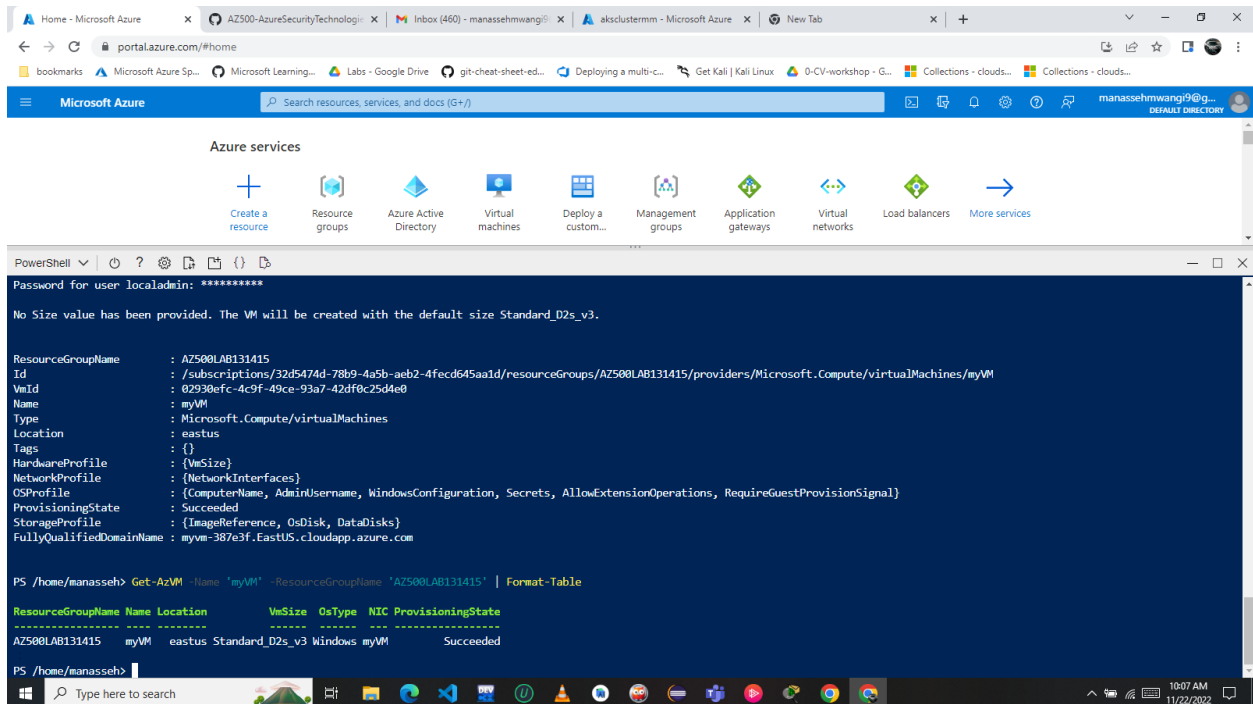
```
cmdlet New-AzVM at command pipeline position 1
Supply values for the following parameters:
Credential
User: localadmin
Password for user localadmin: *****

No Size value has been provided. The VM will be created with the default size Standard_D2s_v3.

ResourceGroupName      : AZ500LAB131415
Id                     : /subscriptions/32d5474d-78b9-4a5b-aeb2-4fec645aa1d/resourceGroups/AZ500LAB131415/providers/Microsoft.Compute/virtualMachines/myVM
VmId                   : 02930efc-4c9f-49ce-93a7-42df0c25d4e0
Name                   : myVM
Type                   : Microsoft.Compute/virtualMachines
Location               : eastus
Tags                   : {}
HardwareProfile         : {VmSize}
NetworkProfile          : {NetworkInterfaces}
OSProfile               : {ComputerName, AdminUsername, WindowsConfiguration, Secrets, AllowExtensionOperations, RequireGuestProvisionSignal}
ProvisioningState       : Succeeded
StorageProfile          : {ImageReference, OsDisk, DataDisks}
FullyQualifiedDomainName : myvm-387e3f.EastUS.cloudapp.azure.com

PS /home/manasseh>
```

## confirm that the virtual machine named myVM was created



The screenshot shows the Microsoft Azure portal interface with a PowerShell terminal window open. The terminal displays the output of the `Get-AzVM` command, which retrieves the details of the virtual machine named `myVM` in the `AZ500LAB131415` resource group. The output is formatted as a table, showing the resource group name, name, location, VM size, OS type, NIC, and provisioning state.

```
PS /home/manasseh> Get-AzVM -Name 'myVM' -ResourceGroupName 'AZ500LAB131415' | Format-Table

ResourceGroupName Name Location VmSize OsType NIC ProvisioningState
-----
AZ500LAB131415 myVM eastus Standard_D2s_v3 Windows myVM Succeeded

PS /home/manasseh>
```

## Task 2: Create a Log Analytics workspace

Home > Log Analytics workspaces >

### Create Log Analytics workspace

Basics Tags Review + Create

**Basics**

A Log Analytics workspace is the basic management unit of Azure Monitor Logs. There are specific considerations you should take when creating a new Log Analytics workspace. [Learn more](#)

With Azure Monitor Logs you can easily store, retain, and query data collected from your monitored resources in Azure and other environments for valuable insights. A Log Analytics workspace is the logical storage unit where your log data is collected and stored.

**Project details**

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

Subscription \*

Resource group \*   
[Create new](#)

**Instance details**

Name \*

Region \*

[Review + Create](#) [Previous](#) [Next: Tags >](#)

Home >

### Microsoft.LogAnalyticsOMS | Overview

Deployment

Search

Delete Cancel Redeploy Download Refresh

**Overview**

**Your deployment is complete**

Deployment name: Microsoft.LogAnalyticsOMS  
Subscription: Azure Pass - Sponsorship  
Resource group: AZ500LAB131415

Start time: 11/22/2022, 10:11:58 AM  
Correlation ID: 4653836a-f5da-4dfa-9ecd-cc90645b31df

**Deployment details**

**Next steps**

[Go to resource](#)

**Give feedback**

Tell us about your experience with deployment

**Cost Management**

Get notified to stay within your budget and prevent unexpected charges on your bill.  
[Set up cost alerts >](#)

**Microsoft Defender for Cloud**

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Meeting in "Cloud ..." 01:20:22

Using PC MicroSD Speakers

### Task 3: Enable the Log Analytics virtual machine extension

This extension installs the Log Analytics agent on Windows and Linux virtual machines. This agent collects data from the virtual machine and transfers it to the Log Analytics workspace

The screenshot shows the Azure Monitor Log Analytics workspace overview page. The left sidebar contains navigation options: Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Locks, Agents management, Legacy agents management, Custom logs, Computer Groups, Data Export, Linked storage accounts, Network isolation, Tables, General, Workspace summary, and Workbooks. The main content area displays the workspace details for 'azuremonitor'. The 'Essentials' section shows the Resource group (az500lab131415), Status (Active), Location (East US), Subscription (Azure Pass - Sponsorship), and Subscription ID (32d5474d-78b9-4a5b-aeb2-4fec645aa1d). The 'Get started with Log Analytics' section provides instructions on how to connect data sources, configure monitoring solutions, and monitor workspace health. The 'Maximize your Log Analytics experience' section is also visible.

Home > Microsoft Log Analytics OMS | Overview >

**azuremonitor**  
Log Analytics workspace

Search [ ] Delete

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Locks

Agents management

Legacy agents management

Custom logs

Computer Groups

Data Export

Linked storage accounts

Network isolation

Tables

General

Workspace summary

Workbooks

Essentials

Resource group (move): [az500lab131415](#)

Status: Active

Location: East US

Subscription (move): [Azure Pass - Sponsorship](#)

Subscription ID: 32d5474d-78b9-4a5b-aeb2-4fec645aa1d

Tags (edit): [Click here to add tags](#)

Workspace Name: azuremonitor

Workspace ID: fee6bfce-d27b-4c10-a908-be2f0be6399d

Pricing tier: Pay-as-you-go

Access control mode: Use resource or workspace permissions

Operational issues: [OK](#)

Get started with Log Analytics

Log Analytics collects data from a variety of sources and uses a powerful query language to give you insights into the operation of your applications and resources. Use Azure Monitor to access the complete set of tools for monitoring all of your Azure resources.

1 Connect a data source

Select one or more data sources to connect to the workspace

Azure virtual machines (VMs)

Windows and Linux Agents management

Storage account log

System Center Operations Manager

2 Configure monitoring solutions

Add monitoring solutions that provide insights for applications and services in your environment

View solutions

3 Monitor workspace health

Create alerts to proactively detect any issue that arise in your workspace

Learn more about monitor workspace health

Useful links

[Documentation site](#)

[Community](#)

Maximize your Log Analytics experience

Wait for the virtual machine to connect to the Log Analytics workspace.

The screenshot shows the Azure Monitor Log Analytics workspace virtual machines page. The left sidebar contains navigation options: Virtual machines, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Locks, Agents management, Legacy agents management, Custom logs, Computer Groups, Data Export, Linked storage accounts, Network isolation, Tables, General, Workspace summary, and Workbooks. The main content area displays a table of virtual machines connected to the workspace. The table has columns: Name, Log Analytics Connection, OS, Subscription, Resource group, and Location. Two virtual machines are listed: 'aks-nodepool1-31989171-vmss' (Not connected) and 'myVM' (This workspace).

Home > Log Analytics workspaces > azuremonitor >

**Virtual machines**

azuremonitor

Refresh

Filter by name... 8 selected 2 selected Azure Pass - Sponsorship 2 selected East US

Name	Log Analytics Connection	OS	Subscription	Resource group	Location
aks-nodepool1-31989171-vmss	Not connected	Linux	32d5474d-78b9-4a5b-aeb2-4fec645aa1d	MC_akshandsonlab_aksclusterm-eastus	eastus
myVM	This workspace	Windows	32d5474d-78b9-4a5b-aeb2-4fec645aa1d	AZ500LAB131415	eastus

## Task 4: Collect virtual machine event and performance data

Home > Microsoft.LogAnalyticsOMS | Overview > azuremonitor

azuremonitor | Legacy agents management

Search resources, services, and docs (G+)

Windows event logs Windows performance counters Linux performance counters Syslog IIS Logs

The Log Analytics agents won't be supported as of **August 31, 2024**. Plan to migrate to Azure Monitor Agent prior to this date. If you've already installed Azure Monitor Agent, make sure to create and associate [data collection rules](#) to the agents.

Collect performance counters from Log Analytics agents at custom intervals to gain insight into the performance of hardware components, operating systems, and applications. [Learn more](#)  
Click on the new counter name to edit it. ⓘ

+ Add performance counter

Filter performance counters

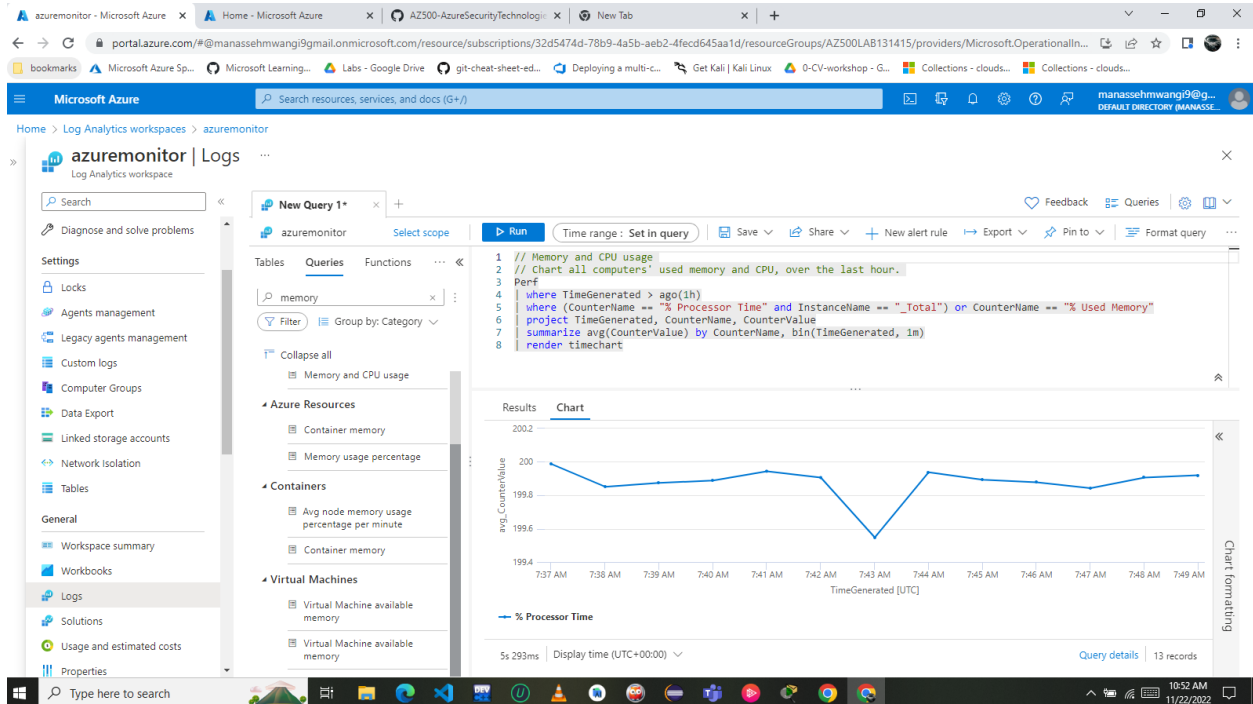
Performance counter name	Sample rate (seconds)
Event Tracing for Windows\Total Memory Usage --- No...	60
Event Tracing for Windows\Total Memory Usage --- Pag...	60
NUMA Node Memory\Available MBytes	60
Process\% Processor Time	60

Apply Discard changes

Review the listing of available performance counters, and add the following ones:

- Memory(\*)\Available Memory Mbytes
- Process(\*)\% Processor Time
- Event Tracing for Windows\Total Memory Usage --- Non-Paged Pool
- Event Tracing for Windows\Total Memory Usage --- Paged Pool

## Task 5: View and query collected data



You can start with the query **Virtual machine available memory**. If you don't get any results check the scope is set to virtual machine

