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  - Let's create a virtual machine
  - Use a notebook

# caution

- This slide was created for the April 18, 2025 UTokyo Azure Usage Briefing.
- Azure specifications change frequently, so if the following does not work, please [refer to the Azure documentation](#).

# Let's create a virtual machine

Case study:

“I want to LoRA fine-tuning the Llama-13 model of 3B.”

# What is a Virtual Machine?

- A **virtual machine (VM)** is a technology that allows you to create a virtual computer on a cloud server.
- You have the flexibility to customize your computing environment just like building your own physical machine.
  - Want a **GPU**? You can include one.
  - Need **48 CPUs**? That's possible.
  - Want **1TB of storage**? No problem.
- You can also create **multiple virtual machines with different specifications** and have them work together to process a single task or file. This allows for **parallel processing** and is useful for handling large-scale workloads or experiments.

# Roadmap

- 1. Check the required machine specifications**
- 2. Create a Virtual Machine**
  - 2.1 Request a **quota** (approval is required for high-cost resources)
  - 2.2 Create a VM using the approved resources
- 3. Log in to the VM from your local computer**
- 4. Share files across multiple virtual machines**
  - 4.1 Create a **Storage Account**
  - 4.2 Create a **File Share**
  - 4.3 **Mount** the file share from each virtual machine
  - 4.4 Configure automatic mounting on reboot
  - 4.5 Verify that all virtual machines can read and write to the same file share
- 5. Stop the virtual machine to avoid unnecessary charges**

1. Check the required machine specifications

# What kind of Azure virtual machine resources match your needs?

- If you want to fine-tune a **large language model**, you'll likely need a **GPU**.
- However, since GPUs are expensive, it's best not to choose a machine with higher specs than necessary.
- I asked **ChatGPT** for advice.  
(Make sure to verify, as the information may be outdated!)

## ChatGPT's RESPONSE:

- LoRA fine-tuning for LLaMA-3 13B requires an **A100 80GB GPU**
- The optimal choice is **Standard\_NC24ads\_A100\_v4** (1x A100, 24 vCPUs)
- When requesting a quota, apply for "**Standard NCADS\_A100\_v4 Family vCPUs**" with **24 vCPUs**
- If you're planning larger-scale training, consider requesting **48 or 96 vCPUs**

## Product Availability by Region

With 60+ announced regions, more than any other cloud provider, Azure makes it easy to choose where your workloads run. © Microsoft 2024. All rights reserved. Release dates, features, and requirements are subject to change. THIS PAGE IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, WHETHER EXPRESS, IMPLIED, OR STATUTORY, AS TO THE INFORMATION ON THIS PAGE.

\* Reserved Access Regions: Certain regions are access restricted to support specific customer scenarios.

Virtual Machine

Select a Geography

A100

2/3

You can check which resources are available in each region [on this page](#).

“SKU” stands for “Stock Keeping Unit.”

● Generally Available ■ In Public Preview

### Geographies

### Japan

### Korea

### Mexico

### New Zealand

Products	Product SKU	Japan East	Japan West	Korea Central	Korea South*	Mexico Central	New Zealand North
NC-series							
NC A100 v4 Series		●			●		
NCads A10 v4 series							
NCads H100 v5-series							
NCasT4v3-series		●					
NCsv2-series							
NCsv3-series		●					
NCv2-series							
NCv3-series		●			●		
ND-Series							
ND A100 v4 Series							
NDasrv4-series							
NDm A100 v4 Series							
NDs-series							
NDv2-series							
NG_V620-v1-series		●					
NP-series					■		

“Japan East” does not have many resources.

学校 Azure AI Foundry - Micro チャット プレイグラウンド - Az azure foundry sku - 検索 azure product available Azure Product by Region Product Availability by R A100 3/3

https://azure.microsoft.com/en-us/explore/global-infrastructure/products-by-region/table

With 60+ announced regions, more than any other cloud provider, Azure makes it easy to choose the datacenter and regions that are right for you and your customers. Select a geography to view available products.

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\* Reserved Access Regions: Certain regions are access restricted to support specific customer scenarios, for example in-country disaster recovery. See Business continuity and disaster recovery (BCDR).

Search Products

Select a Geography

All

● Generally Available ■ In Public Preview

Products	Geographies	United Kingdom			United States					
		South	UK West	Central US	East US	East US 2	North Central US	South Central US	West Central US	West US
NCads H100 v3-series					●					
NCasT4v3-series		●		●	●	●	●			●
NCsv2-series					●				●	
NCsv3-series		●		●	●	●			●	●
NCv2-series					●				●	
NCv3-series		●			●	●			●	
ND-Series					●					
ND A100 v4 Series					●				●	
NDasrv4-series					●				●	
NDm A100 v4 Series						●			●	
NDs-series					●					
NDv2-series					●				●	
NG_V620-v1-series					■	●			■	
On demand capacity reservations for Azure Virtual Machines										
PR series										

Virtual machines seem to be concentrated in regions like **Southeast Asia, West Europe, East US, East US 2, South Central US, and West US 2**.

Microsoft | Azure Explore Products ▾ Options ▾ Pricing ▾ Partners ▾ Resources ▾ Search Learn Support Contact Sales Get started with Azure Sign in

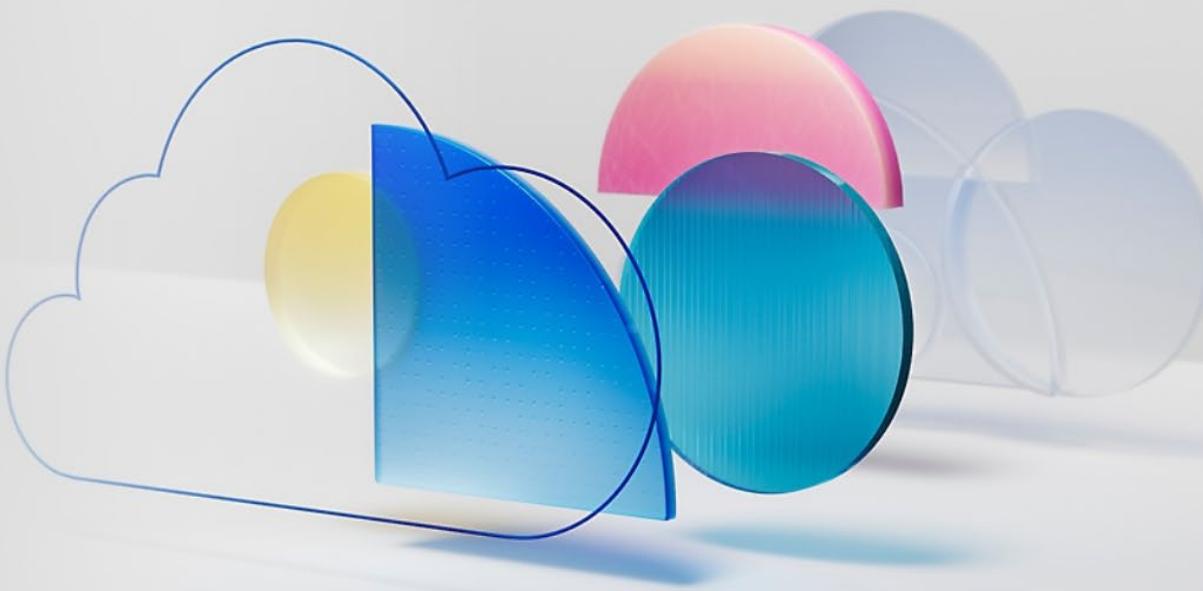
Check the price [here](#)

Service provisioned reservations >

# Azure pricing

Get the best value at every stage of your cloud journey with simple pricing and predictable, transparent costs.

[See pricing by product](#) [Pricing calculator](#)



Ask a question about Azure.

How will Azure AI help my business? How can I try Azure?

AI-powered assistant

Need help finding a product or solution? Try the AI-powered assistant.

AI-powered assistant +

Overview

Pricing by product

Estimate and budget

Manage and enhance

Resources

FAQ

Next steps

Request a pricing quote

Get started with Azure



### Azure Virtual Machines

Provision Windows and Linux VMs in seconds.



### Azure Storage

Durable, highly available, and massively scalable cloud storage.



### Azure SQL Database

Build apps that scale with a managed and intelligent SQL database in the cloud.



### Azure App Service

Quickly create powerful cloud apps for web and mobile.

[See pricing page](#)

[See pricing page](#)

[See pricing page](#)

[See pricing page](#)



### Azure AI services

Add cognitive capabilities to apps with APIs and AI services.

[See pricing page](#)



### Azure Blob Storage

Massively scalable and secure object storage.

[See pricing page](#)



### Azure Cosmos DB

Build or modernize scalable, high-performance apps.

[See pricing page](#)



### Azure Functions

Execute event-driven serverless code functions with an end-to-end development experience.

[See pricing page](#)

> See all products

AI-powered assistant



OS/Software: Ubuntu Category: GPU VM series: A100  
Currency: United States – Dollar (\$) USD Display pricing by: Hour Pricing model & comparison: Savings plan (1 & 3 year)  
Region: East US 2

Showing 21 applicable virtual machine series.

For East US 2

### NC A100 v4 series

NC A100 v4 Azure Virtual Machines, powered by NVIDIA Ampere A100 80GB PCIe GPUs and AMD EPYC M...  
and cost efficient for a variety of real-word Applied AI workload.

Price for 1× A100 GPU  
In East US 2, it's  
approximately ¥580 per hour.

Instance	Core(s)	RAM	Temporary storage	GPU	Pay as you go	1 year savings plan	3 year savings plan	Spot	Add to estimate
NC24ads A100 v4	24	220 GiB	958 GiB	1X A100	\$3.6730/hour	\$3.0574/hour ~16% savings	\$2.2659/hour ~38% savings	\$0.6222/hour ~83% savings	<button>+ </button>
NC48ads A100 v4	48	440 GiB	1,916 GiB	2X A100	\$7.3460/hour	\$6.1148/hour ~16% savings	\$4.5318/hour ~38% savings	\$1.2444/hour ~83% savings	<button>+ </button>
NC96ads A100 v4	96	880 GiB	3,832 GiB	4X A100	\$14.6920/hour	\$12.2296/hour ~16% savings	\$9.0635/hour ~38% savings	\$2.4888/hour ~83% savings	<button>+ </button>

### NCads A10 v4 series

The NCads A10 v4 series is based on the Nvidia A10 GPU and specifically designed for AI inferencing and GPU compute workloads. Azure is introducing GPU partitioned VM sizes to provide flexible VM choices starting with 1/2 A10 and scale up to a full A10 or 2\*A10 GPUs.

Chat with Sales

Showing 21 applicable virtual machine series.

**Price for 1× A100 GPU**  
In East Japan, it's approximately **¥700 per hour**.

NC A100 v4

NC A100 v4 Az and cost efficient

GPUs and AMD EPYC Milan processors, are optimized for delivery leadership-class performance

Instance	Core(s)	RAM	Temporary storage	GPU	Pay as you go	1 year savings plan	3 year savings plan	Spot	Add to estimate
NC24ads A100 v4	24	220 GiB	958 GiB	1X A100	\$5.3260/hour	\$4.4334/hour ~16% savings	\$3.2856/hour ~38% savings	\$0.8522/hour ~83% savings	<button>+ Add</button>
NC48ads A100 v4	48	440 GiB	1,916 GiB	2X A100	\$10.6520/hour	\$8.8667/hour ~16% savings	\$6.5712/hour ~38% savings	\$1.7043/hour ~83% savings	<button>+ Add</button>
NC96ads A100 v4	96	880 GiB	3,832 GiB	4X A100	\$21.3030/hour	\$17.7326/hour ~16% savings	\$13.1418/hour ~38% savings	\$3.4085/hour ~84% savings	<button>+ Add</button>

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The NCads A10 v4 series is based on the Nvidia A10 GPU and specifically designed for AI inferencing and GPU compute workloads. Azure is introducing GPU partitioned VM sizes to provide flexible VM choices starting with 1/2 A10 and scale up to a full A10 or 2\*A10 GPUs.

Chat with Sales

East Japan is higher than East US2!

Showing 21 applicable virtual machine series.

Price for 1× A100 GPU  
In East Japan, the cost is approximately ¥700 per hour.

Spot use is overwhelmingly cheap!  
About 110 yen / hour  
(83% off at this time!)

East Japan is higher than East US2!

Instance	Core(s)	RAM	Temporary storage	GPU	Pay as you go	1 year savings plan	3 year savings plan	Spot	Add to estimate
NC24ads A100 v4	24	220 GiB	958 GiB	1X A100	\$5.3260/hour	\$4.4334/hour ~16% savings	\$3.2856/hour ~38% savings	\$0.8522/hour ~83% savings	<button>+ Add</button>
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Chat with Sales

# What is a Spot Virtual Machine? ([Azure documentation](#))

You can use spot VMs at a **discounted rate (up to 90% off)** when Azure has surplus capacity. However, if demand for the resource increases, your VM may be **forcibly stopped**.

- The **discount rate** varies depending on **VM size, region, and time of day**.

## Deletion Type:

Specifies under what conditions the VM will be deleted:

- **Capacity only:** The VM is deleted when Azure runs low on capacity.
- **Price or capacity:** The VM is deleted either when capacity runs low **or the price exceeds your set threshold**.

## Deletion Policy:

Defines **what gets deleted** when deletion is triggered:

- **Stop / Deallocate:** The VM is stopped, but **disks and data are retained**.  
You can restart the VM later and resume from the previous state.  
*(No charges for CPU or GPU while stopped, but **disk and network charges continue**.)*
- **Delete:** The **entire VM, including disks**, is cleaned up.  
*(Make sure to save important data to separate storage beforehand. Once deleted, you are **no longer billed** for this VM.)*

## **2. Create a Virtual Machine**

学校

azure portal - 検索

Virtual machines - Microsoft Azure

https://portal.azure.com/#home

Microsoft Azure

vir

Copilot

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THE UNIVERSITY OF TOKYO (UNI...  
[User]

Azure services

All Services (41) Marketplace (31) More (4)

Services

- Virtual machines
- Virtual networks
- Virtual Appointments
- Virtual clusters

See more

Microsoft Entra ID

- virgo
- VIRTUAL-WINDOWS
- VIRGO
- Virtual-Windows

Device

Marketplace

- Virtual machine
- Virtual network
- Azure SQL

Continue searching in Microsoft Entra ID

Searching all subscriptions. Change

Give feedback

Subscription

Resource group

Cost alerts

Quotas

Users

Resource groups

Create a resource

More services

Recent Favorite

Name

- AI-Foundary-test
- AI-Foundary-hub
- gpt-4o-test-1-2
- openai\_test1
- 1923306880-YamakataTraining
- gpt-4o-test-1-1
- 1923306880-YamakataTraining
- openai\_test1

Last Viewed

- 2 days ago

Search for "virtual machines"

Home >

## Virtual machines

The University of Tokyo (univtoku.onmicrosoft.com)

Create Switch to classic Reservations Manage view Refresh Export to CSV Open query Assign tags Start Restart Stop

Filter for any field...

Subscription equals all

Type equals all

Resource group equals all

Location equals all

Add filter

Showing 1 to 2 of 2 records.

No grouping

List view

<input type="checkbox"/> Name ↑↓	Subscription ↑↓	Resource group ↑↓	Location ↑↓	Status ↑↓	Operating system ↑↓	Size ↑↓	Public IP address
<input type="checkbox"/> llama3-vm	1923306880-Yamakat...	llama3-finetuning	East US 2	Stopped (deallocated)	Linux	Standard_NC24ads_A1...	172.203.39.97
<input type="checkbox"/> llama3-vm2	1923306880-Yamakat...	llama3-finetuning	East US 2	Running	Linux	Standard_D8s_v3	172.177.138.56

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Next >

Give feedback

[Home >](#)

## Virtual machines

The University of Tokyo (univtoku.onmicrosoft.com)

 Create  Reservations  Refresh  Open query  Start  Stop 

### Azure virtual machine

Create a virtual machine hosted by Azure

### Azure virtual machine with preset configuration

Create a virtual machine with presets based on your workloads

### More VMs and related solutions

Discover and deploy full workloads and Azure products for your business needs

Type equals all  Resource group equals all  Location equals all  Add filter

No grouping 

List view 

Resource group	Location	Status	Operating system	Size	Public IP address
makat... llama3-finetuning	East US 2	Stopped (deallocated)	Linux	Standard_NC24ads_A1...	172.203.39.97
makat... llama3-finetuning	East US 2	Running	Linux	Standard_D8s_v3	172.177.138.56

azure portal - 検索 Create a virtual machine - Microsoft Virtual Machine - ARM

Microsoft Azure Search resources, services, and docs (G+/-) Copilot

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Home > Virtual machines >

## Create a virtual machine

Help me create a low cost VM

Help me create a VM optimized for high availability

Help me choose the right VM size for my workload

Basics Disks Networking Management Monitoring Advanced Tags Review + create

Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. [Learn more](#)

### Project details

Select the subscription to manage deployed resources and costs. Use resourc...

Subscription \* (i)

1923306880-YamakataTraini...

Resource group \* (i)

(New) Resource group

Create new

### Instance details

Virtual machine name \* (i)

A resource group is a container for all the resources for an Azure solution.

Region \* (i)

Name \*

lama3-finetune

Availability options (i)

OK

Cancel

Zone options (i)

Not only the virtual machine itself, but also various other resources such as public IP addresses, disks, and other machines that share those resources will be associated with it.

If you want to completely stop billing, the easiest way is to delete the entire **resource group**.

In other words, it's recommended to organize your resources into separate resource groups that can be safely deleted when no longer needed.

< Previous

Next : Disks >

Review + create

Give feedback

The screenshot shows the Microsoft Azure portal interface. At the top, there's a navigation bar with icons for account, search, and help. The main title is "Create a virtual machine - Microsoft VirtualMachine-ARM". Below the title, there's a search bar with placeholder text "Search resources, services, and docs (G+/" and a "Copilot" button. On the right side of the header, there's a user profile with the email "1923306880@utac.u-to... THE UNIVERSITY OF TOKYO (UNI...)" and a lock icon.

Home > Virtual machines >

## Create a virtual machine



Help me create a low cost VM

Help me create a VM optimized for high availability

Help me choose the right VM size for my workload

Basics Disks Networking Management Monitoring Advanced Tags Review + create

Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. [Learn more](#)

### Project details

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

Subscription \*

1923306880-YamakataTraining

Resource group \*

(New) llama3-finetune

[Create new](#)

### Instance details

Virtual machine name \*

llama3-vm

Region \*

(US) East US 2

Availability options

No infrastructure redundancy required

Security type

Standard

< Previous

Next : Disks >

**Review + create**

Give feedback



Home > Virtual machines >

## Create a virtual machine

Help me create a low cost VM

Help me create a VM optimized for high availability

Help me choose the right VM size for my workload

Availability options

No infrastructure redundancy required

Security type

Standard

Trusted launch virtual machine is required when using 1P Gallery images.

Image \*

Ubuntu Server 24.04 LTS - x64 Gen2

[See all images](#) | [Configure VM generation](#)

This image is compatible with additional security features. [Click here to swap to the Trusted launch security type](#).

VM architecture

- Arm64  
 x64

Run with Azure Spot discount

Click "see all sizes"

Size \*

Standard\_D8s\_v3 - 8 vCPUs, 32 GiB memory (¥43,309/month)

[See all sizes](#)

Enable Hibernation

Hibernate is not supported by the size that you have selected. Choose a size that is compatible with Hibernate to enable this feature. [Learn more](#)

### Administrator account

< Previous

Next : Disks >

**Review + create**

Give feedback

学校 azure portal - 検索 Select a VM size - Microsoft Azure +

https://portal.azure.com/#view/Microsoft\_Azure\_Compute/SpecPickerV2Blade/subscriptionId/a600356d-63a3-483e-b4bb-59629c01a212/regionId/eastus2/extendedR... ハ aあ A? サ ? フルスクリーン

Microsoft Azure Search resources, services, and docs (G+/) Copilot 1923306880@utac.u-to... THE UNIVERSITY OF TOKYO (UNI... ログアウト

Home > Virtual machines > Create a virtual machine >

## Select a Search for "A100"

A100 vCPUs : All RAM (GiB) : All Display cost : Monthly Add filter

Showing 4 of 945 VM sizes. Subscription: 1923306880-YamakataTraining Region: East US 2 Current size: Standard\_D8s\_v3 Image: Ubuntu Server 24.04 LTS Learn more about VM sizes Group by series

VM Size ↑↓	Type ↑↓	vCPUs ↑↓	RAM (GiB) ↑↓	Data disks ↑↓	Max IOPS ↑↓	Local storage (G)
Size not available						
Insufficient quota - family limit						

See the info bubble next to a size for details on availability  
Family vCPUs are insufficient to deploy these sizes

Select Prices presented are estimates in JPY that include only Azure infrastructure costs and any discounts for the subscription and location. The prices don't include any applicable software costs. Final charges will appear in your local currency in cost analysis and billing views. View Azure pricing calculator.

Give feedback

A Select a VM size - Microsoft Azure

portal.azure.com/#view/Microsoft\_Azure\_Compute/SpecPickerV2Blade/subscriptionId/a600356d-63a3-483e-b4bb-59629c01a212/regionId/eastus/extendedRegion... 本人確認を行ってください

Microsoft Azure Search resources, services, and docs (G+)

Copilot

2573969490@utac.u-to... THE UNIVERSITY OF TOKYO (UNI...)

Home > Compute infrastructure | Virtual machines > Create a virtual machine >

## Select a VM size

Search for "A100"

A100 Display cost : Monthly vCPUs : All RAM (GiB) : All Add filter

Showing 4 of 1013 VM sizes. Subscription: 1923306880-YamakataTraining Region: East US Current size: Standard\_D2s\_v3 Image: Ubuntu Server 24.04 LTS Learn more about VM sizes Group by series

VM Size ↑↓	Type ↑↓	vCPUs ↑↓	RAM (GiB) ↑↓	Data disks ↑↓	Max IOPS ↑↓	Local storage (GB) ↑↓
NC24ads_A100_v4 ⓘ Request quota	GPU	24	220	30000	894 (NVMe)	
NC48ads_A100_v4 ⓘ Request quota	GPU	48	440	60000	1788 (NVMe)	
NC96ads_A100_v4 ⓘ Request quota	GPU	96	880	120000	3576 (NVMe)	
ND96amsr_A100_v4 ⓘ Request quota	GPU	96	880	80000	7153 (NVMe)	
NC24ads_A100_v4 ⓘ Request quota	GPU	24	220	30000	894 (NVMe)	
NC48ads_A100_v4 ⓘ Request quota	GPU	48	440	60000	1788 (NVMe)	
NC96ads_A100_v4 ⓘ Request quota	GPU	96	880	120000	3576 (NVMe)	
ND96amsr_A100_v4 ⓘ Request quota	GPU	96	880	80000	7153 (NVMe)	

See the info bubble next to a size for details on availability [タイトルなし]

Click "Request quota"

Select Prices presented are estimates in JPY that include VAT. These prices don't include any applicable software costs. Final charges may vary.

Give feedback

## 2.1 Request a quota

Approval is required for high-cost resources

# What is a Quota Request?

When you want to use **expensive resources** like **GPUs** or a large number of **CPUs**, you need **approval from Azure**.

## Why is this required?

- To prevent users from **accidentally using excessive resources**, which could lead to **unexpected high charges**
- To ensure **fair resource distribution** so that some users don't monopolize specific resources
- To **balance server loads** and prevent resource congestion in certain regions

A Select a VM size - Microsoft Azure

portal.azure.com/#view/Microsoft\_Azure\_Compute/SpecPickerV2Blade/subscriptionId/a600356d-63a3-483e-b4bb-59629c01a212/regionId/eastus/extendedRegion... 本人確認を行ってください

Microsoft Azure Search resources, services, and docs (G+)

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Home > Compute infrastructure | Virtual machines > Create a virtual machine >

## Select a VM size

Search for "A100"

A100 Display cost : Monthly vCPUs : All RAM (GiB) : All Add filter

Showing 4 of 1013 VM sizes. Subscription: 1923306880-YamakataTraining Region: East US Current size: Standard\_D2s\_v3 Image: Ubuntu Server 24.04 LTS Learn more about VM sizes Group by series

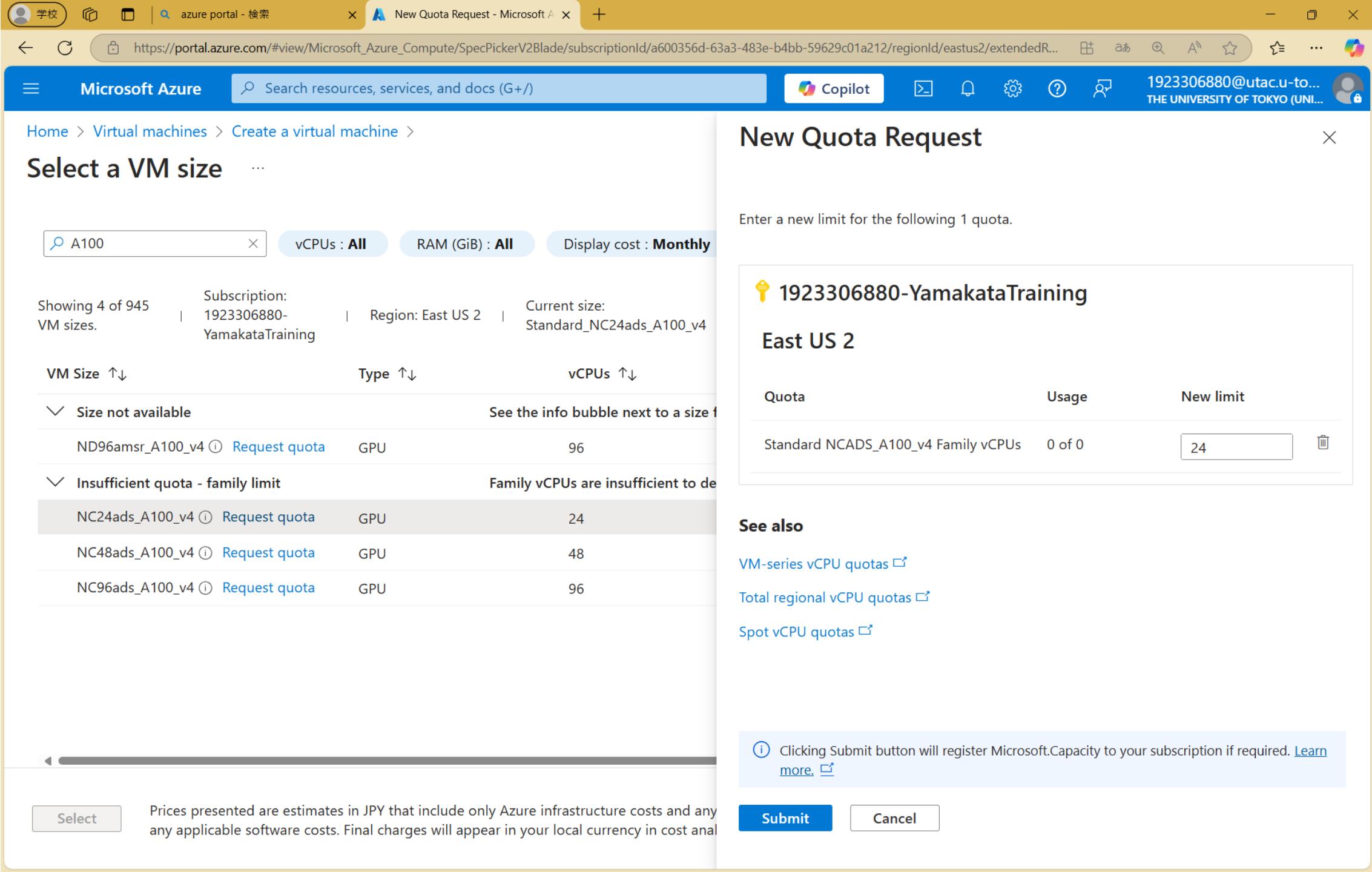
VM Size ↑↓	Type ↑↓	vCPUs ↑↓	RAM (GiB) ↑↓	Data disks ↑↓	Max IOPS ↑↓	Local storage (GB) ↑↓
NC24ads_A100_v4 ⓘ Request quota	GPU	24	220	30000	894 (NVMe)	
NC48ads_A100_v4 ⓘ Request quota	GPU	48	440	60000	1788 (NVMe)	
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ND96amsr_A100_v4 ⓘ Request quota	GPU	96	880	80000	7153 (NVMe)	

See the info bubble next to a size for details on availability [タイトルなし]

Click "Request quota"

Select Prices presented are estimates in JPY that include VAT. These prices don't include any applicable software costs. Final charges may vary.

Give feedback



学校 azure portal - 検索 New Quota Request - Microsoft A +

https://portal.azure.com/#view/Microsoft\_Azure\_Compute/SpecPickerV2Blade/subscriptionId/a600356d-63a3-483e-b4bb-59629c01a212/regionId/eastus2/extendedR... ← ↻ aā + A? ⚡ ... 🔍

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Home > Virtual machines > Create a virtual machine >

## Select a VM size

A100 vCPUs : All RAM (GiB) : All Display cost : Monthly

Showing 4 of 945 VM sizes. Subscription: 1923306880-YamakataTraining Region: East US 2 Current size: Standard\_NC24ads\_A100\_v4

VM Size ↑↓	Type ↑↓	vCPUs ↑↓
ND96amsr_A100_v4 ⓘ Request quota	GPU	96
NC24ads_A100_v4 ⓘ Request quota	GPU	24
NC48ads_A100_v4 ⓘ Request quota	GPU	48
NC96ads_A100_v4 ⓘ Request quota	GPU	96

Select Prices presented are estimates in JPY that include only Azure infrastructure costs and any applicable software costs. Final charges will appear in your local currency in cost anal

### New Quota Request

... We are reviewing your request to adjust the quota.

Please wait a few minutes while we review your request to adjust the Standard NCADS\_A100\_v4 Family vCPUs quota to 24 in the East US 2 region. If you close the Quota Details blade, you will not see a status update for your request, but can check it in the Azure Activity Log.

...

We are reviewing your request to adjust 1 quotas.

1923306880-YamakataTraining

Received (vCPU)	New limit (vCPU)
Standard NCADS_A100_v4 Family vCPUs	0 of 24

学校 azure portal - 検索 New Quota Request - Microsoft A +

https://portal.azure.com/#view/Microsoft\_Azure\_Compute/SpecPickerV2Blade/subscriptionId/a600356d-63a3-483e-b4bb-59629c01a212/regionId/eastus2/extendedR... フィルター aあ A? サービス ニュース ヘルプ メニュー

Microsoft Azure Search resources, services, and docs (G+/) Copilot 1 セットアップ ニュース ヘルプ メニュー 1923306880@utac.u-to... THE UNIVERSITY OF TOKYO (UNI... ログアウト

Home > Virtual machines > Create a virtual machine >

## Select a VM size ...

A100 vCPUs : All RAM (GiB) : All Display cost : Monthly

Showing 4 of 945 VM sizes. Subscription: 1923306880-YamakataTraining Region: East US 2 Current size: Standard\_NC24ads\_A100\_v4

VM Size ↑↓	Type ↑↓	vCPUs ↑↓
ND96amsr_A100_v4 ⓘ Request quota	GPU	96
NC24ads_A100_v4 ⓘ Request quota	GPU	24
NC48ads_A100_v4 ⓘ Request quota	GPU	48
NC96ads_A100_v4 ⓘ Request quota	GPU	96

See the info bubble next to a size for more details.

VM Size ↑↓ Type ↑↓ vCPUs ↑↓

✓ Size not available ⓘ ND96amsr\_A100\_v4 ⓘ Request quota GPU 96

✓ Insufficient quota - family limit ⓘ NC24ads\_A100\_v4 ⓘ Request quota GPU 24 Family vCPUs are insufficient to de

NC48ads\_A100\_v4 ⓘ Request quota GPU 48

NC96ads\_A100\_v4 ⓘ Request quota GPU 96

Select Prices presented are estimates in JPY that include only Azure infrastructure costs and any applicable software costs. Final charges will appear in your local currency in cost anal

## New Quota Request

Successful 0 Partial increase ⓘ 0 Unsuccessful 1

Approval may be granted immediately, but it can also be denied.

East US 2

Standard NCADS\_A100\_v4 Family vCPUs 0 of 24 24

To follow up on quota increase requests, contact the support team.

Create a support request

Home > Virtual machines > Create a virtual machine >

## Select a VM size

## Request details

A100 vCPUs : All

Showing 4 of 945 VM sizes.

Subscription: 1923306880-YamakataTraining | Region

VM Size ↑↓	Type ↑↓
ND96amsr_A100_v4	Request quota GPU
NC24ads_A100_v4	Request quota GPU
NC48ads_A100_v4	Request quota GPU
NC96ads_A100_v4	Request quota GPU

Select

Prices presented are estimates in JPY that any applicable software costs. Final charge

Select the resource deployment model and request types for this quota request.

Deployment model \* ⓘ

Resource Manager

Choose request types \*

- Increase quota / expand access region  
 Zone access

### Request details

Select one or more locations, set your quotas, and complete the usage details for your request. Confirmation of quota change will be sent when all region requests are approved.

Locations \* ⓘ

(US) East US 2

#### (US) East US 2

Quotas \*

NC A100 v4 Series

Quota

Usage

New limit

Available to increase (1)

NC A100 v4 Series

0 of 0

24

Save and Continue

Learn about Compute (cores/vCPUs) quota increase requests

## Select a VM size

A100 vCPUs : All RAM (GiB) : All Display cost : Monthly Add filter

Showing 4 of 945 VM sizes. Subscription: 1923306880-YamakataTraining Region: East US 2 Current size: Standard\_NC24ads\_A100\_v4 Image: Ubuntu Server 24.04 LTS

VM Size ↑↓	Type ↑↓	vCPUs ↑↓	RAM (GiB) ↑↓
See the info bubble next to a size for details on availability			
ND96amsr_A100_v4 ⓘ Request quota	GPU	96	1800
Family vCPUs are insufficient to deploy these sizes			
NC24ads_A100_v4 ⓘ Request quota	GPU	24	220
NC48ads_A100_v4 ⓘ Request quota	GPU	48	440
NC96ads_A100_v4 ⓘ Request quota	GPU		

Choose “Yes (Recommended) in the “Advanced diagnostic information”

## New support request

2. Recommended solution

3. Additional details

Tell us a little more information.

Providing **detailed, accurate** information helps us resolve your issue faster.

### Problem details

Additional information is required to promptly process your request for a quota increase.

Request details

1 request  
Update details

Request Summary

New Limit

Resource Manager, EASTUS2, NC A100 v4 Series 24

### Advanced diagnostic information

To enable faster resolution, we recommend allowing Microsoft support to access your Azure resources to collect advanced diagnostic information. Access is read-only and is removed

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Copilot



1923306880@utac.u-to...  
THE UNIVERSITY OF TOKYO (UNI...

Home > Virtual machines > Create a virtual machine >

## Select a VM size

A100 vCPUs : All RAM (GiB) : All Display cost : Monthly Add filter

Showing 4 of 945 VM sizes. Subscription: 1923306880-YamakataTraining Region: East US 2 Current size: Standard\_NC24ads\_A100\_v4 Image: Ubuntu Server 24.04 LTS

VM Size ↑↓	Type ↑↓	vCPUs ↑↓	RAM (GiB) ↑↓
ND96amsr_A100_v4	GPU	96	1800
NC24ads_A100_v4	GPU	24	220
NC48ads_A100_v4	GPU	48	440
NC96ads_A100_v4	GPU	96	880

See the info bubble next to a size for details on availability

Size not available

Family vCPUs are insufficient to deploy these sizes

Select Prices presented are estimates in JPY that include only Azure infrastructure costs and any discounts for the subscription. Any applicable software costs. Final charges will appear in your local currency in cost analysis and billing views. [View details](#)

Select

## New support request

### Support method

Support plan

Basic support

Severity

C - Minimal impact

Preferred contact method \*

Email

A Support engineer will contact you over email.

Phone

A Support engineer will contact you over the phone.

Your availability

Business Hours

Support language \*

English

Contact info

Contact name

Previous

Next

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学校 azure portal - 検索 New support request - Microsoft

https://portal.azure.com/#view/Microsoft\_Azure\_Compute/SpecPickerV2Blade/subscriptionId/a600356d-63a3-483e-b4bb-59629c01a212/regionId/eastus2/extendedR... Copilot 2 1923306880@utac.u-to... THE UNIVERSITY OF TOKYO (UNI...

Home > Virtual machines > Create a virtual machine >

## Select a VM size

A100 vCPUs : All RAM (GiB) : All Display cost : Monthly Add filter

Showing 4 of 945 VM sizes. Subscription: 1923306880-YamakataTraining Region: East US 2 Current size: Standard\_NC24ads\_A100\_v4 Image: Ubuntu Server 24.04 LTS

VM Size ↑↓	Type ↑↓	vCPUs ↑↓	RAM (GiB) ↑↓
See the info bubble next to a size for details on availability			
ND96amsr_A100_v4  Request quota	GPU	96	1800
Family vCPUs are insufficient to deploy these sizes			
NC24ads_A100_v4  Request quota	GPU	24	220
NC48ads_A100_v4  Request quota	GPU	48	440
NC96ads_A100_v4  Request quota	GPU	96	880

Select

Prices presented are estimates in JPY that include only Azure infrastructure costs and any discounts for the subscription. Any applicable software costs. Final charges will appear in your local currency in cost analysis and billing views. [View details](#)

## New support request

3. Additional details

4. Review + create

Review the information you provided before creating your support request.

### Basics

Issue type Service and subscription limits (quotas)  
Subscription 1923306880-YamakataTraining (a600356d-63a3-483e-b4bb-59629c01a212)  
Quota type Compute-VM (cores-vCPUs)  
subscription limit increases

### Terms, conditions, and privacy policy

By clicking "Create" you accept the [terms and conditions](#).  
View our [privacy policy](#).

### Details

Previous

Create

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# Quota approval is notified by email

Case [REDACTED] quota increase requ... - 07298 受信トレイ

TrackingID# 07298 受信トレイ

Microsoft Support <support@mail.support.microsoft.com>  
To yamakata.yoko@mail.u-tokyo.ac.jp

日本語に翻訳

Having trouble viewing this email? [View it in your browser](#)

**Microsoft**

Your quota increase request was successfully submitted. Thank you for your support plan.

Please note: First time is based on Severity and if the "24x7" ("Severity A" response cases are always 24x7, optionally 24x7, and "Severity C" cases are business hours) more about [support response times](#).

Please keep in mind: [microsoftsupport.com](#) and [microsoft.com](#) are valid email domains used for communications related to this request.

**Incident title:** コンピューティングサブスクリプションデータ  
**Support request:** 25012000

- I received a reply two hours later, but it was in the spam folder, so I didn't notice it for a while...
- The support team informed me that East US2 has limited SKU availability, and they requested that I either switch to the West US region or use an H100 instead.

このメールにはご注意ください  
このメッセージは送信者によって改ざんされていないため、  
もしくは送信されたものであることを確認できません。メールに含まれるリンクのクリックや添付ファイルのダウンロード、また本文に個人情報を記載することは避けてください。

安全なメール

日本語に翻訳

*Please do not alter the subject line and reply all to ensure the email is tracked as a request.*

Hello Yoko,

Thank you for contacting Microsoft Support. My name is Mounica B. I am the Support Engineer who will be working with you on this Service Request. You may reach me using the contact information listed below, referencing the SR number: 2504100030000960.

This is with reference to Compute quota increase request for NC A100 v4 Series in US 2 region for the Subscription ID: a600356d-63a3-483e-b4bb-59629c01a212.

The NC A100 v4-series SKUs are a specialty SKU with a smaller footprint of availability. Could you please use alternate region as West US for NC A100 v4 Series SKU or a H100v5 series in US East2? Also, please let us know what is your expected usage?

RE: [EXTERNAL] Re: Quota request for Compute-VM... - 2504100030000960 外部 受信トレイ

Mounica B  
To 自分, support@mail.support.microsoft.com, yamakata.yoko@mail.u-tokyo.ac.jp, v-mounicab@microsoft.com

日本語に翻訳

Hello Yoko,

Thank you for your response!

I am happy to inform you that compute quota increase request for NC A100 v4 Series to limit 24 cores in West US region has been successfully completed.

Kindly verify and let me know if there are any changes.

Awaiting your response.

After I requested the change to West US, I received a reply the next day saying it had been approved.

Home &gt; Virtual machines &gt;

## Create a virtual machine

[Help me create a low cost VM](#)[Help me create a VM optimized for high availability](#)[Help me choose the right VM size for my workload](#)

### INSTANCE DETAILS

Virtual machine name \* llama3-vm Region \* (US) West US 

Do the same things but specify “West US” as region.

Availability options 

No infrastructure required

Security type 

Standard

Trusted launch virtual machine is required when using HVM Gallery images.Image \* Ubuntu Server 24.04 LTS - x64 Gen2 [See all images](#) | [Configure VM generation](#)This image is compatible with additional security features. [Click here to swap to the Trusted launch security type.](#)VM architecture  Arm64  
 x64Run with Azure Spot discount Size \* Standard\_DS\_v3 - 8 vcpus, 32 GiB memory (¥ 52,783/month) [See all sizes](#) [< Previous](#)[Next : Disks >](#)[Review + create](#)[Give feedback](#)

## Select a VM size

A100 vCPUs : All RAM (GiB) : All Display cost : Monthly + Add filter

Showing 3 of 861 VM sizes. Subscription: 1923306880-YamakataTraining | Region: West US | Current size: Standard\_NC24ads\_A100\_v4 | Image: Ubuntu Server 24.04 LTS | [Learn more about VM sizes](#) Group by series

VM Size ↑↓	Type ↑↓	vCPUs ↑↓	RAM (GiB) ↑↓	Data disks ↑↓	Max IOPS ↑↓	Local storage (G)
<span style="font-size: small;">Other sizes</span>						
NC24ads_A100_v4	GPU	24	220	8	30000	894 (NVMe)
Insufficient quota - family					Family vCPUs are insufficient to deploy these sizes	

Now I can  
choose this!

Select

Prices presented are estimates in JPY that include only Azure infrastructure costs and any discounts for the subscription and location. The prices don't include any applicable software costs. Final charges will appear in your local currency in cost analysis and billing views. [View Azure pricing calculator.](#)

[!\[\]\(842b9a660eb497650bab4e1dbd552bfc\_img.jpg\) Give feedback](#)

## 2.2 Create a VM using the approved resources

Start a NC\_A100\_v4-sized virtual machine consisting of one GPU card (NVIDIA A100) and 24 vCPUs

Home &gt; Virtual machines &gt; Create a virtual machine &gt;

## Select a VM size ...

A100 vCPUs : All RAM (GiB) : All Display cost : Monthly Add filter

Showing 3 of 861 VM sizes. Subscription: 1923306880-YamakataTraining Region: West US Current size: Standard\_NC24ads\_A100\_v4 Image: Ubuntu Server 24.04 LTS Learn more about VM sizes Group by series

VM Size ↑↓	Type ↑↓	vCPUs ↑↓	RAM (GiB) ↑↓	Data disks ↑↓	Max IOPS ↑↓	Local storage (G
<div>Other sizes</div>						
NC24ads_A100_v4	GPU	24	220	8	30000	894 (NVMe)
Insufficient quota - family limit					Family vCPUs are insufficient to deploy these sizes	

- The hourly usage fee is listed in the rightmost column.
- This resource costs ¥538.285/h.

Select

Prices presented are estimates in JPY that include only Azure infrastructure costs and any discounts for the subscription and location. The prices don't include any applicable software costs. Final charges will appear in your local currency in cost analysis and billing views. [View Azure pricing calculator.](#)

 Give feedback

Home &gt; Virtual machines &gt;

## Create a virtual machine

[Help me create a low cost VM](#)[Help me create a VM optimized for high availability](#)[Help me choose the right VM size for my workload](#)

 Trusted launch virtual machine is required when using 1P Gallery images.

Image \* ⓘ

 Ubuntu Server 24.04 LTS - x64 Gen2[See all images](#) | [Configure VM generation](#) This image uses Trusted launch Arm64  
 x64

If you want to apply the Spot discount, check this box.

VM architecture ⓘ

Run with Azure Spot discount ⓘ

Size \* ⓘ

Enable Hibernation ⓘ

Administrator account

Authentication type ⓘ

 Standard\_NC24ads\_A100 v4

Memory (¥ 538,285/month)

[See all sizes](#)  
 Hibernate is compatible

- You can get up to 90% off, but the instance may be frequently deleted (stopped).
- Therefore, your implementation must assume this behavior — for example, in deep learning, make sure to save a checkpoint at the end of each epoch.

< PreviousNext : Disks >Review + create[Give feedback](#)

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## Create a virtual machine

 Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload[Basics](#) [Disks](#) [Networking](#) [Management](#) [Monitoring](#) [Advanced](#) [Tags](#) [Review + create](#)

Azure VMs have one operating system disk and a temporary disk for short-term storage. You can attach additional data disks.

The size of the VM determines the type of storage you can use and the number of data disks allowed. [Learn more](#)

### VM disk encryption

Azure disk storage encryption automatically encrypts your data stored on the OS disk by default when persisting it to the cloud.

Encryption at host 

 Encryption at host

In Azure, the OS disk should be kept to the minimum size required to run the OS, while applications, logs, and data should be saved to a file share.

### OS disk

OS disk size 

OS disk type \* 

Delete with VM 

Key management 

Enable Ultra Disk compatibility 

 < Previous Next : Networking > Review + create Give feedback

## Create a virtual machine

 Help me create a low cost VM  Help me create a VM optimized for high availability  Help me choose the right VM size for my workload

Basics Disks **Networking** Management Monitoring Advanced Tags Review + create

Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution.

[Learn more !\[\]\(f1574ab5c7718b536237686e0198b30e\_img.jpg\)](#)

### Network interface

When creating a virtual machine, a network interface will be created for you.

Virtual network \* 

(new) llama3-vm-vnet 

[Create new](#)

Subnet \* 

(new) default (10.0.0.0/24) 

Public IP 

(new) llama3-vm-ip 

[Create new](#)

NIC network security group 

None

Basic

Advanced

Public inbound ports \* 

None

Allow selected ports

< Previous

Next : Management >

**Review + create**

 Give feedback

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## Create a virtual machine

Validation passed

Help me create a low cost VM

Help me create a VM optimized for high availability

Help me choose the right VM size for my workload

Basics Disks Networking Management Monitoring

### Price

1 X Standard NC24ads A100 v4  
by Microsoft

[Terms of use](#) | [Privacy policy](#)

Check the price  
(for the virtual machine only)

Subscription credits apply ⓘ

737.3770 JPY/hr

Pricing for other VM sizes

### TERMS

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace Terms](#) for additional details.

Name

洋子 山肩

Preferred e-mail address

1923306880@utac.u-tokyo.ac.jp

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## Create a virtual machine

Validation passed

 Help me create a low cost VM

 Help me create a VM optimized for high availability

 Help me cho...

Basics

Disks

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Monitoring

Advanced

Tags

Review + create

Price

1 X Standard NC24ads A100 v4  
by Microsoft

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Subscription credits app

737.3770 JPY/hr

Pricing for other VM si...

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Name

洋子 山肩

Preferred e-mail address

1923306880@utac.u-tokyo.ac.jp

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- A file named “[VM name]\_key.pem” will be downloaded.
- For example, save it to a location like “C:\Users\{YourUsername}\.ssh”.

### Generate new key pair

 An SSH key pair contains both a public key and a private key. **Azure doesn't store the private key**. After the SSH key resource is created, you won't be able to download the private key again. [Learn more](#)

[Download private key and create resource](#)

[Return to create a virtual machine](#)

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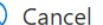


## CreateVm-canonical.ubuntu-24\_04-lts-server-2025041125704 | Overview

Deployment

Delete



Cancel



Redeploy



Download



Refresh

### Overview

### Inputs

### Outputs

### Template

## Deployment is in progress



Deployment name: CreateVm-canonical.ubuntu-24...

Start time: 4/11/2025, 1:15:53 PM

Subscription: 1923306880-YamakataTraining

Correlation ID: 632f3ab8-fca2-48d7-ab91

Resource group: llama3-finetune

### Deployment details

Resource	Type	Status	Operation detail:
 llama3-vm338	Microsoft.Network/netw...	Created	<a href="#">Operation details</a>
 llama3-vm-vnet	Microsoft.Network/virt...	OK	<a href="#">Operation details</a>
 llama3-vm-ip	Microsoft.Network/pu...	OK	<a href="#">Operation details</a>
 llama3-vm-nsg	Microsoft.Network/net...	OK	<a href="#">Operation details</a>

### Give feedback

[Tell us about your experience with deployment](#)

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## CreateVm-canonical.ubuntu-24\_04-Its-server-20250411125704 | Overview

Deployment

Delete



Cancel



Redeploy



Download



Refresh

### Overview

### Inputs

### Outputs

### Template

## Your deployment is complete

 Deployment name: CreateVm-canonical.ubuntu-24...

Start time: 4/11/2025, 1:15:53 PM

Subscription: 1923306880-YamakataTraining

Correlation ID: 632f3ab8-fca2-48d7-ab91

Resource group: llama3-finetune

### Deployment details

### Next steps

[Setup auto-shutdown](#) Recommended[Monitor VM health, performance and network dependencies](#) Recommended[Run a script inside the virtual machine](#) Recommended[Go to resource](#)[Create another VM](#)[Give feedback](#)[Tell us about your experience with deployment](#)

### Deployment succeeded

Deployment 'CreateVm-canonical.ubuntu-24\_04-Its-server-20250411125704' to resource group 'llama3-finetune' was successful.

[Go to resource](#)[Pin to dashboard](#)

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## llama3-vm

Virtual machine

Search

Help me copy this VM in any region

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Resource visualizer

Connect

Networking

Settings

Availability + scale

Security

Backup + disaster recovery

Operations

Monitoring

Automation

Help

Connect Start Restart Stop Hibernate Capture Delete Refresh Open in mobile ...

### Essentials

Resource group ([move](#))

[llama3-finetune](#)

Status

Running

Location

West US

Subscription ([move](#))

[1923306880-YamakataTraining](#)

Subscription ID

a600356d-63a3-483e-b4bb-59629c01a212

Tags ([edit](#))

[Add tags](#)

Operating system

Linux (ubuntu 24.04)

Size

Standard NC24ads A100 v4 (24 vcpus, 220 GiB memory)

Public IP address

[13.91.254.36](#)

Virtual network/s

[llama3-vm-vnet/1](#)

DNS name

[Not configu...](#)

Health state

-

Time created

4/11/2025, 4:16 AM UTC

Log in with this  
IP address

Properties

Monitoring

Capabilities (7)

Recommendations

Tutorials

### **3. Log in to the VM from your local computer**

Log in to the virtual machine using PowerShell from your PC (Windows).

# Windows PowerShellでログイン

ssh -i .\ssh\[virtual machine name]\_key.pem azureuser@ [public IP address]

```
PowerShell 7 (x64) x + v PowerShell 7.5.0  
PS C:\Users\yamak> ssh -i .\ssh\llama3--_key.pem azureuser@13.91.254.36
```

Path to the private key file you downloaded when you created the VM.

If you haven't changed the account name, the default username is "azureuser."

Public IP address

```
PS C:\Users\yamak> ssh -i .\ssh\llama3--_key.pem azureuser@13.91.254.36  
The authenticity of host '13.91.254.36 (13.91.254.36)' can't be  
ED25519 key fingerprint is SHA256:j5nG9HP00/mojkql2b/ap1JecHIaMU  
This key is not known by any other names.  
Are you sure you want to continue connecting (yes/no/[fingerprint])? |
```

When connecting for the first time, you'll be asked to confirm the connection—type yes.

azureuser@llama3-vm:~ x + v

just raised the bar for easy, resilient and secure K8s cluster deployment.

<https://ubuntu.com/engage/secure-kubernetes-at-the-edge>

Expanded Security Maintenance for Applications is not enabled.

55 updates can be applied immediately.

To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.

See <https://ubuntu.com/esm> or run: sudo pro status

The programs included with the Ubuntu system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/\*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by  
applicable law.

Remote login  
succeeded!

To run a command as administrator (user "root"), use "sudo <command>".

See "man sudo\_root" for details.

azureuser@llama3-vm:~\$ |

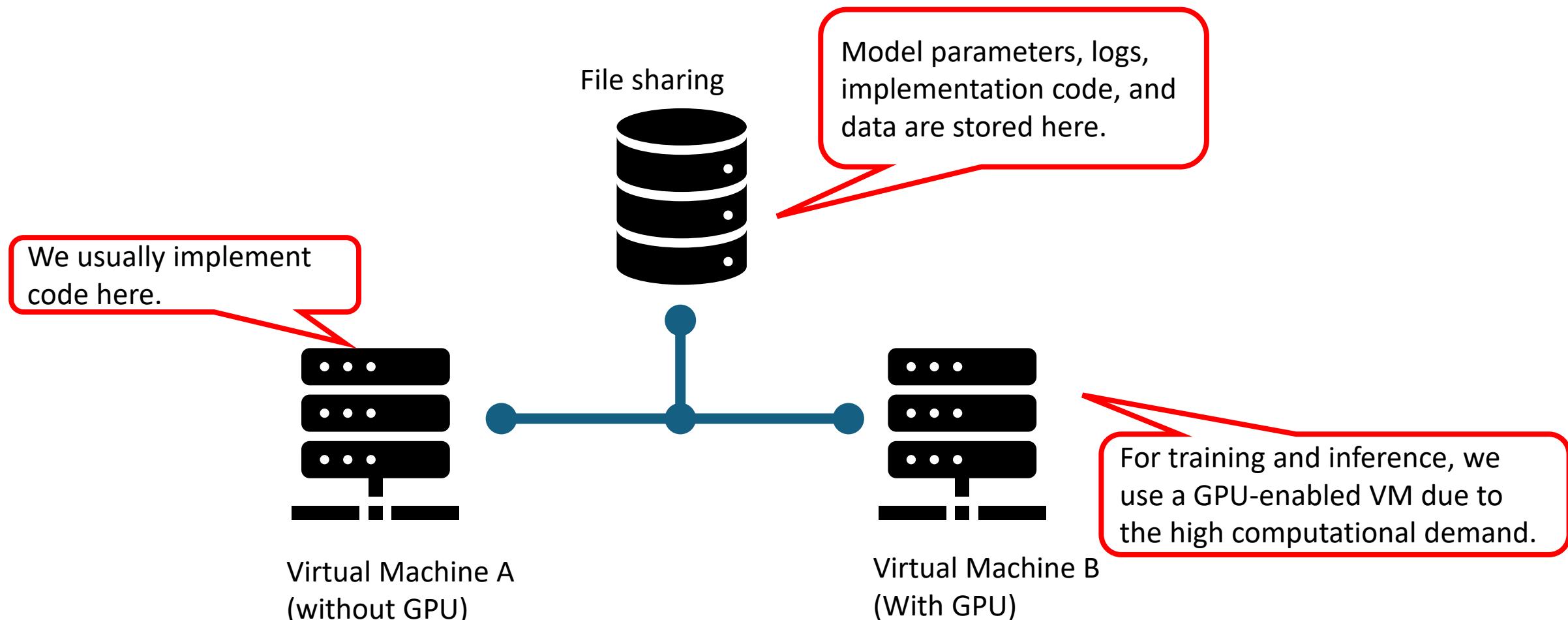
# 4. Share files across multiple virtual machines

[Tutorial: Create an NFS Azure file share and mount it on a Linux VM using the Azure portal](#)

# Benefits of Sharing Files Across Multiple VMs

- **GPU-enabled VMs are expensive** – do you really need a GPU all the time?
- You can **develop and test your code on a CPU-only VM**, and use a **GPU-enabled VM only when training or running inference**.

This approach helps reduce costs while maintaining flexibility.



# 4.1 Create a storage account

[Azure tutorial: Create an NFS Azure file share and mount it on a Linux VM using the Azure portal](#)

UTokyo Azure | utelecon My Dashboard - Microsoft Azure +

https://portal.azure.com/#home

お気に入りのインポート Gmail YouTube マップ 受信トレイ (466) - 25...

Microsoft Azure Storage Copilot 🔍 ⚙️ 🌐 🛡️ 🌐 🌐 🌐 🌐

2573969490@utac.u-to... THE UNIVERSITY OF TOKYO

Azure services

Create a resource Virtual machines

Resources

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Name

- ML-workspace
- (new)ML-test
- openai\_test1
- 1923306880-YamakataTraining

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Subscriptions

Tools

Storage Services (19) Marketplace (31) More (4)

Services

- Storage accounts
- Storage browser
- Storage movers
- Storage accounts (classic)

Marketplace

- Storage account
- Backup and Site Recovery
- Azure Storage solution for Sentinel
- Blob Storage Digests Backed by Confidential Ledger

Documentation

- Azure Storage Documentation Hub
- Access control model for Azure Data Lake Storage - Azure Storage
- Choose an Azure storage service - Azure Architecture Center
- Upgrade to a general-purpose v2 storage account - Azure Storage

Continue searching in Microsoft Entra ID

Searching all subscriptions. Give feedback

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https://portal.azure.com/#browse/Microsoft.Storage%2FStorageAccounts

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Create Restore Manage view Refresh Export to CSV Open query Assign tags Delete

Filter for any field... Subscription equals all Resource group equals all Location equals all Add filter

Showing 1 to 3 of 3 records.

No grouping List view

Name ↑↓	Type ↑↓	Kind ↑↓	Resource group ↑↓	Location ↑↓	Subscription ↑↓
aifoundarytest0721503877	Storage account	StorageV2	openai_test1	East US	1923306880-YamakataTraining
aifoundarytest6713422946	Storage account	StorageV2	AI-Foundary-hub0	East US 2	1923306880-YamakataTraining
mlworkspace5877508646	Storage account	StorageV2	(new)ML-test	East US	1923306880-YamakataTraining

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Create Restore Manage view Refresh Export to CSV Open query Assign tags Delete

Filter for any field... Subscription equals all Resource group equals all Location equals all Add filter

No grouping List view

Name ↑↓	Type ↑↓	Kind ↑↓	Resource group ↑↓	Location ↑↓	Subscription ↑↓
aifoundarytest0721503877	Storage account	StorageV2	openai_test1	East US	1923306880-YamakataTraining
aifoundarytest6713422946	Storage account	StorageV2	AI-Foundary-hub0	East US 2	1923306880-YamakataTraining
mlworkspace5877508646	Storage account	StorageV2	(new)ML-test	East US	1923306880-YamakataTraining

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https://portal.azure.com/#create/Microsoft.StorageAccount

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Home > Storage accounts >

## Create a storage account

Subscription \* 1923306880-YamakataTraining

Resource group \* llama3-finetune Select the same resource group as the virtual machine you want to connect to.

Instance details

Storage account name \* utllama3storage1 Must be unique among all existing storage account names in Azure!

Region \* (US) West US 2 Deploy to an Azure Extended Zone

Primary service \* Azure Files Select Azure Files

Performance \*  Standard: Recommended for general purpose file shares and cost sensitive applications, such as HDD file shares

Premium: Recommended for application IOPS/throughput, such as SSD file shares Select “Premium SSD”

File share billing \*  Provisioned v1: Provision only capacity, throughput and IOPS scale accordingly

Redundancy \* Locally-redundant storage (LRS) Remains Locally Redundant Storage (LRS)

Previous Next Review + create Give feedback

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https://portal.azure.com/#create/Microsoft.StorageAccount

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Home > Storage accounts >

## Create a storage account

Basics Advanced Networking Data protection Encryption Tags Review + create

[View automation template](#)

### Basics

Subscription	1923306880-YamakataTraining
Resource group	llama3-finetune
Location	West US 2
Storage account name	utillama3storage1
Primary service	Azure Files
Performance	Premium
Premium account type	File shares
File share billing	Provisioned v1
Replication	Locally-redundant storage (LRS)

### Advanced

Enable hierarchical namespace	Disabled
Enable SFTP	Disabled
Enable network file system v3	Disabled
Allow cross-tenant replication	Disabled

Previous Next **Create**

Give feedback

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utllama3storage1\_1744519855395

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Home > utllama3storage1\_1744519855395 | Overview

Deployment

Search Delete Cancel Redeploy Download Refresh

Overview Inputs Outputs Template

## Deployment is in progress

Deployment name: utllama3storage1\_1744519855395  
Subscription: 192330680-YamakataTraining  
Resource group: llama3-finetune

Start time: 4/13/2025, 1:51:30 PM  
Correlation ID: 8743d7ac-4b53-4835-909f-a6a81a898b9b

Deployment details

Resource	Type	Status	Operation details
No results.			

Give feedback

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Home >

# utllama3storage1\_1744519855395 | Overview

Deployment

Search Delete Cancel Redeploy Download Refresh

Overview

Inputs

Outputs

Template

Your deployment is complete

Deployment name: utllama3storage1\_1744519855395  
Subscription: 192330680-YamakataTraining  
Resource group: llama3-finetune

Start time: 4/13/2025, 1:51:30 PM  
Correlation ID: 8743d7ac-4b53-4835-909f-a6a81a898b9b

Deployment details

Next steps

Go to resource

Give feedback

Tell us about your experience with deployment

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https://portal.azure.com/#@univtokyo.onmicrosoft.com/resource/subscriptions/a600356d-63a3-483e-b4bb-59629c01a212/resourcegroups/llama3-finetune/p...

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Home > utllama3storage1\_1744519855395 | Overview >

# utllama3storage1

Storage account

Search | Upload | Open in Explorer | Delete | Move | Refresh | Open in mobile | Feedback

Overview

Activity log | Tags | Diagnose and solve problems | Access Control (IAM) | Data migration | Storage browser | Partner solutions | Resource visualizer

File shares | Security + networking | Data management | Settings | Monitoring | Automation | Help

Under "Data Storage"  
Click "File Sharing"

Essentials

Resource group (move)	: llama3-finetune	Performance	: Premium
Location	: westus2	Replication	: Locally-redundant storage (LRS)
Subscription (move)	: 1923306880-YamakataTraining	Account kind	: FileStorage
Subscription ID	: a600356d-63a3-483e-b4bb-59629c01a212	Provisioning state	: Succeeded
Disk state	: Available	Created	: 2025/4/13 13:51:39
Tags (edit)	: Add tags		

Networking

Allow access from	All networks
Private endpoint connections	0
Network routing	Microsoft network routing
Access for trusted Microsoft services	Yes
Endpoint type	Standard

File shares

Identity-based access | Not configured

Default share-level permissions | Disabled

Soft delete | Enabled (7 days)

SMB Multichannel | Enabled

Security

Require secure transfer for REST API operations | Enabled

Storage account key access | Enabled

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## 4.2 Create a file share

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Home > utllama3storage1\_1744519855395 | Overview > utllama3storage1

utllama3storage1 | File shares

## Storage account

Search

1

1

3

### ▼ Tags

## Diagnose and solve problems

## Access Control

## Data migration

## Storage browser

 Partner solutions

 Resource visual.

## File shares

## > Security + networking

## > Data management

\ Settings

3 / 10

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https://portal.azure.com/#view/Microsoft\_Azure\_FileStorage/CreateFileShare.ReactView/\_provisioningContext~/%7B"initialValues"%3A%7B"subscriptionIds"%3A%5B%7B"resourceId": "00000000-0000-0000-0000-000000000000", "storageAccountName": "utllama3storage1", "fileShareName": "sharedfiles", "provisionedStorage": "1024", "maxIOPS": "4024", "burstIOPS": "10000", "throughputRate": "203.0 MiB / s", "maxCapacity": "100 TiB"}%7D%5D%7D

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## New file share ...

Basics Backup Review + create

The file share is billed by provisioned share size, regardless of the used capacity. [Learn more](#)

- The minimum share size is 100 GiB.
- Provision more capacity to get more performance.

Name \*   

Provisioned storage (GiB) \*  [Set to maximum](#)

### Performance

Maximum IO/s ⓘ	4024
Burst IO/s ⓘ	10000
Throughput rate ⓘ	203.0 MiB / s
Maximum capacity	100 TiB

[Review + create](#) < Previous Next : Backup > [Give feedback](#)

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https://portal.azure.com/#view/Microsoft\_Azure\_FileStorage/CreateFileShare.ReactView/\_provisioningContext~/%7B"initialValues"%3A%7B"subscriptionIds"%3A[{"id": "2573969490@utac.u-to..."}, "resourceGroup": "utllama3storage1\_1744519855395", "fileShareName": "utllama3storage1", "storageAccount": "utllama3storage1", "location": "Tokyo", "protocol": "NFS", "rootSquash": "No Root Squash"}]

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## New file share

Basics    Backup    Review + create

### Performance

Maximum IO/s ⓘ	4024
Burst IO/s ⓘ	10000
Throughput rate ⓘ	203.0 MiB / s
Maximum capacity	100 TiB

Protocol ⓘ \*

SMB

NFS

Choose to NFS

No Root Squash

Root Squash ⓘ \*

Review + create

< Previous    Next : Backup >

Give feedback

Azure Marketplace

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https://portal.azure.com/#view/Microsoft\_Azure\_FileStorage/CreateFileShare.ReactView/\_provisioningContext~/%7B"initialValues"%3A%7B"subscriptionIds"%3A[{"id": "5273969490@utac.u-to..."}], "isPublic": false}

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## New file share ...

Validation passed

Basics Backup Review + create

### Basics

File share name	sharedfiles
Access Tier	Premium
Provisioned storage (GiB)	1024
Protocol	NFS

**Create** < Previous Next > Download a template for automation

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https://portal.azure.com/#view/Microsoft\_Azure\_FileStorage/FileShareMenuBlade/~/overview/id/%2Fsubscriptions%2Fa600356d-63a3-483e-b4bb-59629c01a...

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## sharedfiles

NFS File share

Search Change size and performance Delete share Give feedback

Overview Properties Operations

Connect from Linux Configure network security

### Connect to this NFS share from Linux

This file share supports the NFS 4.1 protocol with full POSIX semantics. You can mount this share on any OS with an NFS 4.1 client, including most Linux distributions.

Network configuration

The storage account is currently not configured for use from a virtual network. The NFS protocol can only be used from a machine inside of a virtual network.

Review options

Secure transfer setting

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https://portal.azure.com/#view/Microsoft\_Azure\_FileStorage/FileShareMenuBlade/~/overview/id/%2Fsubscriptions%2Fa600356d-63a3-483e-b4bb-59629c01a...

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sharedfiles ...

NFS File share

Search Change size and performance Delete share Give feedback

Overview Properties Operations

Connect from Linux Configure network security

## Network security options

The use of the NFS protocol for an Azure file share requires network-level security configurations and disabling the "secure transfer required" storage account configuration.

 Private endpoint

A private endpoint gives your storage account a private, static IP address within your virtual network, preventing connectivity interruptions from dynamic IP address changes. Traffic to your storage account stays within peered virtual networks, including those in other regions and on premises. [Learn more](#).

Standard data processing rates for private endpoints apply. [Learn more](#).

[Setup a private endpoint](#)

 Service endpoint

If you don't require a static IP address, you can enable a service endpoint for Azure Files within the virtual network. A service endpoint configures storage accounts to allow access only from specific subnets. The allowed subnets can belong to a virtual network in the same subscription or a different subscription, including those that belong to a different Microsoft Entra tenant. There's no extra charge for using service endpoints. [Learn more](#).

[Configure service endpoint](#)

 Connect from on-premises

You may want machines from outside of Azure to use the NFS protocol with this share. These articles describe options for connecting to the vnet you've configured for this storage account and share. A private endpoint may be required.

[Azure Express route](#)  
[Site to site VPN](#)  
[Point to site VPN](#)

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https://portal.azure.com/#@univtokyo.onmicrosoft.com/resource/subscriptions/a600356d-63a3-483e-b4bb-59629c01a212/resourcegroups/llama3-finetune/p...

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## Networking

Firewalls and virtual networks Private endpoint connections

+ Private endpoint ✓ Approve ✖ Reject 🗑 Remove ⏪ Refresh

Filter by name... All connection states

Connection name Connection state Private endpoint Description

No results

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https://portal.azure.com/#view/Microsoft\_Azure\_Network/CreatePrivateEndpointBlade/\_provisioningContext~/%7B"initialValues"%3A%7B"subscriptionIds"%3A%7B"resourceId": "1923306880-YamakataTraining", "resourceName": "llama3-finetune", "resourceType": "Microsoft.Network/privateEndpoints", "resourceRegion": "East US 2", "resourceGroup": "llama3-finetune", "resourceSubscriptionId": "1923306880", "resourceLocation": "East US", "resourceTags": {}, "resourceProperties": {}%7D%7D%7D"subscriptionId": "1923306880", "resourceName": "llama3-finetune", "resourceType": "Microsoft.Network/privateEndpoints", "resourceRegion": "East US 2", "resourceGroup": "llama3-finetune", "resourceSubscriptionId": "1923306880", "resourceLocation": "East US", "resourceTags": {}, "resourceProperties": {}%7D%7D%7D}

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Home > utllama3storage1\_1744519855395 | Overview > utllama3storage1 | File shares > New file share > sharedfiles > Networking >

## Create a private endpoint

1 Basics 2 Resource 3 Virtual Network 4 DNS 5 Tags 6 Review + create

Use private endpoints to privately connect to a service or resource. Your private endpoint must be in the same region as your virtual network, but can be in a different region from the private link resource that you are connecting to. [Learn more](#)

**Project details**

Subscription \* 1923306880-YamakataTraining

Resource group \* llama3-finetune

[Create new](#)

**Instance details**

Name \* llama3-finetune-endpoint

Network Interface Name \* llama3-finetune-endpoint-nic

Region \* East US 2

< Previous **Next : Resource >**

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Create a private endpoint - Micro

[https://portal.azure.com/#view/Microsoft\\_Azure\\_Network/CreatePrivateEndpointBlade/\\_provisioningContext~/%7B\"initialValues\"%3A%7B\"subscriptionIds\"%3...](https://portal.azure.com/#view/Microsoft_Azure_Network/CreatePrivateEndpointBlade/_provisioningContext~/%7B\)

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## Create a private endpoint

Basics **Resource** Virtual Network DNS Tags Review + create

Private Link offers options to create private endpoints for different Azure resources, like your private link service, a SQL server, or an Azure storage account. Select which resource you would like to connect to using this private endpoint. [Learn more](#)

Subscription 1923306880-YamakataTraining (a600356d-63a3-483e-b4bb-59629c01a212)

Resource type Microsoft.Storage/storageAccounts

Resource utllama3storage1

Target sub-resource \* file

**Make sure it's a file.**

< Previous Next : Virtual Network >

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https://portal.azure.com/#view/Microsoft\_Azure\_Network/CreatePrivateEndpointBlade/\_provisioningContext~/%7B"initialValues"%3A%7B"subscriptionIds"%3A%7B"resourceId": "00000000-0000-0000-0000-000000000000", "resourceName": "llama3-vm-vnet", "resourceType": "Microsoft.Network/virtualNetworks", "resourceRegion": "ap-northeast-1", "resourceGroup": "llama3-rg", "resourceLocation": "Tokyo", "resourceTags": {}, "resourceProperties": {}%7D%7D%7D

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**Networking**

To deploy the private endpoint, select a virtual network subnet. [Learn more](#)

Virtual network llama3-vm-vnet (llama3-finetune)

Subnet \* default

Network policy for private endpoints [Disabled \(edit\)](#)

**Private IP configuration**

Dynamically allocate IP address  Statically allocate IP address

Make sure "Dynamically" is selected

**Application security group**

Configure network security as a natural extension of an application's structure. ASG allows you to group virtual machines and define network security policies based on those groups. You can specify an application security group as the source or destination in an NSG security rule. [Learn more](#)

+ Create

Application security group

< Previous Next : DNS >

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### Private DNS integration

To connect privately with your private endpoint, you need a DNS record. We recommend that you integrate your private endpoint with a private DNS zone. You can also utilize your own DNS servers or create DNS records using the host files on your virtual machines. [Learn more](#)

Integrate with private DNS zone  Yes  No

Configuration name: privatelink-file-wind... Subscription: 1923306880-Yamaka... Resource group: llama3-finetune Private endpoint: (new) pri...

Make sure that "Yes" is selected for "Integrate with private DNS zones"

< Previous Next : Tags >

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Tags are name/value pairs that enable you to categorize resources and view consolidated billing by applying the same tag to multiple resources and resource groups. [Learn more about tags](#)

Note that if you create tags and then change resource settings on other tabs, your tags will be automatically updated.

Name ①	Value ①	Resource
<input type="text"/>	: <input type="text"/> 2 selected	

< Previous Next : Review + create >

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https://portal.azure.com/#view/Microsoft\_Azure\_Network/CreatePrivateEndpointBlade/\_provisioningContext~/%7B"initialValues"%3A%7B"subscriptionIds"%3A%5B%221923306880-YamakataTraining%22%5D%7D%7D

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Home > Create a private endpoint ...

✓ Validation passed

✓ Basics ✓ Resource ✓ Virtual Network ✓ DNS ✓ Tags 6 Review + create

**Basics**

Subscription	1923306880-YamakataTraining
Resource group	llama3-finetune
Region	West US
Name	llama-finetune-endpoint
Network Interface Name	llama-finetune-endpoint-nic

**Resource**

Subscription ID	a600356d-63a3-483e-b4bb-59629c01a212 (1923306880-YamakataTraining)
Link type	Microsoft.Storage/storageAccounts
Resource group	llama3-finetune
Resource	utllama3storage1
Target sub-resource	file

**Virtual Network**

Virtual network resource group	llama3-finetune
--------------------------------	-----------------

**Create** < Previous Next > Download a template for automation

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Home > Microsoft.PrivateEndpoint-20250414102523 | Overview

Deployment

Search Delete Cancel Redeploy Download Refresh

Overview Inputs Outputs Template

## Deployment is in progress

Deployment name : Microsoft.PrivateEndpoint-20250414102523 Start time : 4/14/2025, 10:29:43 AM  
Subscription : 1923306880-YamakataTraining Correlation ID : 02f6c29d-733d-41a7-af31-4d646fea5aba  
Resource group : llama3-finetune

Deployment details

Resource	Type	Status	Operation details
There are no resources to display.			

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Search Delete Cancel Redeploy Download Refresh

Overview Deployment Inputs Outputs Template

✓ Your deployment is complete

Deployment name : Microsoft.PrivateEndpoint-20250414102523 Start time : [redacted]  
Subscription : 1923306880-YamakataTraining Correlation ID : 02f6c29d-733d-41a7-af31-4d646fea5aba  
Resource group : llama3-finetune

> Deployment details

< Next steps

Go to resource

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Ilama-finetune-endpoint - Microsoft

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## Ilama-finetune-endpoint

Private endpoint

Search Delete Refresh

Overview

Essentials

JSON View

Resource group ([move](#)) : [Ilama3-finetune](#)

Virtual network/subnet : [Ilama3-vm-vnet/default](#)

Location : West US

Network interface : [Ilama-finetune-endpoint-nic](#)

Subscription ([move](#)) : [1923306880-YamakataTraining](#)

Private link resource : [utllama3storage1](#)

Subscription ID : a600356d-63a3-483e-b4bb-59629c01a212

Target sub-resource : file

Provisioning state : Succeeded

Connection status : Approved

Request/Response : Auto-Approved

Tags ([edit](#)) : [Add tags](#)

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llama3-finetune Resource group

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Create Restore Manage view Refresh Export to CSV Open query Assign tags Delete

Filter for any field... Subscription equals all Resource group equals all Location equals all Add filter

Showing 1 to 4 of 4 records. No grouping List view

Name	Type	Kind	Resource group	Location	Subscription
aifoundarytest0721503877	Storage account	StorageV2	openai_test1	East US	1923306880-YamakataTraining
aifoundarytest6713422946	Storage account	StorageV2	AI-Foundary-hub0	East US 2	1923306880-YamakataTraining
mlworkspace5877508646	Storage account	StorageV2	(new)ML-test	East US	1923306880-YamakataTraining
utllama3storage1	Storage account	FileStorage	llama3-finetune	West US 2	1923306880-YamakataTraining

Open the storage account you just created.

< Previous Page 1 of 1 Next >

Give feedback

https://portal.azure.com/#@univtoku.onmicrosoft.com/resource/subscriptions/a600356d-63a3-483e-b4bb-59629c01a212/resourceGroups/llama3-finetune/providers/Microsoft.Storage/storageAccounts/utllama3storage1

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https://portal.azure.com/#@univtokyo.onmicrosoft.com/resource/subscriptions/a600356d-63a3-483e-b4bb-59629c01a212/resourceGroups/llama3-finetune/providers/Microsoft.Storage/storageAccounts/utllama3storage1/fileList

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## Storage accounts

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Create Restore ...

Filter for any field...

Name	...
aifoundarytest0721503877	...
aifoundarytest6713422946	...
mlworkspace5877508646	...
utllama3storage1	...

**utllama3storage1** Storage account

Search

Upload Open in Explorer Delete Move Refresh Open in mobile Feedback

Overview

Activity log Tags Diagnose and solve problems Access Control (IAM) Data migration Storage browser Partner solutions Resource visualizer

Data storage

File shares Security + networking Data management Settings Monitoring Automation Help

Resource group (move) [llama3-finetune](#) Location westus2 Subscription (move) [1923306880-YamakataTraining](#) Subscription ID a600356d-63a3-483e-b4bb-59629c01a212 Disk state Available

Tags (edit) Add tags

Properties Monitoring Capabilities (2) Recommendations (0) Tutorials Tools + SDKs

**File service**

Large file share	Enabled	Allow access from	All networks
Identity-based access	Not configured	Private endpoint connections	1
Default share-level permissions	Disabled	Network routing	Microsoft network routing

Page 1 of 1

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utllama3storage1 - Microsoft Azu

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## Storage accounts

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+ Create ⏪ Restore ...

Filter for any field...

Name ↑

- aifoundarytest0721503877 ...
- aifoundarytest6713422946 ...
- mlworkspace5877508646 ...
- utllama3storage1** ...

Activity log Tags Diagnose and solve problems Access Control (IAM) Data migration Storage browser Partner solutions Resource visualizer Data storage File shares Security + networking Data management Settings Monitoring Automation Help

## utllama3storage1 | File shares

Storage account

Search File share Refresh Give feedback

The NFS protocol cannot be used when "secure transfer required" is enabled for this storage account. Configure this setting →

### File share settings

Identity-based access: Not configured Default share-level permissions: Disabled Soft delete: 7 days

SMB Multichannel: Enabled Security: Maximum compatibility

Search file shares by prefix (case-sensitive) Show deleted shares

Name	Protocol	Provisioned storage	...
sharedfiles	NFS	1 TiB	...

Open the storage you just created

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Home > Storage accounts > utllama3storage1 | File shares >

**sharedfiles** ...

NFS File share

Search Change size and performance Delete share Give feedback

Overview Properties Operations

Connect from Linux Configure network security

## Connect to this NFS share from Linux

This file share supports the NFS 4.1 protocol with full POSIX semantics. You can mount this share on any OS with an NFS 4.1 client, including most Linux distributions.

Network configuration

Secure transfer setting

"Secure transfer required" is a setting that is enabled for this storage account. The NFS protocol does not support encryption and relies on network-level security. This setting must be disabled for NFS to work.

**Change setting**

Add or remove favorites by pressing **Ctrl+Shift+F**

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### utllama3storage1 Configuration

Storage account

Search

Save Discard Refresh Give feedback

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

Account kind: FileStorage

Performance: Standard (radio button)

This setting cannot be changed after the storage account is created.

Secure transfer required: Disabled (radio button)

Allow Blob anonymous: Disabled (radio button)

Allow storage account: Enabled (radio button)

Allow recommended upper limit for shared access signature (SAS) expiry interval: Disabled (radio button)

Default to Microsoft Entra authorization in the Azure portal: Disabled (radio button)

Minimum TLS version: Version 1.2

Permitted scope for copy operations (preview):

**Require secure transfer set to Disabled**

Add or remove favorites by pressing **Ctrl+Shift+F**

Permitted scope for copy operations (preview):

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### utllama3storage1 | File shares

Storage account

Search

+ File share Refresh Give feedback

#### File share settings

Identity-based access: Not configured   Default share-level permissions: Disabled   Soft delete: 7 days   SMB Multichannel: Enabled   Security: Maximum compatibility

Search file shares by prefix (case-sensitive)

Show deleted shares

Name	Protocol	Provisioned storage	...
sharedfiles	NFS	1 TiB	...

**Name:** sharedfiles

Protocol: NFS

Provisioned storage: 1 TiB

More options

File shares

Security + networking  
Data management  
Settings  
Configuration  
Resource sharing (CORS)  
Advisor  
recommendations

https://portal.azure.com/#<span>Press Ctrl+Shift+F</span>

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Home > Storage accounts > utllama3storage1 | File shares > sharedfiles > utllama3storage1 | File shares >

## sharedfiles

NFS File share

Search Change size and performance Delete share Give feedback

Overview Properties Operations

Connect from Linux Configure network security

### Connect to this NFS share from Linux

This file share supports the NFS 4.1 protocol with full POSIX semantics. You can mount this share on any OS with an NFS 4.1 client, including most Linux distributions.

Select your linux distribution

Debian/Ubuntu

Sample command to use NFS on the selected Linux distribution

```
sudo apt-get -y update  
sudo apt-get install nfs-common
```

Mount path \*

/mount/utllama3storage1/sharedfiles

Sample command to mount this NFS share

```
sudo mkdir -p /mount/utllama3storage1/sharedfiles  
sudo mount -t nfs utllama3storage1.file.core.windows.net:/utllama3storage1/sharedfiles  
/mount/utllama3storage1/sharedfiles -o vers=4,minorversion=1,sec=sys,nconnect=4
```

The storage account is configured for use from a virtual network. You can only connect to this NFS share from a machine inside a virtual network that is trusted by this storage account.

Add or remove favorites by pressing Ctrl+Shift+F

## **4.3 Mount the file share from each virtual machine**

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sudo apt-get install nfs-common Click here to copy it and paste it into the terminal. Mount path \* /mount/utllama3storage1/sharedfiles Sample command to mount this NFS share sudo mkdir -p /mount/utllama3storage1/sharedfiles  
sudo mount -t nfs utllama3storage1.file.core.windows.net:/utllama3storage1/sharedfiles /mount/utllama3storage1/sharedfiles -o vers=4,minorversion=1,sec=sys,nconnect=4 The storage account is configured for use from a virtual network. You can only connect to this NFS share from a machine inside a virtual network that is trusted by this storage account. Add or remove favorites by pressing Ctrl+Shift+F

1. In **Windows PowerShell**, you can paste copied text by simply **right-clicking**.

```
azureuser@llama3-vm:~$ sudo apt-get -y update  
sudo apt-get install nfs-common
```

2. Press **Enter** to run the command.
3. If you're prompted with "**Do you want to continue? [Y/n]**", type "**Y**" and press Enter.

```
Running kernel seems to be up-to-date.  
  
No services need to be restarted.  
  
No containers need to be restarted.  
  
No user sessions are running outdated binaries.  
  
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
azureuser@llama3-vm:~$ |
```

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sudo apt-get install nfs-common Mount path \* /mount/utllama3storage1/sharedfiles Sample command to mount this NFS share sudo mkdir -p /mount/utllama3storage1/sharedfiles  
sudo mount -t nfs utllama3storage1.file.core.windows.net:/utllama3storage1/sharedfiles /mount/utllama3storage1/sharedfiles -o vers=4,minorversion=1,sec=sys,nconnect=4 Click here to copy, then paste it into the terminal. The storage account is configured for use from a virtual network. You can only connect to this NFS share from a machine inside a virtual network that is trusted by this storage account. Add or remove favorites by pressing Ctrl+Shift+F

- When you run the command, the shared file will be mounted (connected) to this virtual machine.
- The mount point will be: "/mount/[storage account name]/[file share name]"
- In the example below: "/mount/utllama3storage1/sharedfiles"

```
azureuser@llama3-vm:~$ sudo mkdir -p /mount/utllama3storage1/sharedfiles
sudo mount -t nfs utllama3storage1.file.core.windows.net:/utllama3storage1/share
dfiles /mount/utllama3storage1/sharedfiles -o vers=4,minorversion=1,sec=sys,ncon
nect=4
azureuser@llama3-vm:~$ cd /mount/utllama3storage1/sharedfiles/
azureuser@llama3-vm:/mount/utllama3storage1/sharedfiles$ ls
azureuser@llama3-vm:/mount/utllama3storage1/sharedfiles$ touch test.txt
azureuser@llama3-vm:/mount/utllama3storage1/sharedfiles$ ls
test.txt
azureuser@llama3-vm:/mount/utllama3storage1/sharedfiles$ |
```

- The command starting with "sudo mount -t nfs [...]" must be run every time the virtual machine is restarted.
- To enable automatic mounting, you need to edit the "/etc/fstab" file.

## 4.4 Configure automatic mounting on reboot

Editing “/etc/fstab”

Reference: [Mount an NFS share using /etc/fstab](#)

# Add the following line to the end of “/etc/fstab”

- Insert one single line (no line breaks) as shown below:

```
[storage_account_name].file.core.windows.net:[storage_account_name]/[share_name]  
/mount/[storage_account_name]/[share_name] nfs  
vers=4,minorversion=1,_netdev,nofail,sec=sys 0 0
```

- In this example, it is as follows

```
utllama3storage1.file.core.windows.net:utllama3storage1/sharedfiles  
/mount/utllama3storage1/sharedfiles nfs vers=4,minorversion=1,_netdev,nofail,sec=sys 0 0
```

# Editing “/etc/fstab” with the vi Editor

1. To avoid issues, make a backup copy before editing:

(If /etc/fstab is misconfigured, the VM may fail to boot.)

```
sudo cp -p /etc/fstab /etc/fstab.bak
```

2. Prepare the line to insert

Create the line in a text editor (like Notepad), so you can copy and paste it easily.

Example to add:

```
utllama3storage1.file.core.windows.net:/utllama3storage1/sharedfiles  
/mount/utllama3storage1/sharedfiles nfs vers=4,minorversion=1,_netdev,nofail,sec=sys 0 0
```

3. Open the editor

```
sudo vi /etc/fstab
```

4. Move the cursor to the bottom of the file

5. Press o to create a new line (you should see -- INSERT -- at the bottom left)

6. Right-click to paste the line (on WindowsOS)

7. Press Esc to exit insert mode

8. Type :wq to save and exit (w = write, q = quit)

**If you make a mistake, press Esc and type ":q!" to exit without saving changes**

# Reboot the VM

- After restarting the virtual machine using the command sudo reboot, the file share is still visible when reconnecting.

```
azureuser@llama3-vm:/mount/utllama3storage1/sharedfiles$ sudo cp -p /etc/fstab /etc/fstab.bak
```

```
azureuser@llama3-vm:/mount/utllama3storage1/sharedfiles$ sudo vi /etc/fstab
```

```
azureuser@llama3-vm:/mount/utllama3storage1/sharedfiles$ sudo reboot
```



Reboot and log-in again

Enable ESM Apps to receive additional future security updates.

See <https://ubuntu.com/esm> or run: sudo pro status

```
Last login: Mon Apr 14 13:26:57 2025 from 106.72.191.195
```

```
azureuser@llama3-vm:~$ ls /mount/utllama3storage1/sharedfiles/  
test.txt
```

## 4.5 Verify that all virtual machines can read and write to the same file share

Create a virtual machine with vCPUs only, and mount the file share from there.







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← → 🔍 https://portal.azure.com/#create/Microsoft.VirtualMachine-ARM

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Home > Virtual machines >

## Create a virtual machine

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Basics Disks Networking Management Monitoring Advanced Tags Review + create

Azure VMs have one operating system disk and a temporary disk for short-term storage. You can attach additional data disks. The size of the VM determines the type of storage you can use and the number of data disks allowed. [Learn more ↗](#)

**VM disk encryption**

Azure disk storage encryption automatically encrypts your data stored on Azure managed disks (OS and data disks) at rest by default when persisting it to the cloud.

Encryption at host  Encryption at host is not registered for the selected subscription. [Learn more ↗](#)

**OS disk**

OS disk size  OS disk type \*

Delete with VM

Key management

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## Create a virtual machine

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Basics    Disks    Networking    Management    Monitoring    Advanced    Tags

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## Price

1 X Standard D8s v3

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Home > CreateVm-canonical.ubuntu-24\_04-lts-server-20250414231207 | Overview

Deployment

Search X << Delete Cancel Redeploy Download Refresh

Overview Inputs Outputs Template

✓ Your deployment is complete

Deployment name: CreateVm-canonical.ubuntu-2... Start time: 4/14/2025, 11:29:42 PM  
Subscription: 1923306880-YamakataTraining Correlation ID: f00bbcfb-3212-42a4-af5  
Resource group: llama3-finetune

Deployment details

Next steps

Setup auto-shutdown Recommended  
Monitor VM health, performance and network dependencies Recommended  
Run a script inside the virtual machine Recommended

Go to resource (circled in red)

Create another VM

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Home > CreateVm-canonical.ubuntu-24\_04-lts-server-20250414231207 | Overview >

# llama3-vm2

Virtual machine

Search

Help me copy this VM in any region

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Resource visualizer Connect Networking Settings Availability + scale Security Backup + disaster recovery Operations Monitoring Automation Help

Connect Start Restart Stop Hibernate Capture Delete Refresh Open in mobile ...

Essentials

Resource group ([move](#)) [llama3-finetune](#)

Status Running

Location West US

Subscription ([move](#)) [1923306880-YamakataTraining](#)

Subscription ID a600356d-63a3-483e-b4bb-59629c01a212

Tags ([edit](#)) [Add tags](#)

Operating system Linux (ubuntu 24.04)

Size Standard D8s v3 (8 vcpus, 32 GiB memory)

Public IP address [172.184.160.24](#)

Virtual network/subnet [llama3-vm-vnet/default](#)

DNS name [Not configured](#)

Health state -

Time created 4/14/2025, 2:29 PM UTC

Properties Monitoring Capabilities (7) Recommendations Tutorials

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Log in with this IP address

# Configure the same settings as a VM with a GPU.

1. Remote login with ssh

```
ssh -i .ssh\llama3--_key.pem azureuser@172.184.160.24
```

2. Execute the same command as a VM with GPU

1. sudo apt-get -y update

2. sudo apt-get install nfs-common

3. sudo mkdir -p /mount/utllama3storage1/sharedfiles

4. sudo mount -t nfs

```
utllama3storage1.file.core.windows.net:/utllama3storage1/sharedfiles
```

```
/mount/utllama3storage1/sharedfiles -o vers=4,minorversion=1,sec=sys,nconnect=4
```

3. If you want to mount automatically even after rebooting, add "etc/fstab" as well as VM with GPU

```
azureuser@llama3-vm2: ~
```

```
m/nfs-client.target.  
Created symlink /etc/systemd/system/remote-fs.target.wants/nfs-client.target → /usr/lib/systemd/system/nfs-client.target.  
auth-rpcgss-module.service is a disabled or a static unit, not starting it.  
nfs-idmapd.service is a disabled or a static unit, not starting it.  
nfs-utils.service is a disabled or a static unit, not starting it.  
proc-fs-nfsd.mount is a disabled or a static unit, not starting it.  
rpc-gssd.service is a disabled or a static unit, not starting it.  
rpc-statd-notify.service is a disabled or a static unit, not starting it.  
rpc-statd.service is a disabled or a static unit, not starting it.  
rpc-svcgssd.service is a disabled or a static unit, not starting it.  
Processing triggers for man-db (2.12.0-4build2) ...  
Processing triggers for libc-bin (2.39-0ubuntu8.4) ...  
Scanning processes...  
Scanning linux images...
```

```
Running kernel seems to be up-to-date.
```

```
No services need to be restarted.
```

```
No containers need to be restarted.
```

```
No user sessions are running outdated binaries.
```

```
No VM guests are running outdated hypervisor (qemu) versions on this host.
```

```
azureuser@llama3-vm2:~$ sudo mkdir -p /mount/utllama3storage1/sharedfiles  
azureuser@llama3-vm2:~$ sudo mount -t nfs utllama3storage1.file.core.windows.net:/utllama3storage1/sharedfiles /mount/utllama3storage1/sharedfiles -o vers=4,minorversion=1,sec=sys,nconnect=4  
azureuser@llama3-vm2:~$ ls /mount/utllama3storage1/sharedfiles/  
test.txt  
azureuser@llama3-vm2:~$ |
```

- You can see the files that were created on the GPU-enabled VM.
- Files created here can also be accessed from there.

# Creating User Accounts for NFS File Sharing Across Multiple Virtual Machines

- When sharing a single file share using NFS across multiple virtual machines, and you need to create user accounts on each VM individually, please follow these steps:
- Assign the same user ID (UID) to each user on all VMs!

1. **Assign the same user ID (UID)** to each user on all VMs

Assign UIDs starting from 1001, in order.

Example:

user	Account name	User ID (uid)
Ichiro Suzuki	isuzuki	1001
Futaba Sato	jsato	1002
Saburo Tanaka	pauses	1003

2. **Create an account on each virtual machine with the following command:**

`sudo adduser -u [user ID] [account name]`

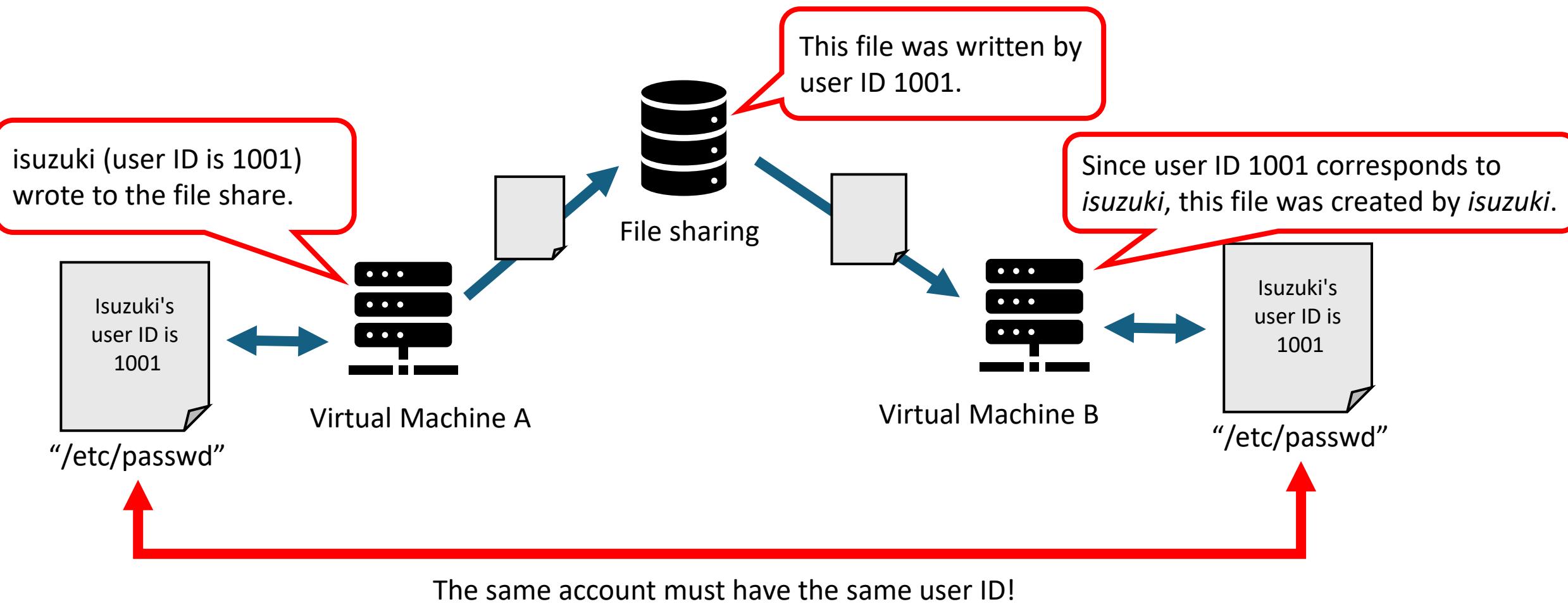
To create an account for **Ichiro Suzuki**: `sudo adduser –u 1001 isuzuki`

- It is crucial that the username and UID pairs are identical across all virtual machines that mount the same NFS file share.
  - You can verify the created accounts by checking the end of the “/etc/passwd” file on each VM.

例) isuzuki:x:1001:1001:Ichiro Suzuki,Room102,080-1234-5678,080-5678-1234,student:/home/isuzuki:/bin/bash

# Why do user IDs need to match across virtual machines?

- In an NFS file share, **file ownership is recorded by user ID (UID), not by username**.
- If the same username has a **different UID** on another virtual machine, **ownership will appear to be incorrect**, and access issues may occur.



# 5. Stop the virtual machine to avoid unnecessary charges

Even if you're not actively using it or shutdown the virtual machine, you will continue to be charged until the VM releases the allocated resources!

Reference: [States and billing status of Azure Virtual Machines](#)

azureuser@llama3-vm: ~ x + v

PS C:\Users\yamak> ssh -i .\ssh\llama3--\_key.pem azureuser@13.91.254.36  
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.11.0-1012-azure x86\_64)

\* Documentation: <https://help.ubuntu.com>  
\* Management: <https://landscape.canonical.com>  
\* Support: <https://ubuntu.com/pro>

System information as of Mon Apr 14 15:09:15 UTC 2025

System load: 0.0	Temperature: 46.9 C
Usage of /: 7.2% of 28.02GB	Processes: 312
Memory usage: 0%	Users logged in: 0
Swap usage: 0%	IPv4 address for eth0: 10.0.0.4

\* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s just raised the bar for easy, resilient and secure K8s cluster deployment.

<https://ubuntu.com/engage/secure-kubernetes-at-the-edge>

Expanded Security Maintenance for Applications is not enabled.

55 updates can be applied immediately.

To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates:

See <https://ubuntu.com/esm> or run: sudo pro status

Shutdown the VM with the command:  
`% sudo shutdown -h now`

Last login: Mon Apr 14 14:08:27 2025 from 106.72.191.195  
azureuser@llama3-vm:~\$ sudo shutdown -h now|

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Showing 1 to 2 of 2 records.

Name ↑↓	Subscription ↑↓	Resource group ↑↓	Location ↑↓	Status ↑↓	Operating system ↑↓	Size ↑↓	Public IP add
<input type="checkbox"/> llama3-vm	1923306880-Yamakat...	llama3-finetune	West US	Running	Linux	Standard_NC24ads_A1...	13.91.254.36
<input type="checkbox"/> llama3-vm2	1923306880-Yamakat...	llama3-finetune	West US	Running	Linux	Standard_D8s_v3	172.184.160.1

Still “Running” and keep charging.

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Do you want to stop all the selected virtual machines?

This operation will stop all the virtual machines selected below.

llama3-vm 1923306880-Yamakat... llama3-finetune West US Running Linux Standard\_NC24ads\_A1... 13.91.254.36 1

llama3-vm2 1923306880-Yamakat... llama3-finetune West US Running Linux Standard\_D8s\_v3 172.184.160.24 1

Operating system ↑↓ Size ↑↓ Public IP address ↑↓ Disks ↑↓

No grouping List view

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	Name	Location	Status	OS	IP Address	Disks
<input checked="" type="checkbox"/>	llama3-vm	West US	Running	Linux	Standard_NC24ads_A1...	13.91.254.36
<input type="checkbox"/>	llama3-vm2	West US	Running	Linux	Standard_D8s_v3	172.184.160.24

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Showing 1 to 2 of 2 records.

Name	Subscription	Resource group	Location	Status	Operating system	Size	Public IP address	Disk
llama3-vm	1923306880-Yamakat...	llama3-finetune	West US	Stopped (deallocated)	Linux	Standard_NC24ads_A1...	13.91.254.36	1
llama3-vm2	1923306880-Yamakat...	llama3-finetune	West US	Running	Linux	Standard_D8s_v3	172.184.160.24	1

No grouping List view

• When the VM status shows “**Stopped (deallocated)**”, you are **not charged** for vCPU or GPU usage.

- If you stop the VM using the shutdown command **inside** the virtual machine, the status becomes “**Stopped**”, and you will **still be charged** for both vCPU and GPU.
- Even if the status is “**Stopped (deallocated)**”, you will **still be charged** for **OS disk, storage, public IP**, and other attached resources.
- If you no longer need the VM and related resources, the simplest way to stop billing is to **delete the entire resource group**.

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Subscription equals all Type equals all Resource group equals all

Showing 1 to 2 of 2 records.

Name	Subscription	Resource group	Location	Status	Operating system	Size	Public IP address	Disk
llama3-vm	1923306880-Yamakat...	LLAMA3-FINETUNE	West US	Stopped	Linux	Standard_NC24ads_A1...	13.91.254.36	1
llama3-vm2	1923306880-Yamakat...	llama3-finetune	West US	Running	Linux	Standard_D8s_v3	172.184.160.24	1

If you stop the virtual machine using the shutdown command **inside the VM**, the status becomes “**Stopped**”, and **charges will still apply** for both vCPU and GPU.

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