

# Basic Azure Quick start for an Agoric Validator

## Basics

1. Login to the Azure portal <https://portal.azure.com/#create/Microsoft.VirtualMachine>
2. Select a name and region
3. **Image:** Ubuntu Server 18.04 LTS -Gen1
4. **Size:** Standard\_D2s\_v3 2 vcpus, 8GiB memory
5. **Authentication type:** SSH public key

## Disks

6. **OS disk type:** Premium SSD

## Networking

7. **Virtual network:** Create new
8. **Public IP:** Create new -> SKU: Basic, Assignment: Dynamic
9. **NIC network security group:** Advanced

## Management

10. **Auto-shutdown:** Disable

## After creation

11. Open the Virtual Machine -> Settings -> Networking -> Inbound port rules: 26656 (TCP), Outbound port rules: 26656 (TCP)
12. Open the Virtual Machine -> Settings -> Disks -> Select your disk -> Settings -> Size + performance: Increase size to accommodate a growth rate of 6-12GB/Month (pruning enabled/disabled)

## Head over to the “Installing an Agoric Validator” guide

<https://github.com/Agoric/agoric-sdk/wiki/Validator-Guide>

# Create a virtual machine ...

## Project details

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

Subscription *	My subscription 1
Resource group *	AgoricTestnet

[Create new](#)

## Instance details

Virtual machine name *	Agoric-vm
Region *	(US) East US 2
Availability options	No infrastructure redundancy required
Image *	Ubuntu Server 18.04 LTS - Gen1
Azure Spot instance	<input type="checkbox"/>
Size *	Standard_D2s_v3 - 2 vcpus, 8 GiB memory (SEK 612.29/month)

[See all images](#)

[See all sizes](#)

## Administrator account

Authentication type	<input checked="" type="radio"/> SSH public key <input type="radio"/> Password
<div><p><b>i</b> Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.</p></div>	
Username *	agoricnode
SSH public key source	Generate new key pair
Key pair name *	Agoric-vm_key

## Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports *	<input type="radio"/> None <input checked="" type="radio"/> Allow selected ports
Select inbound ports *	SSH (22)

**⚠ This will allow all IP addresses to access your virtual machine.** This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

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](#)

Disk options

OS disk type \* ⓘ Premium SSD

Encryption type \* (Default) Encryption at-rest with a platform-managed key

Enable Ultra Disk compatibility ⓘ ☐  
Ultra disk is available only for Availability Zones in eastus2.

Data disks

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

LUN	Name	Size (GiB)	Disk type	Host caching
<a href="#">Create and attach a new disk</a> <a href="#">Attach an existing disk</a>				

▼ Advanced

## Network interface

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

Virtual network \* ⓘ

AgoricTestnet-vnet

[Create new](#)

Subnet \* ⓘ

default (10.64.0.0/24)

[Manage subnet configuration](#)

Public IP ⓘ

(new) Agoric-vm-ip

[Create new](#)

NIC network security group ⓘ

☐ None

☒ Basic

☐ Advanced

Public inbound ports \* ⓘ

☐ None

☒ Allow selected ports

Select inbound ports \*

SSH (22)



**This will allow all IP addresses to access your virtual machine.** This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

Accelerated networking ⓘ

☐

The selected VM size does not support accelerated networking.

## Load balancing

You can place this virtual machine in the backend pool of an existing Azure load balancing solution. [Learn more](#)

Place this virtual machine behind an existing load balancing solution?

☐

## Azure Security Center

Azure Security Center provides unified security management and advanced threat protection across hybrid cloud workloads.  
[Learn more](#)

✔ Your subscription is protected by Azure Security Center basic plan.

### Monitoring

Boot diagnostics ⓘ ☒ Enable with managed storage account (recommended)  
☐ Enable with custom storage account  
☐ Disable

Enable OS guest diagnostics ⓘ ☐

### Identity

System assigned managed identity ⓘ ☐


### Auto-shutdown

Enable auto-shutdown ⓘ ☐

### Backup

Enable backup ⓘ ☐

### Guest OS updates

Patch orchestration options ⓘ    
 ⓘ Some patch orchestration options are not available for this image.  
[Learn more](#)

ⓘ Your subscription is not registered to use Azure-orchestrated patching. [Learn more](#)

✓ Validation passed

### Basics

Subscription	My Subscription 1
Resource group	AgoricTestnet
Virtual machine name	Agoric-vm
Region	East US 2
Availability options	No infrastructure redundancy required
Image	Ubuntu Server 18.04 LTS - Gen1
Size	Standard D2s v3 (2 vcpus, 8 GiB memory)
Authentication type	SSH public key
Username	agoricnode
Key pair name	Agoric-vm_key
Public inbound ports	SSH
Azure Spot	No

### Disks

OS disk type	Premium SSD LRS
Use managed disks	Yes
Use ephemeral OS disk	No

### Networking

Virtual network	AgoricTestnet-vnet
Subnet	default (10.64.0.0/24)
Public IP	(new) Agoric-vm-ip
Accelerated networking	Off
Place this virtual machine behind an existing load balancing solution?	No

### Management

Azure Security Center	Basic (free)
Boot diagnostics	On
Enable OS guest diagnostics	Off
System assigned managed identity	Off
Auto-shutdown	Off
Backup	Disabled
Enable hotpatch (Preview)	Off
Patch orchestration options	Image Default

### Advanced

Extensions	None
Cloud init	No
Proximity placement group	None

# After Creation

AgoricTestnet | Networking

Virtual machine

Search (Ctrl+/)

Attach network interface

Detach network interface

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Networking

Connect

Disks

Size

Security

Advisor recommendations

Extensions

Continuous delivery

Availability

agorictestnet93

IP configuration ⓘ

ipconfig1 (Primary)

Network Interface: agorictestnet93

Effective security rules

Troubleshoot VM connection issues

Topology

Virtual network/subnet: AgoricTestnet-vnet/default

NIC Public IP: xx.xxx.xx.xxx

NIC Private IP: 10.64.0.4

Accelerated networking: Disabled

Inbound port rules

Outbound port rules

Application security groups

Load balancing

Network security group AgoricTestnet-nsg (attached to network interface: agorictestnet93)

Impacts 0 subnets, 1 network interfaces

Add outbound port rule

Priority	Name	Port	Protocol	Source	Destination	Action	
100	Agoric_26656	26656	Any	Any	Any	Allow	...
65000	AllowVnetOutBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow	...
65001	AllowInternetOutBound	Any	Any	Any	Internet	Allow	...
65500	DenyAllOutBound	Any	Any	Any	Any	Deny	...

AgoricTestnet\_disk1 | Size + performance

Disk

Search (Ctrl+/)

Changes to the disk size and performance can be made only when the disk is unattached or the managing virtual machine(s) are deallocated.

Overview

Activity log

Access control (IAM)

Tags

Settings

Size + performance

Encryption

Networking

Disk Export

Properties

Locks

Monitoring

Metrics

Automation

Tasks (preview)

Export template

Support + troubleshooting

New support request

Disk SKU ⓘ

Premium SSD (locally-redundant storage)

Size	Performance tier	Provisioned IOPS	Provisioned throughput	Max Shares ⓘ
4 GiB	P1	120	25	-
8 GiB	P2	120	25	-
16 GiB	P3	120	25	-
32 GiB	P4	120	25	-
64 GiB	P6	240	50	-
128 GiB	P10	500	100	-
256 GiB	P15	1100	125	2
512 GiB	P20	2300	150	2
1024 GiB	P30	5000	200	5
2048 GiB	P40	7500	250	5
4096 GiB	P50	7500	250	5
8192 GiB	P60	16000	500	10
16384 GiB	P70	18000	750	10
32767 GiB	P80	20000	900	10

Custom disk size (GiB) \* ⓘ

1024

Performance tier ⓘ

P30 - 5000 IOPS, 200 MBps (default)