

# **Introduction Microsoft Azure**

Lecture 02

# Microsoft Azure?



# Goals

- Microsoft Azure, also known as Azure, is a cloud computing service run by Microsoft that lets users manage applications through Microsoft-owned data centers. Among the things it does: It gives you software as a service, platform as a service (PaaS), and infrastructure as a service (IaaS). It also lets you use a lot of different programming languages and tools, as well as Microsoft and third-party software and systems..

# Computer services

- If you want to run general-purpose Microsoft Windows and Linux virtual machines, or machine images for popular software packages, you can use virtual machines, which are called infrastructure as a service (IAaaS).
- On Azure, a lot of people run Linux on some of the many Linux distributions that are available, like Microsoft's own Linux-based Azure Sphere.
- App services are platform as a service (PaaS) environments that make it easy for developers to make and manage websites.

# Computer services

- Azure Web Sites lets developers make websites with ASP.NET, PHP, Node.js, Java, or Python. They can be put up with FTP, Git, Mercurial, Team Foundation Server, or the user portal. This feature was first shown off in June 2012 at the Meet Microsoft Azure event. Customers can make websites in PHP, ASP.NET, Node.js, or Python, or they can choose from a gallery of open source apps to use. PaaS is a way for Microsoft to make it easier for people to use the Microsoft Azure Platform. This is one way. It changed its name to Web Apps in April 2015.

# Computer services

Create a resource

Home

Dashboard

All services

FAVORITES

All resources

Resource groups

App Services

Function App

SQL databases

Azure Cosmos DB

Virtual machines

Load balancers

Storage accounts

Virtual networks

Azure Active Directory

Monitor

Advisor

Microsoft Defender for Cloud

Cost Management + Billing

Help + support

Azure services

Create a resource

Subscriptions

Storage accounts

Users

Virtual machines

Front Door and CDN profiles

Storage Explorer

Resource groups

All resources

All services

Recent resources

Name	Type	Last Viewed
<a href="#">neostar-keyvault</a>	Key vault	a few seconds ago
<a href="#">az-neostar-qa-kv</a>	Key vault	a month ago
<a href="#">Microsoft Azure - Neostar</a>	Subscription	a month ago
<a href="#">azneostarplatformdev</a>	Storage account	2 months ago
<a href="#">build-agent01</a>	Virtual machine	3 months ago
<a href="#">f4daacc46fbc64486827507</a>	Storage account	3 months ago
<a href="#">f42a3d1a09aa9488dac5415</a>	Storage account	3 months ago
<a href="#">az-neostar-platform-prod-cdn</a>	Front Door and CDN profiles	3 months ago
<a href="#">az-neostar-platform-qa-cdn</a>	Front Door and CDN profiles	3 months ago
<a href="#">az-neostar-platform-prod</a>	Resource group	4 months ago
<a href="#">az-neostar-platform-qa-mi</a>	Managed Identity	4 months ago
<a href="#">az-neostar-platform-dev</a>	Resource group	5 months ago

[See all](#)

Navigate


Subscriptions

Resource groups

All resources

Dashboard

Strana • 6



# Computer services

Virtual machines

NEOSTAR d.o.o.

+ Create

Switch to classic

Reservations

Manage view

Refresh

Export to CSV

Open query

Assign tags

Start

Restart

Stop

Delete

Services

Maintenance

Feedback

Filter for any field...

Subscription == all

Resource group == all

Location == 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	Disks	
<input type="checkbox"/> build-agent01	Microsoft Azure - Neostar	az-neostar-platform-dev...	West Europe	Running	Linux	Standard_D4s_v3	20.71.153.218	1	...
<input type="checkbox"/> Ronin	Microsoft Azure - Neostar	RG-NEOSTARLAB	West Europe	Running	Windows	Standard_D4s_v4	20.71.229.157	1	...

# Computer services

Ronin Virtual machine

Search (Ctrl+J)

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Networking

Connect

Windows Admin Center (preview)

Disks

Size

Security

Advisor recommendations

Extensions + applications

Continuous delivery

Availability + scaling

Configuration

Identity

SQL Server configuration

Properties

Locks

Operations

Bastion

Connect Start Restart Stop Capture Delete Refresh Open in mobile Automation Feedback

Advisor (1 of 3): SQL IaaS Agent should be installed in full mode →

Properties Monitoring Capabilities (8) Recommendations (3) Tutorials

Virtual machine

Computer name	Ronin
Health state	-
Operating system	Windows (Windows Server 2019 Datacenter)
Publisher	MicrosoftWindowsServer
Offer	WindowsServer
Plan	2019-Datacenter
VM generation	V1
Agent status	Ready
Agent version	2.7.41491.1024
Host group	None
Host	-
Proximity placement group	-
Colocation status	N/A
Capacity reservation group	-

Availability + scaling

Availability zone	-
Scale Set	-

Security type

Security type	Standard
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Extensions + applications

Networking

Public IP address	20.71.229.157
Public IP address (IPv6)	-
Private IP address	172.20.10.5
Private IP address (IPv6)	-
Virtual network/subnet	NeostarLAB-vnet/NeostarLABSubnet
DNS name	neostar-ronin.westeurope.cloudapp.azure.com

Size

Size	Standard D4s v4
vCPUs	4
RAM	16 GiB

Disk

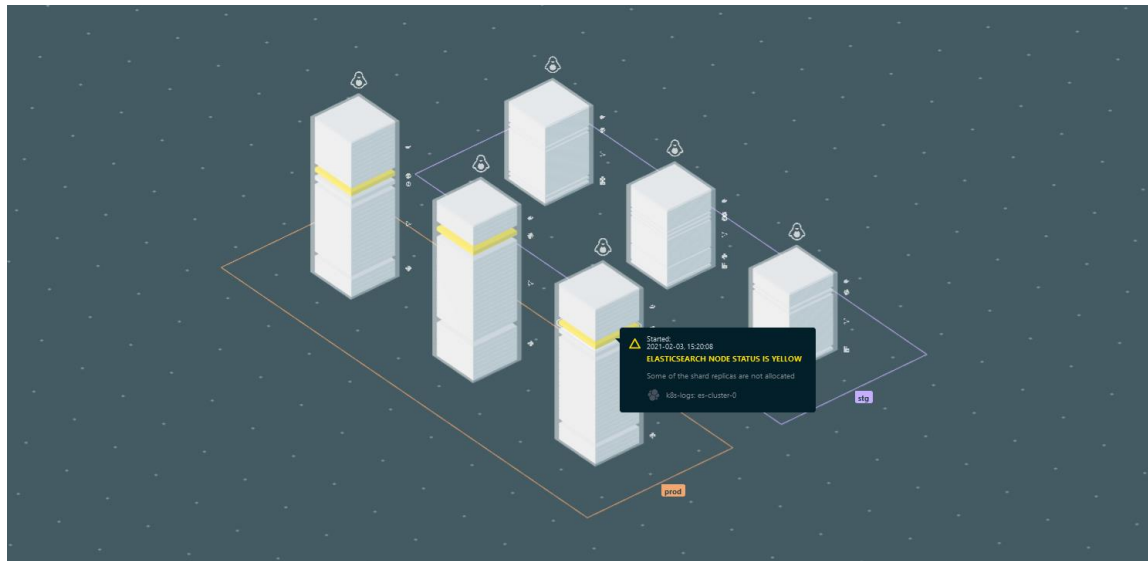
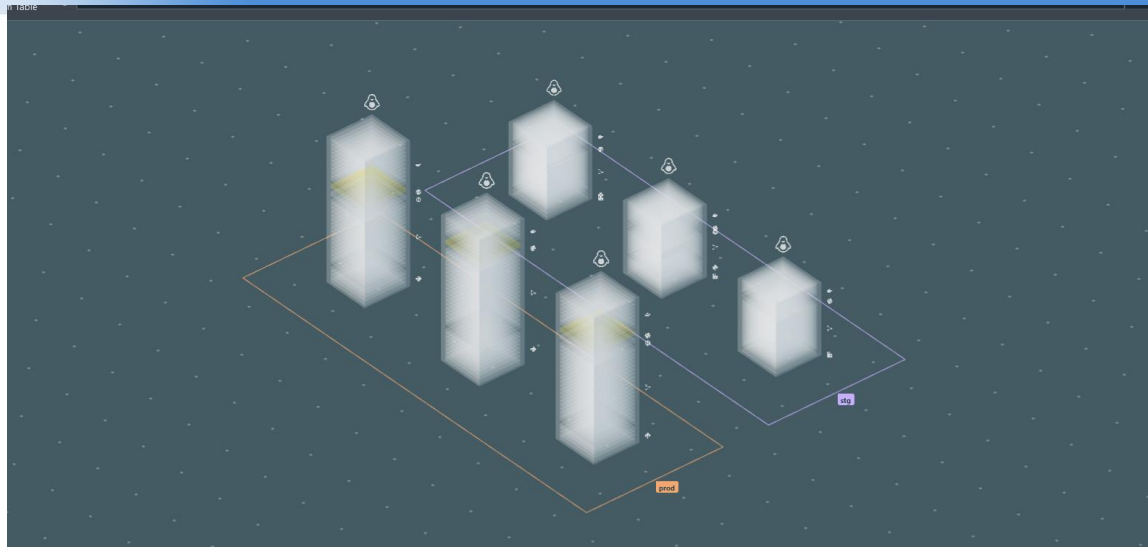
OS disk	Ronin_OsDisk_1_b44c9022a803446ca521894ef9ecc39e
Encryption at host	Disabled
Azure disk encryption	Not enabled
Ephemeral OS disk	N/A
Data disks	0

Azure Spot

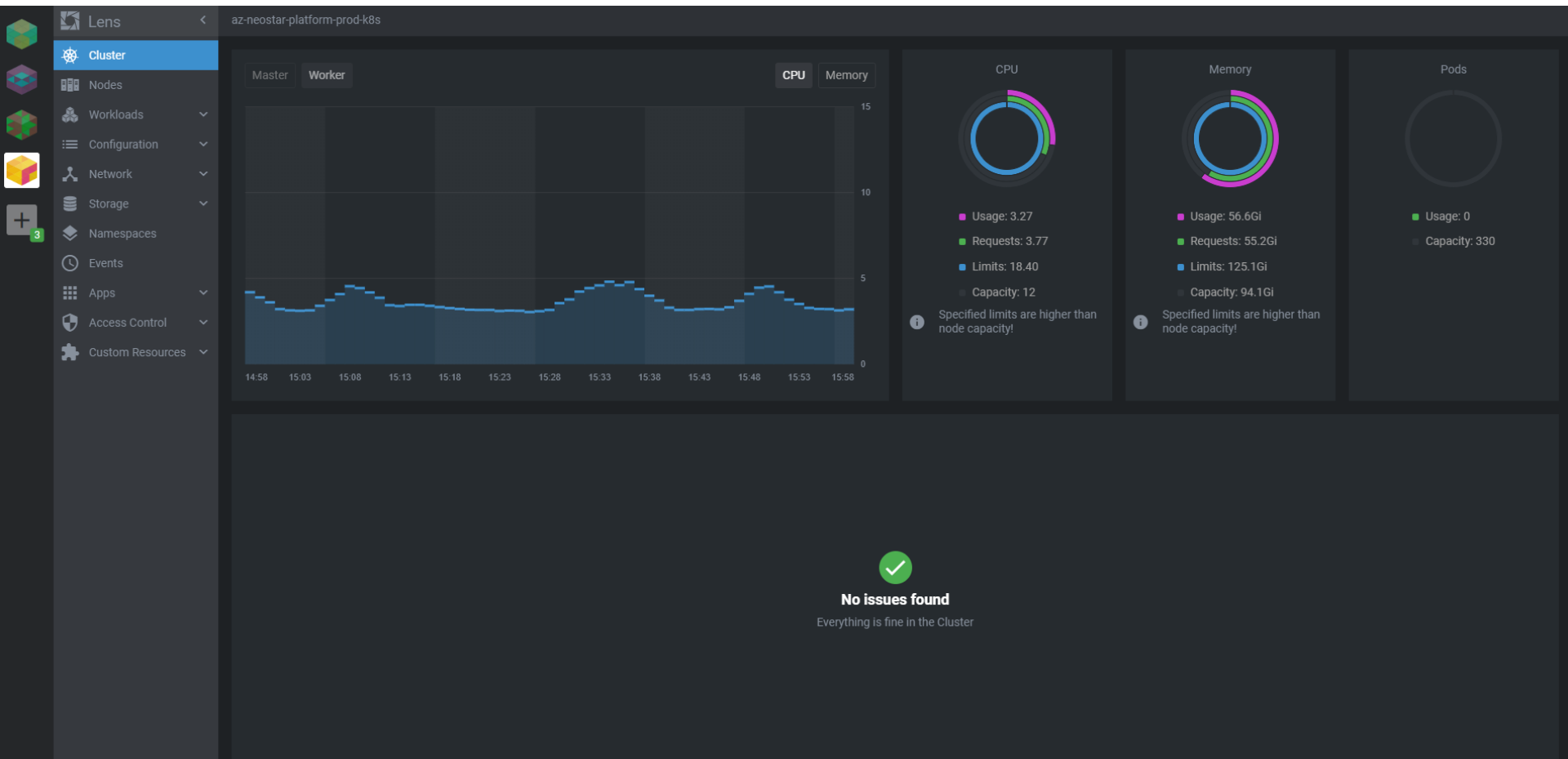
Azure Spot	-
Azure Spot eviction policy	-



# Computer services - monitoring



# Computer services - monitoring



# Computer services - monitoring

Lens az-neostar-platform-prod-k8s

Overview **Pods** Deployments DaemonSets StatefulSets Jobs CronJobs

Pods 115 items

All namespaces Search...

<input type="checkbox"/>	Name	Namespace	Containers	Restarts	Controlled By	QoS	Age	Status
<input type="checkbox"/>	aad-pod-identity-mic-6f97bbdf76-88j2f	kube-system		27	<a href="#">ReplicaSet</a>	Burstable	36w	Running
<input type="checkbox"/>	aad-pod-identity-mic-6f97bbdf76-sbz6l	kube-system		71	<a href="#">ReplicaSet</a>	Burstable	36w	Running
<input type="checkbox"/>	aad-pod-identity-nmi-8kr9h	kube-system		0	<a href="#">DaemonSet</a>	Burstable	36w	Running
<input type="checkbox"/>	aad-pod-identity-nmi-95mvq	kube-system		0	<a href="#">DaemonSet</a>	Burstable	36w	Running
<input type="checkbox"/>	aad-pod-identity-nmi-lvnd9	kube-system		0	<a href="#">DaemonSet</a>	Burstable	36w	Running
<input type="checkbox"/>	api-gateway-66cfb84d45-65m6p	az-neostar-prod		0	<a href="#">ReplicaSet</a>	Burstable	6w	Running
<input type="checkbox"/>	azure-ip-masq-agent-7hd8s	kube-system		0	<a href="#">DaemonSet</a>	Burstable	6w	Running
<input type="checkbox"/>	azure-ip-masq-agent-dbwjl	kube-system		0	<a href="#">DaemonSet</a>	Burstable	6w	Running
<input type="checkbox"/>	azure-ip-masq-agent-fmqsf	kube-system		0	<a href="#">DaemonSet</a>	Burstable	6w	Running
<input type="checkbox"/>	bluring360-6c975f696f-4vzss	az-neostar-prod		0	<a href="#">ReplicaSet</a>	Burstable	27w	Running
<input type="checkbox"/>	bluring360-6c975f696f-7hrd9	az-neostar-prod		0	<a href="#">ReplicaSet</a>	Burstable	27w	Running
<input type="checkbox"/>	bluring360-6c975f696f-7w7r2	az-neostar-prod		0	<a href="#">ReplicaSet</a>	Burstable	27w	Running
<input type="checkbox"/>	bluring360-6c975f696f-99jcw	az-neostar-prod		0	<a href="#">ReplicaSet</a>	Burstable	27w	Running
<input type="checkbox"/>	bluring360-6c975f696f-q2rkr	az-neostar-prod		0	<a href="#">ReplicaSet</a>	Burstable	27w	Running
<input type="checkbox"/>	bluring360-6c975f696f-s8s7r	az-neostar-prod		0	<a href="#">ReplicaSet</a>	Burstable	27w	Running
<input type="checkbox"/>	calculation-658f48bfd-67lt8	az-neostar-prod		0	<a href="#">ReplicaSet</a>	Burstable	5w	Running
<input type="checkbox"/>	carhub-864fb55c77-thl4c	az-neostar-prod		0	<a href="#">ReplicaSet</a>	Burstable	2w	Running
<input type="checkbox"/>	certification-894cc6d8f-wzq47	az-neostar-prod		4	<a href="#">ReplicaSet</a>	Burstable	27w	Running
<input type="checkbox"/>	coredns-58567c6d46-bq5tf	kube-system		0	<a href="#">ReplicaSet</a>	Burstable	19w	Running
<input type="checkbox"/>	coredns-58567c6d46-pdfrc	kube-system		0	<a href="#">ReplicaSet</a>	Burstable	19w	Running
<input type="checkbox"/>	coredns-autoscaler-54d55c8b75-4kzvn	kube-system		0	<a href="#">ReplicaSet</a>	Burstable	25w	Running
<input type="checkbox"/>	crmarketing-job-1647269100-shdrd	az-neostar-prod		0	<a href="#">Job</a>	BestEffort	14m	Completed

# Computer services - monitoring

Table content: Hosts (6) Visualize metric for selected Hosts Please select										
Aggregates for metrics over 1mo 2d 15h 4m Clear Selections										
Zone	Name	Hostname	OS	Type	#CPUs	CPU Usage	Memory	Memory Used	Health	
stg	aks-default-16981967-vmss000000.ijfnrdmklg2ufhlenah1euywzf.ax.internal.cloudapp.net	aks-default-16981967-vmss000000	5.4.0-1047-azure (amd64)	Standard_DS11_v2	2	35%	13.67 GiB	52%	✓	
stg	aks-default-16981967-vmss000001.ijfnrdmklg2ufhlenah1euywzf.ax.internal.cloudapp.net	aks-default-16981967-vmss000001	5.4.0-1047-azure (amd64)	Standard_DS11_v2	2	39%	13.67 GiB	54%	✓	
stg	aks-default-16981967-vmss000002.ijfnrdmklg2ufhlenah1euywzf.ax.internal.cloudapp.net	aks-default-16981967-vmss000002	5.4.0-1047-azure (amd64)	Standard_DS11_v2	2	37%	13.67 GiB	53%	✓	
prod	aks-default-96042242-vmss000000.2stoywkm4z0unayfxwimz22wbb.ax.internal.cloudapp.net	aks-default-96042242-vmss000000	5.4.0-1048-azure (amd64)	Standard_E4s_v4	4	40%	31.37 GiB	55%	✓	
prod	aks-default-96042242-vmss000001.2stoywkm4z0unayfxwimz22wbb.ax.internal.cloudapp.net	aks-default-96042242-vmss000001	5.4.0-1048-azure (amd64)	Standard_E4s_v4	4	25%	31.37 GiB	49%	✓	
prod	aks-default-96042242-vmss000002.2stoywkm4z0unayfxwimz22wbb.ax.internal.cloudapp.net	aks-default-96042242-vmss000002	5.4.0-1048-azure (amd64)	Standard_E4s_v4	4	38%	31.37 GiB	62%	✓	

# Computer services - monitoring

- WebJobs are apps that can be used in an App Service environment to run background processing that can be started on a schedule, on demand, or all the time. It is possible to communicate between apps, software for iOS, and web jobs by using the Blob and Table services. They also provide information about the state of the apps and web jobs.

# Identity

- Azure Active Directory is used to synchronize on-premises directories and set up single sign-on (SSO) (Single Sign On).
- People can use Azure Active Directory B2C to manage their own identities and access in the cloud.
- A service called Azure Active Directory Domain Services is used to connect virtual machines in the cloud to a domain that doesn't have any domain controllers.
- There is a service called Azure information protection that can be used to keep important information safe.

# Identity + keyvault

<div>Overview</div> <div>Activity log</div> <div>Access control (IAM)</div> <div>Tags</div> <div>Diagnose and solve problems</div> <div>Events</div> <div>Settings</div> <div>Keys</div> <div>Secrets</div> <div>Certificates</div> <div>Access policies</div> <div>Networking</div> <div>Security</div> <div>Properties</div> <div>Locks</div> <div>Monitoring</div> <div>Alerts</div> <div>Automation</div>	Name	Type	Status	Expiration date
	BuyVehicleService-DB		✓ Enabled	
	CalculationService-DB		✓ Enabled	
	CarHub-DB		✓ Enabled	
	CertificationService-Cryptography--IV		✓ Enabled	
	CertificationService-Cryptography--Key		✓ Enabled	
	CertificationService-DB		✓ Enabled	
	CertificationService-PlatformDB		✓ Enabled	
	ConnectionStrings--NopDbConnection		✓ Enabled	
	CRMarketing-host		✓ Enabled	
	CRMarketing-identity		✓ Enabled	
	CRMarketing-neostar		✓ Enabled	
	CRMarketing-nop		✓ Enabled	
	CRMarketing-password		✓ Enabled	
	CRMarketing-username		✓ Enabled	
	DmsService-DB		✓ Enabled	
	DocumentService-DB		✓ Enabled	
	DocumentService-IronBarcodeLicense		✓ Enabled	