

Create Kubernetes cluster ...

Basics Node pools Networking Integrations Monitoring Advanced Tags Review + create

Azure Kubernetes Service (AKS) manages your hosted Kubernetes environment, making it quick and easy to deploy and manage containerized applications without container orchestration expertise. It also eliminates the burden of ongoing operations and maintenance by provisioning, upgrading, and scaling resources on demand, without taking your applications offline. [Learn more](#)

Project details

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

Subscription * ⓘ

Azure for Students

Resource group * ⓘ

AKSgroup

Create new

Cluster details

Cluster preset configuration *

Production Enterprise

To quickly customize your Kubernetes cluster, choose one of the preset configurations above. You can modify these configurations at any time. [Compare presets](#)

Enterprise preset configures the cluster to be private which makes the API server inaccessible from the public internet. To access the private cluster, deploy it into a virtual network that is accessible from your computer or follow the AKS private cluster documentation. [Learn more](#)

Kubernetes cluster name * ⓘ

paymentsAKScluster

Region * ⓘ

(Europe) North Europe

Availability zones ⓘ

Zones 1, 2, 3

High availability is recommended for production enterprise configuration.

AKS pricing tier ⓘ

Premium

Kubernetes version * ⓘ

1.27.14

Automatic upgrade ⓘ

Enabled with patch (recommended)

Automatic upgrade scheduler

Every week on Sunday (recommended)

Start on: Wed Jul 24 2024 00:00 +00:00 (Coordinated Universal Time)
[Edit schedule](#)

Node security channel type ⓘ

Node Image

Security channel scheduler

Every week on Sunday (recommended)

Start on: Wed Jul 24 2024 00:00 +00:00 (Coordinated Universal Time)
[Edit schedule](#)

Choose between local accounts or Microsoft Entra ID for authentication and Azure RBAC or Kubernetes RBAC for your authorization needs.

Authentication and Authorization ⓘ

Microsoft Entra ID authentication with Azure RBAC

This RBAC configuration only applies to data actions on the Kubernetes API and not to actions on the Azure Resource Manager representation of the AKS cluster. [Learn more](#)

Add a node pool ...

paymentsAKScuster

Node pool name *

dbnp

Mode *

User

System

OS SKU *

Azure Linux

Ubuntu Linux

Windows 2022

Windows 2019

Availability zones

Zones 1,2

Enable Azure Spot instances

Node size *

Standard E4s v5

4 vcpus, 32 GiB memory

Choose a size

Scale method

Manual

Autoscale - Recommended

This option is recommended so that the cluster is automatically sized correctly for the current running workloads.

Minimum node count *

1

Maximum node count *

5

The maximum node count allowed for an AKS cluster is 1000 per node pool and 5000 nodes across all node pools in this cluster.

Optional settings

Max pods per node *

30

10 - 250

Enable public IP per node

Labels

Labels are key/value pairs that can be used to categorize or add identifying information to Kubernetes resources such as nodes. Labels for the node pool will be applied to each node in the node pool. [Learn more](#)

Key	Value

Taints

Taints are tuples that are used in conjunction with tolerations to determine which pods can be scheduled on which nodes. In order for a pod to be scheduled to a node, it must tolerate all of the taints applied to that node. Taints for the node pool will be applied to each node in the node pool. [Learn more](#)

Key	Value	Effect

Add a node pool ...

paymentsAKScluster

Node pool name * ⓘ

servnp ✓

Mode * ⓘ

☒ User

☐ System

OS SKU * ⓘ

☐ Azure Linux

☐ Ubuntu Linux

☐ Windows 2022

☒ Windows 2019

Availability zones ⓘ

Zones 1,2 ▼

Enable Azure Spot instances ⓘ

☐

Node size * ⓘ

Standard D4ps v5

4 vcpus, 16 GiB memory

[Choose a size](#)

Scale method ⓘ

☐ Manual

☒ Autoscale - **Recommended**

✔ This option is recommended so that the cluster is automatically sized correctly for the current running workloads.

Minimum node count * ⓘ

1

Maximum node count * ⓘ

10 ✓

The maximum node count allowed for an AKS cluster is 1000 per node pool and 5000 nodes across all node pools in this cluster.

Optional settings

Max pods per node * ⓘ

20 ✓

10 - 250

Enable public IP per node ⓘ

☐

Labels

Labels are key/value pairs that can be used to categorize or add identifying information to Kubernetes resources such as nodes. Labels for the node pool will be applied to each node in the node pool. [Learn more](#)

Key	Value
<input type="text"/>	<input type="text"/>

Taints

Taints are tuples that are used in conjunction with tolerations to determine which pods can be scheduled on which nodes. In order for a pod to be scheduled to a node, it must tolerate all of the taints applied to that node. Taints for the node pool will be applied to each node in the node pool. [Learn more](#)

Key	Value	Effect
<input type="text"/>	<input type="text"/>	<input type="text" value=""/>

Add a node pool ...

paymentsAKScluster

Node pool name * ⓘ

paynp ✓

Mode * ⓘ

☒ User

☐ System

OS SKU * ⓘ

☐ Azure Linux

☐ Ubuntu Linux

☒ Windows 2022

☐ Windows 2019

Availability zones ⓘ

Zones 1,2,3 ▼

Enable Azure Spot instances ⓘ

☐

Node size * ⓘ

Standard D4ps v5

4 vcpus, 16 GiB memory

[Choose a size](#)

Scale method ⓘ

☐ Manual

☒ Autoscale - **Recommended**

ⓘ This option is recommended so that the cluster is automatically sized correctly for the current running workloads.

Minimum node count * ⓘ

3 ✓

Maximum node count * ⓘ

20 ✓

The maximum node count allowed for an AKS cluster is 1000 per node pool and 5000 nodes across all node pools in this cluster.

Optional settings

Max pods per node * ⓘ

30 ✓

10 - 250

Enable public IP per node ⓘ

☐

Labels

Labels are key/value pairs that can be used to categorize or add identifying information to Kubernetes resources such as nodes. Labels for the node pool will be applied to each node in the node pool. [Learn more](#)

Key	Value
<input type="text"/>	<input type="text"/>

Taints

Taints are tuples that are used in conjunction with tolerations to determine which pods can be scheduled on which nodes. In order for a pod to be scheduled to a node, it must tolerate all of the taints applied to that node. Taints for the node pool will be applied to each node in the node pool. [Learn more](#)

Key	Value	Effect
<input type="text"/>	<input type="text"/>	<input type="text"/>

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Node pools

In addition to the required primary node pool configured on the Basics tab, you can also add optional node pools to handle a variety of workloads [Learn more](#)

+ Add node pool Delete

<input type="checkbox"/>	Name	Mode	Node size	OS SKU	Node count	Availat
<input type="checkbox"/>	agentpool	System	Standard_D16ds_v...	Ubuntu	2 - 5	1,2,3
<input type="checkbox"/>	userpool	User	Standard_D8ds_v5 ...	Ubuntu	2 - 100	1,2,3
<input checked="" type="checkbox"/>	paynp	User	Standard_D4ps_v5 ...	Windows2022	3 - 20	1,2,3
<input checked="" type="checkbox"/>	dbnp	User	Standard_E4s_v5 (c...	Windows2022	1 - 5	1,2
<input checked="" type="checkbox"/>	servnp	User	Standard_D4ps_v5 ...	Windows2019	1 - 10	1,2

User node pool is recommended for production enterprise configuration with minimum of 2 nodes, maximum of 100 nodes and a default value of 3 nodes.

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Azure provides various networking controls to help manage and secure access to your Kubernetes cluster. [Learn more](#)

Private access

Enable a private cluster to restrict worker node to API access, enhancing your Kubernetes workload's security and isolation.

Enable private cluster ⓘ



Private AKS clusters do not have their API server accessible from the public internet. To access the private cluster, deploy it into a virtual network that is accessible from your computer or follow the AKS private cluster documentation. [Learn more](#)

Public access

Set authorized IP ranges ⓘ



When using a private cluster, authorized IP ranges cannot be used because the control plane is not exposed to the public internet.

Container networking

Network configuration ⓘ



Azure CNI Overlay
Assigns pod IP addresses from a private IP space. Best for scalability



Azure CNI Node Subnet
Previously named Azure CNI. Assigns pod IP addresses from your host VNet. Best for workloads where pods must be reachable by other VNet resources



kubenet
Older, route table-based Overlay with limited scalability. Not recommended for most clusters

Create container registry



Registry name *	<input type="text" value="AKSregistry123"/>
	<small>.azurecr.io</small>
Subscription	Azure for Students
Resource group *	<input type="text" value="(New) AKSgroup"/>
	Create new
Region *	<input type="text" value="(Europe) North Europe"/>
Admin user * ⓘ	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
SKU * ⓘ	<input type="text" value="Standard"/>
Availability zones ⓘ	<input type="checkbox"/>

Create Azure monitor workspace



Azure Monitor workspace helps manage all the data stores for your observability needs. Azure Monitor workspaces will enable Azure Managed Prometheus

Region ⓘ *	<input type="text" value="(Europe) North Europe"/>
Resource group	<input type="text" value="AKSgroup"/>
Azure Monitor workspace *	<input type="text" value="aksmonitorworkspace"/>

Create Grafana workspace



Grafana workspace helps manage all the data stores for your observability needs. Azure Monitor workspaces will enable Azure Managed Prometheus

Region ⓘ *	<input type="text" value="(Europe) North Europe"/>
Resource group	<input type="text" value="AKSgroup"/>
Grafana workspace *	<input type="text" value="aks-grafana"/>

Create new workspace



Region * ⓘ	<input type="text" value="(Europe) North Europe"/>
Resource group	<input type="text" value="(New) DefaultResourceGroup-NEU"/>
Log Analytics workspace *	<input type="text" value="AKS-logs"/>

Create Kubernetes cluster ...

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Azure Monitor

In addition to the CPU and memory metrics included in AKS by default, you can enable Container Insights for more comprehensive data on the overall performance and health of your cluster. Billing is based on data ingestion and retention settings.


[Learn more about container performance and health monitoring](#)

[Learn more about pricing](#)

Container Insights

Enable Container Logs



 Azure monitor is recommended for production enterprise configuration.

Log Analytics workspace * ⓘ

(New) AKS-logs

[Create new](#)

Cost Preset * ⓘ

Standard

1 min collection frequency
No namespaces
Syslogs Disabled

Managed Prometheus

Managed Prometheus provides a highly available, scalable, and secure metrics platform to monitor your containerized workloads. [Learn more](#)

Enable Prometheus metrics



Azure Monitor workspace *

(New) aksmonitorworkspace

[Create new](#)

Managed Grafana

Selecting a fully managed instance of Grafana to visualize your managed Prometheus data stored in your Azure Monitor workspace. [Learn more about pricing](#)

Enable Grafana



Grafana workspace *

(New) aks-grafana

[Create new](#)

Alerts

To Monitor events on your cluster, enable alerts recommended for your monitoring configuration above (you can select and customize the rules) [Learn more about recommended alert rules](#)

Enable recommended alert rules ⓘ



Alert rules

Alert me if

- CPU Usage Percentage is greater than 95%
- Memory Working Set Percentage is greater than 100%

Notify me by

- Email: azure-gtgthess07@athtech.gr

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Enable secret store CSI driver ⓘ ☐

CSI secret store is recommended for production enterprise configuration.

Infrastructure resource group ⓘ [Edit](#)

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

Name	Value	Resource
<input type="text" value="Scope"/>	:	<input type="text" value="Interna"/> <input type="text" value="All resources selected"/> ⓘ
<input type="text" value="Environment"/>	:	<input type="text" value="Production"/> <input type="text" value="All resources selected"/> ⓘ
<input type="text"/>	:	<input type="text"/> <input type="text" value="All resources selected"/>

Basics

Subscription	Azure for Students
Resource group	AKSgroup
Region	North Europe
Kubernetes cluster name	paymentsAKScluster
Kubernetes version	1.27.14
Automatic upgrade	patch
Support Plan	Long-term support
AKS pricing tier	Premium
Automatic upgrade scheduler	Every week on Sunday (recommended)
Node security channel type	NodeImage
Security channel scheduler	Every week on Sunday (recommended)

Node pools

Node pools	5
Enable virtual nodes	Disabled

Access

Resource identity	System-assigned managed identity
Local accounts	Disabled

Networking

Private cluster	Enabled
Authorized IP ranges	Disabled
Network configuration	Azure CNI Node Subnet
Virtual network	vnet-aks
Cluster subnet	snet-payment-node
Kubernetes service address range	10.0.0.0/16
Kubernetes DNS service IP address	10.0.0.10
DNS name prefix	paymentsAKScluster-dns
Network policy	Azure
Load balancer	Standard

Integrations

Microsoft Defender for Cloud	Free
Container registry resource group	AKSgroup
Container registry location	North Europe
Container registry admin user	Disabled
Container registry SKU	Standard
Container registry	(new) AKSregistry122
Service mesh	Disabled

Monitoring

Enable Container Logs	Enabled
Log Analytics workspace	(new) AKS-logs
Enable Prometheus metrics	Enabled
Azure Monitor workspace	(new) aksmonitorworkspace
Enable Grafana	Enabled
Grafana Instances	(new) aks-grafana
Alerts	Enabled
Alert rules	2 rules

Advanced

Infrastructure resource group	MC_AKSgroup_paymentsAKScluster_northeurope
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Tags

Environment	Production (Kubernetes service)
Scop	Internal (Kubernetes service)

Related resources

The resources below support this node pool. Since AKS is a managed resource, changes to these resources may cause disruptions to your node pool.

Virtual network ⓘ	vnet-aks
Subnet	snet-payment-node

