Basics	Node pools	Networking	Integrations	Monitoring	Advanced	Tags	Review + create
manage cor operations	ntainerized application	ons without con provisioning, up	nosted Kubernetes env tainer orchestration ex ograding, and scaling	xpertise. It also elim	ninates the burder	n of ongoing	
Project det Select a sub all your reso	scription to manage	deployed resou	irces and costs. Use re	esource groups like	folders to organiz	ze and manage	<u> 1</u>
		[]	ure for Students				7
Subscription	1 ^ (i)	AZ	ure for students				
Reso	ource group * (i)	Ak	Sgroup				
		Crea	ate new				
Chartender	-11-						
Cluster pres	et configuration *	•	Production Enterpris	se			7
oluster pres	et comiguidad.	con	uickly customize your figurations above. You npare presets	Kubernetes cluste			_
		(Enterprise preset cor server inaccessible fr deploy it into a virtua follow the AKS privat	om the public intern al network that is acc	et. To access the pr essible from your c	ivate cluster, computer or	
Kubernetes	cluster name * ①	ра	yments AKS cluster				
Region * 🛈			(Europe) North	Europe			
Availability 2	zones (i)		Zones 1, 2, 3				~
			High availabili	ty is recommende	d for production	n enterprise c	onfiguration.
AKS pricing	tier (i)		Premium				~
Kubernetes	version * (i)		1.27.14				~
Automatic u	ipgrade 🛈		Enabled with pa	tch (recommend	ded)		
Auto	matic upgrade so	heduler	Every week on S	Sunday (recomm	ended)		
71313	mane apgrade 3		Start on: Wed Ju Edit schedule			nated Univer	sal Time)
Node securi	ty channel type (D	Node Image				~
Secu	ırity channel sche	duler	Every week on S	Sunday (recomm	ended)		~
			Start on: Wed Ju Edit schedule	l 24 2024 00:00 ·	+00:00 (Coordii	nated Univer	sal Time)
Choose betw authorizatio		nts or Microso	ft Entra ID for auth	nentication and A	Azure RBAC or I	Kubernetes I	RBAC for your
Authenticati	ion and Authoriza	ition (i)	Microsoft Entra	ID authenticatio	n with Azure RI	BAC	~
			and not to a	onfiguration only actions on the Azu <u>Learn more</u>			

Add a node pool paymentsAKScluster					
Node pool name * ①	dbnp			✓	
Mode * ①	User				
	System				
OS SKU * ①	Azure Linu:	x			
	O Ubuntu Lin	nux			
	Windows 2	2022			
	Windows 2	2019			
Availability zones ①	Zones 1,2			~	
Enable Azure Spot instances ①					
Node size * ①	Standard E4s	v5			
	4 vcpus, 32 Gi				
	Choose a size				
Scale method ①	Manual				
	_	- Recommended			
		n is recommended so that rent running workloads.	: the cluster is automatic	ally sized correctly	
Minimum node count * ①	1				
Maximum node count * ①	5				
a		node count allowed for a	n AKS cluster is 1000 per	r node pool and	
Optional settings					
Max pods per node * ①	30			10	- 250
Enable public IP per node ①				10	250
Labels					
Labels are key/value pairs that can be use Labels for the node pool will be applied t				s resources such as no	odes
Key		Value			
Taints					
Taints are tuples that are used in conjunc order for a pod to be scheduled to a nod applied to each node in the node pool. L	le, it must tolerate a				
Key	Value		Effect		
The state of the s	1	1.1		V	

Add a node pool paymentsAKScluster Node pool name * ① servnp User Mode * ① System OS SKU * ① O Azure Linux O Ubuntu Linux Windows 2022 Windows 2019 Availability zones (i) Zones 1,2 Enable Azure Spot instances ① Node size * ① Standard D4ps v5 4 vcpus, 16 GiB memory Choose a size Scale method ① 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 * ① 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 * ① 20 10 - 250 Enable public IP per node ① 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 🗹 Value Effect Key

Add a node pool paymentsAKScluster Node pool name * ① paynp User Mode * ① System Azure Linux OS SKU * ① O Ubuntu Linux Windows 2022 Windows 2019 Availability zones ① Zones 1,2,3 Enable Azure Spot instances ① Node size * ① Standard D4ps v5 4 vcpus, 16 GiB memory Choose a size Manual Scale method ① 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 * ① 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 * ① 30 10 - 250 Enable public IP per node ① 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 of 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

Basics Node pools Networking Integrations Monitoring Advanced Tags Review + create

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 <u>Learn more</u> $\mathbb{Z}^{\!\!\!\!1}$

+ Add node pool 🗓 Delete

	Name	Mode	Node size	OS SKU	Node count	Availat
	agentpool	System	Standard_D16ds_v	Ubuntu	2 - 5	1,2,3
	userpool	User	Standard_D8ds_v5	Ubuntu	2 - 100	1,2,3
~	paynp	User	Standard_D4ps_v5	Windows2022	3 - 20	1,2,3
~	dbnp	User	Standard_E4s_v5 (c	Windows2022	1 - 5	1,2
~	servnp	User	Standard_D4ps_v5	Windows2019	1 - 10	1,2
4						-

 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.

Create Kubernetes cluster

Basics	Node pools	Networking	Integrations	Monitoring	Advanced	Tags	Review + create		
Azure provides various networking controls to help manage and secure access to your Kubernetes cluster. <u>Learn more</u> \overrightarrow{v}									
Private acco		ict worker node	to API access, enhanci	ng your Kubernetes	s workload's securi	ity and isolatio	n.		
Enable priva	te cluster (i)								
		0	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 acce Set authorize	ed IP ranges ①	<u> </u>	When using a private because the control p						
Container r	networking								
Network cor	nfiguration (i)	0	Azure CNI Overlay Assigns pod IP addre	esses from a private	IP space. Best for	scalability			
		•	Azure CNI Node Sub Previously named Az VNet. Best for worklo resources	ure CNI. Assigns po					
		0	kubenet Older, route table-ba recommended for m		mited scalability. N	lot			

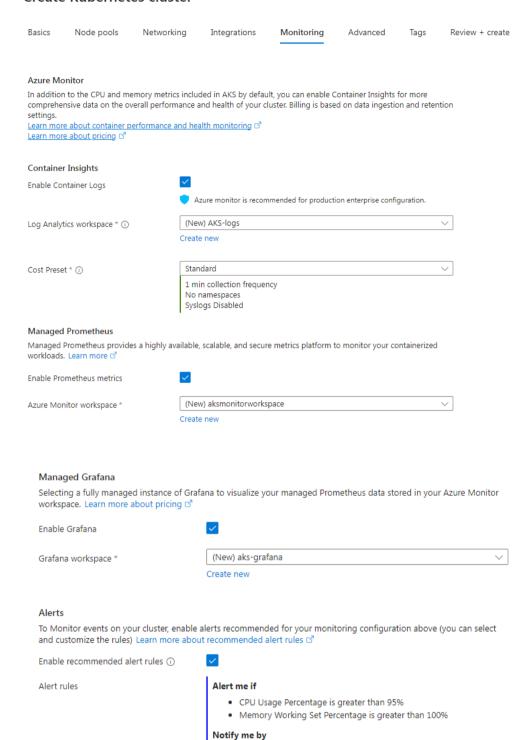
Create container registry Registry name * AKSregistry122 Azure for Students Subscription (New) AKSgroup Resource group * Create new Region * (Europe) North Europe ○ Enable ● Disable Admin user * ① SKU* ① Standard Availability zones (i) Create Azure monitor workspace \times Azure Monitor workspace helps manage all the data stores for your observability needs. Azure Monitor workspaces will enable Azure Managed Prometheus (Europe) North Europe Region (i) * AKSgroup Resource group Azure Monitor workspace * aksmonitorworkspace Create Grafana workspace Grafana workspace helps manage all the data stores for your observability needs. Azure Monitor workspaces will enable Azure Managed Prometheus (Europe) North Europe Region (i) * AKSgroup Resource group Grafana workspace * aks-grafana Create new workspace Region * ① (Europe) North Europe

Resource group

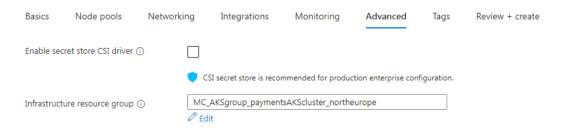
AKS-logs

(New) DefaultResourceGroup-NEU

Log Analytics workspace *



• Email: azure-gtgthess07@athtech.gr



Create Kubernetes cluster

Basics Node pools Networking Integrations Monitoring Advanced Tags Review + create

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.



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

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 (i)	vnet-aks
Subnet	snet-payment-node