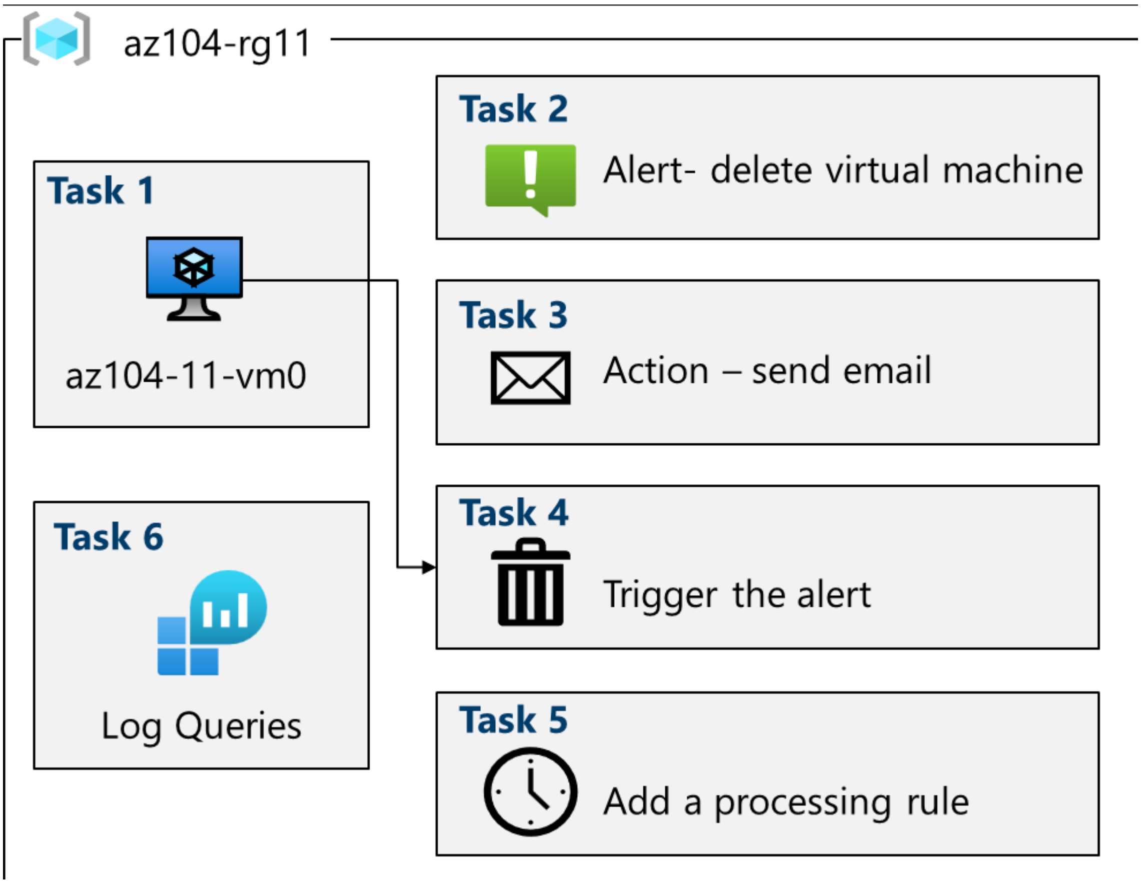
tajamar.	Máster en Ingeniería MultiCloud, DevOps y Seguridad.
AZURE LAB #11	

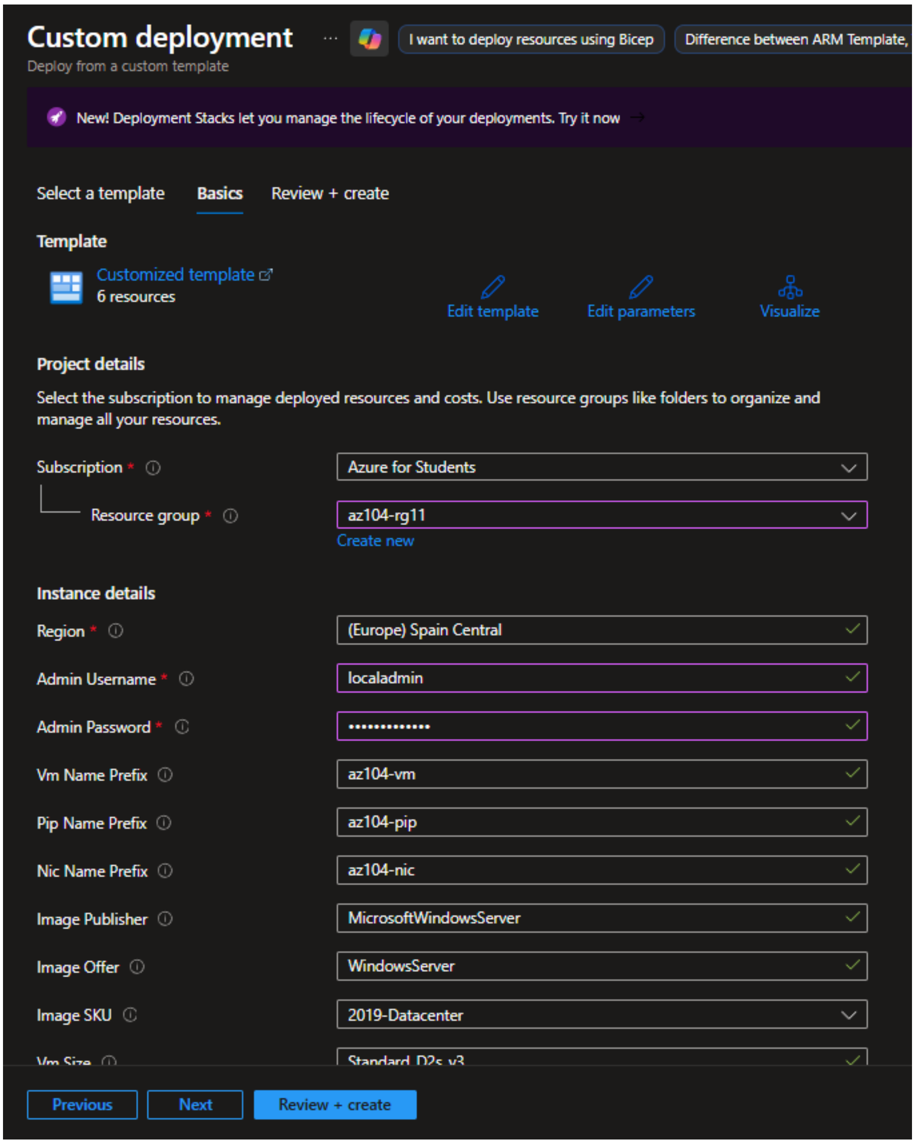
Implementación de redes virtuales

Contenido

Esquema del laboratorio



Monitorización en Azure



Custom deployment
Deploy from a custom template
I want to deploy resources using Bicep
Difference between ARM Template,
New! Deployment Stacks let you manage the lifecycle of your deployments. Try it now →
Select a template
Basics
Review + create
Edit template
Edit parameters
Visualize
Create new
Previous
Next
Review + create

Template

Customized template
6 resources

Project details

Select the 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 *: az104-rg11

Instance details

Region *: (Europe) Spain Central

Admin Username *: localadmin

Admin Password *: ••••••••••••••

Vm Name Prefix: az104-vm

Pip Name Prefix: az104-pip

Nic Name Prefix: az104-nic

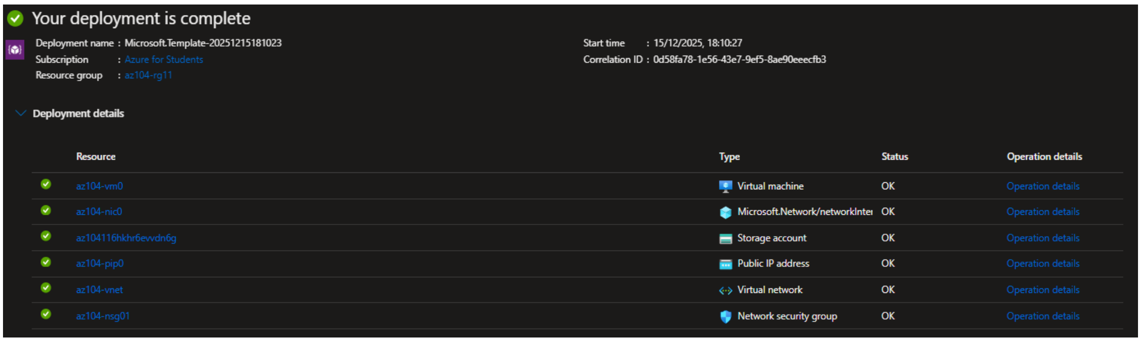
Image Publisher: MicrosoftWindowsServer

Image Offer: WindowsServer

Image SKU: 2019-Datacenter

Vm Size: Standard_D2s_v3

Despliego una Vm desde la plantilla proporcionada.



Your deployment is complete

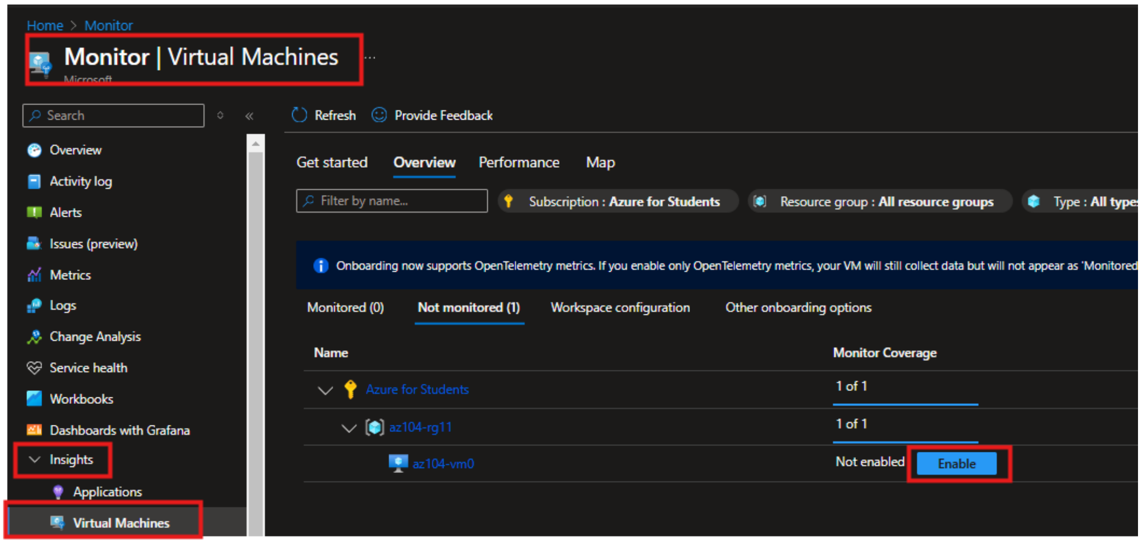
Deployment name : Microsoft.Template-20251215181023
Subscription : Azure for Students
Resource group : az104-rg11

Start time : 15/12/2025, 18:10:27
Correlation ID : 0d58fa78-1e56-43e7-9ef5-8ae90eeecfb3

Deployment details

	Resource	Type	Status	Operation details
✓	az104-vm0	Virtual machine	OK	Operation details
✓	az104-nic0	Microsoft.Network/networkInte	OK	Operation details
✓	az104116hkhr6evvdn6g	Storage account	OK	Operation details
✓	az104-pip0	Public IP address	OK	Operation details
✓	az104-vnet	Virtual network	OK	Operation details
✓	az104-nsg01	Network security group	OK	Operation details

Recursos desplegados con la plantilla arm.

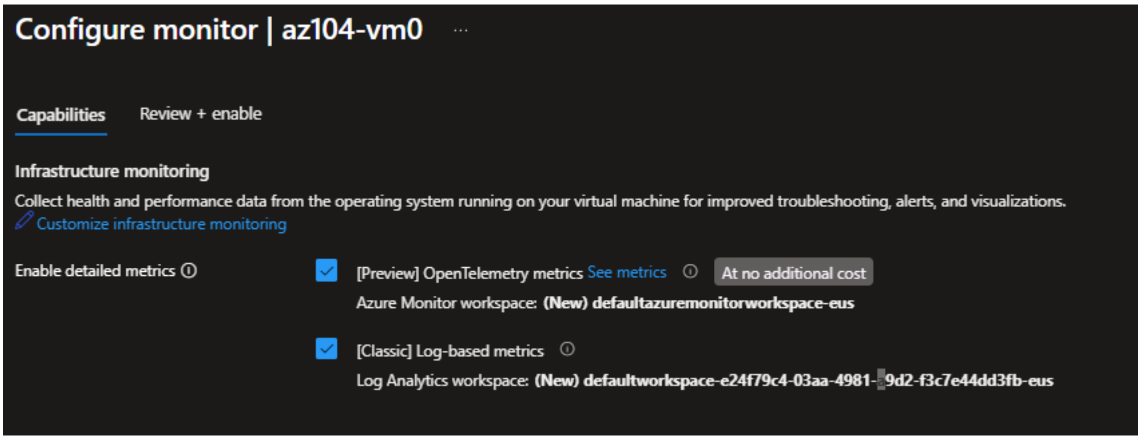


Onboarding now supports OpenTelemetry metrics. If you enable only OpenTelemetry metrics, your VM will still collect data but will not appear as 'Monitored

Name	Monitor Coverage
Azure for Students	1 of 1
az104-rg11	1 of 1
az104-vm0	Not enabled

Accedo a monitor – insights- virtual machines, donde pulso en enable.

Sirve para activar Azure Monitor Insights para esa máquina virtual específica.


Configure monitor | az104-vm0
Capabilities
Review + enable
Customize infrastructure monitoring
See metrics
At no additional cost

Infrastructure monitoring

Collect health and performance data from the operating system running on your virtual machine for improved troubleshooting, alerts, and visualizations.

Enable detailed metrics

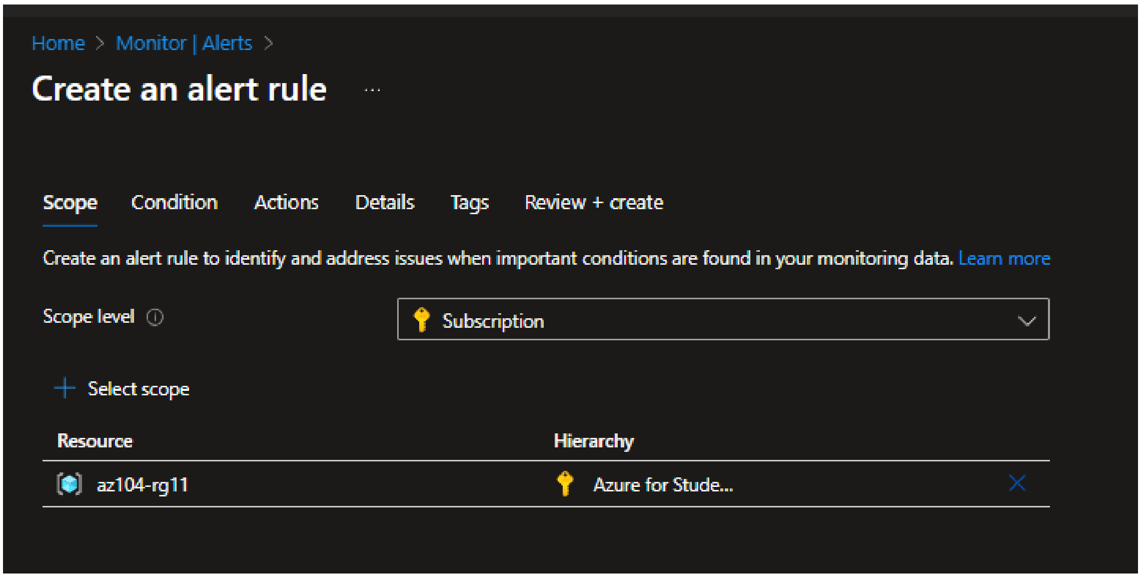
☑ [Preview] OpenTelemetry metrics
Azure Monitor workspace: (New) defaultazuremonitorworkspace-eus

☑ [Classic] Log-based metrics
Log Analytics workspace: (New) defaultworkspace-e24f79c4-03aa-4981-[redacted]9d2-f3c7e44dd3fb-eus

[Preview] OpenTelemetry metrics Un método de recopilación de datos más moderno que utiliza el estándar OpenTelemetry. Estos datos se envían a un Azure Monitor workspace. Se indica que no tiene costo adicional para la recopilación de los datos base.*

[Classic] Log-based metrics El método de recopilación de datos tradicional/clásico. Estos datos se envían a un Log Analytics workspace.

Crear una alerta



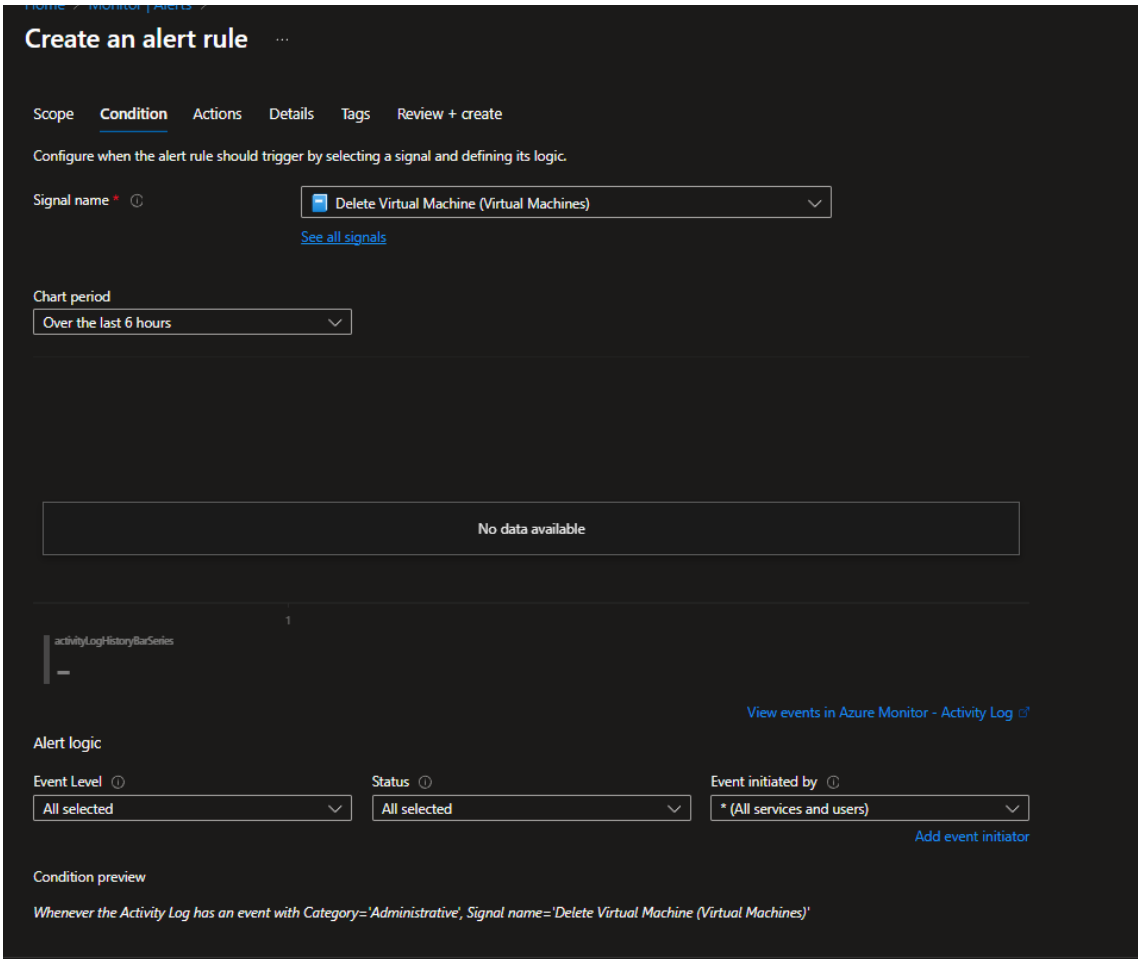
Create an alert rule ...

Create an alert rule to identify and address issues when important conditions are found in your monitoring data. Learn more

Scope level: Subscription

Resource	Hierarchy
az104-rg11	Azure for Stude...

Accedo a monitor – alerts donde creo una alerta para el grupo de recursos donde se encuentra la vm.



Create an alert rule ···

Scope | Condition | Actions | Details | Tags | Review + create

Configure when the alert rule should trigger by selecting a signal and defining its logic.

Signal name *: Delete Virtual Machine (Virtual Machines)

See all signals

Chart period: Over the last 6 hours

No data available

View events in Azure Monitor - Activity Log

Alert logic

Event Level: All selected

Status: All selected

Event initiated by: * (All services and users)

Add event initiator

Condition preview

Whenever the Activity Log has an event with Category='Administrative', Signal name='Delete Virtual Machine (Virtual Machines)'

Esta configuración tiene como objetivo crear una alerta que se dispare cuando se produzca un evento específico en tu entorno de Azure.

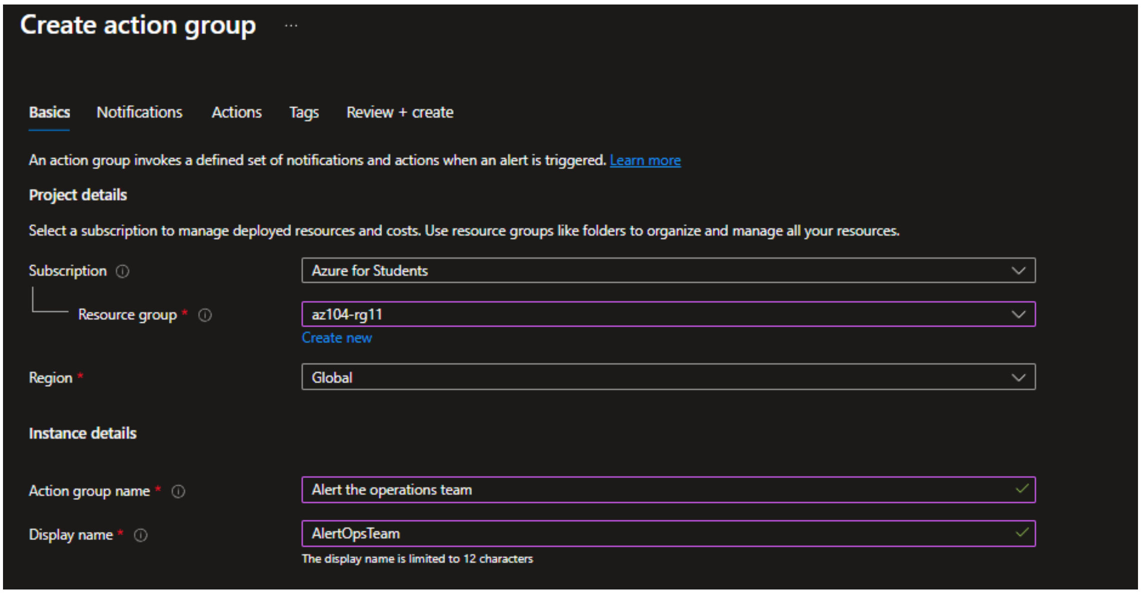
Delete Virtual Machine (Virtual Machines): El evento que disparará la alerta. Esta es una señal del Registro de Actividad (Activity Log) de Azure, lo que significa que la alerta se activará cada vez que un usuario o servicio intente eliminar una Máquina Virtual dentro del alcance definido.

Event LevelAll selected: La alerta se disparará independientemente del nivel de severidad del evento (por ejemplo, Informativo, Advertencia, Error, etc.).

StatusAll selectedL: a alerta se disparará independientemente del resultado del evento (por ejemplo, Éxito o Fallo).

Event initiated by: (All services and users)La alerta se disparará independientemente de quién haya iniciado la acción de eliminación (cualquier usuario, cualquier servicio de Azure, etc.).

Grupo de acciones



Create action group ···

Basics | Notifications | Actions | Tags | Review + create

An action group invokes a defined set of notifications and actions when an alert is triggered. 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 *: az104-rg11
Create new

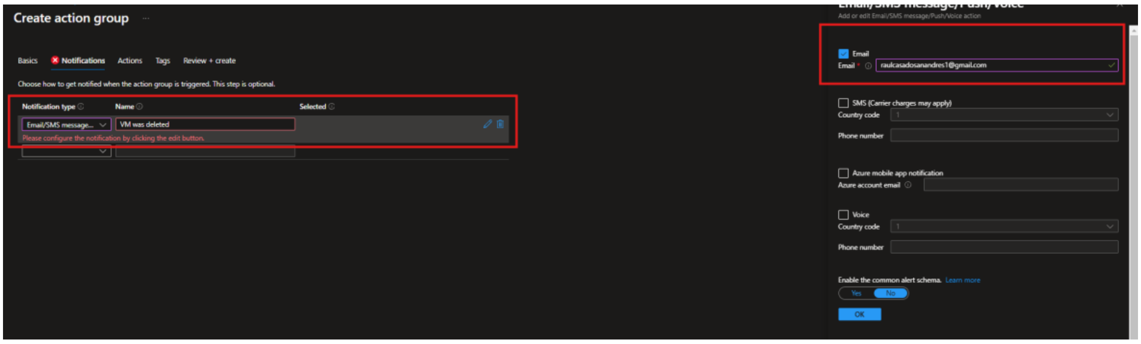
Region *: Global

Instance details

Action group name *: Alert the operations team

Display name *: AlertOpsTeam
The display name is limited to 12 characters

Creo el action group.



Create action group ···

Basics | ☒ Notifications | Actions | Tags | Review + create

Choose how to get notified when the action group is triggered. This step is optional.

Notification type	Name	Selected
Email/SMS message...	VM was deleted	

Please configure the notification by clicking the edit button.

Email/SMS message/Push/Voice
Add or edit Email/SMS message/Push/Voice action

☑ Email
Email *: raulcasadosanandres1@gmail.com

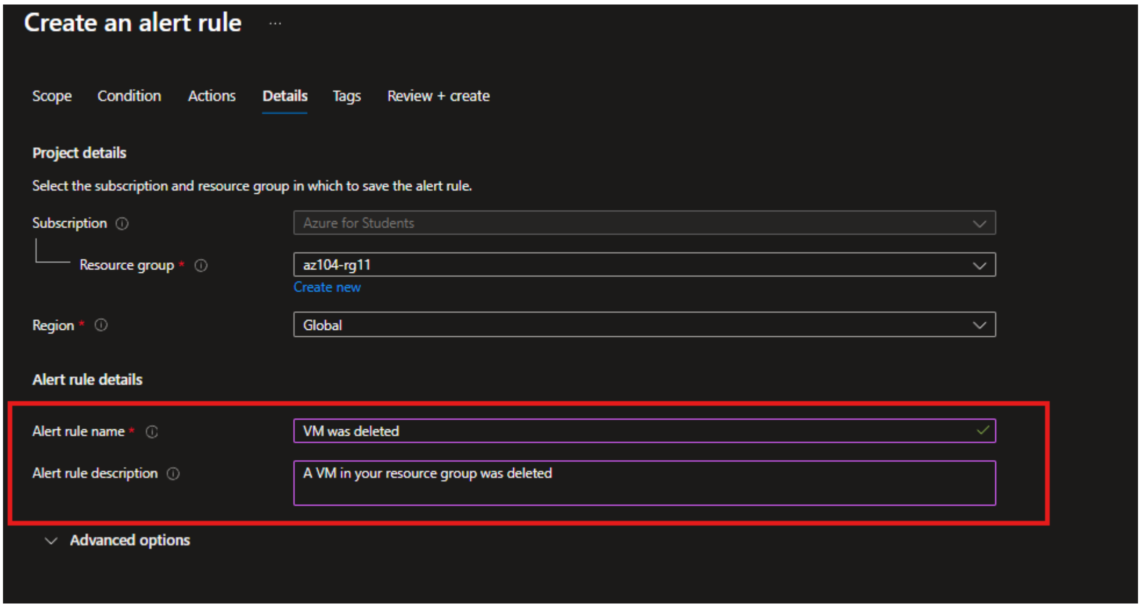
□ SMS (Carrier charges may apply)
Country code: 1
Phone number:

□ Azure mobile app notification
Azure account email:

□ Voice
Country code: 1
Phone number:

Enable the common alert schema. Learn more
Yes [✓ No]

Creo la notificacion que me tiene que llegar a mi correo una vez se active la alerta.



Create an alert rule ···

Project details

Select the subscription and resource group in which to save the alert rule.

Subscription: Azure for Students

Resource group *: az104-rg11

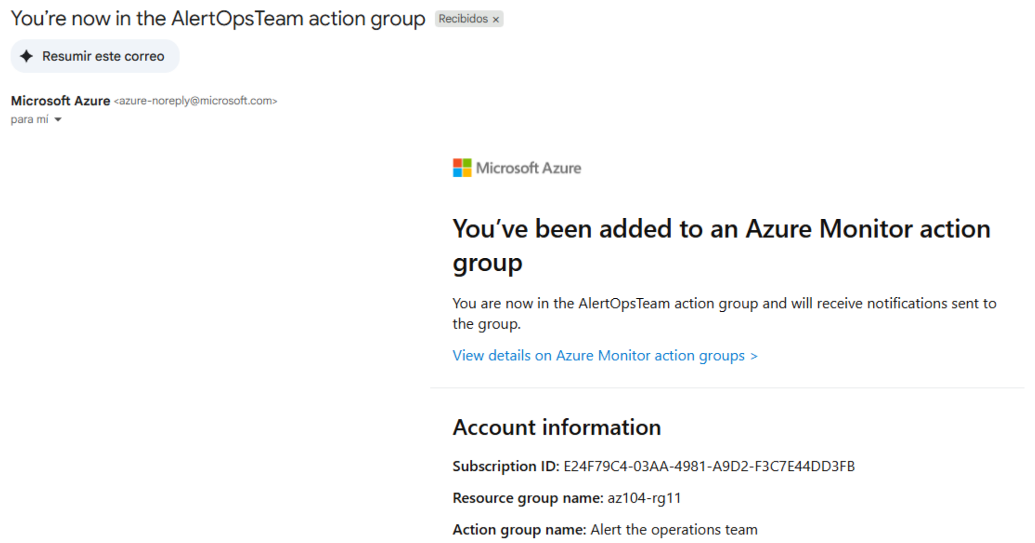
Region *: Global

Alert rule details

Alert rule name *: VM was deleted

Alert rule description: A VM in your resource group was deleted

Termino de configurar la alerta.



You're now in the AlertOpsTeam action group

Microsoft Azure <azure-noreply@microsoft.com>
para mi

Microsoft Azure

You've been added to an Azure Monitor action group

You are now in the AlertOpsTeam action group and will receive notifications sent to the group.

View details on Azure Monitor action groups >

Account information

Subscription ID: E24F79C4-03AA-4981-A9D2-F3C7E44DD3FB

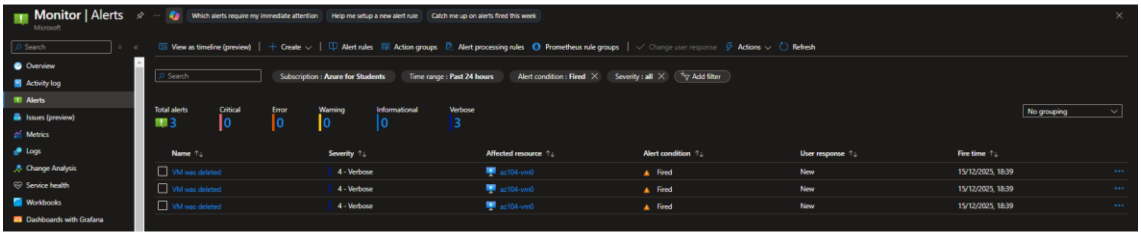
Resource group name: az104-rg11

Action group name: Alert the operations team

Me llega este correo de aviso de que he sido añadido al grupo de acciones.

Activar la alerta.

Borro la maquina virtual.

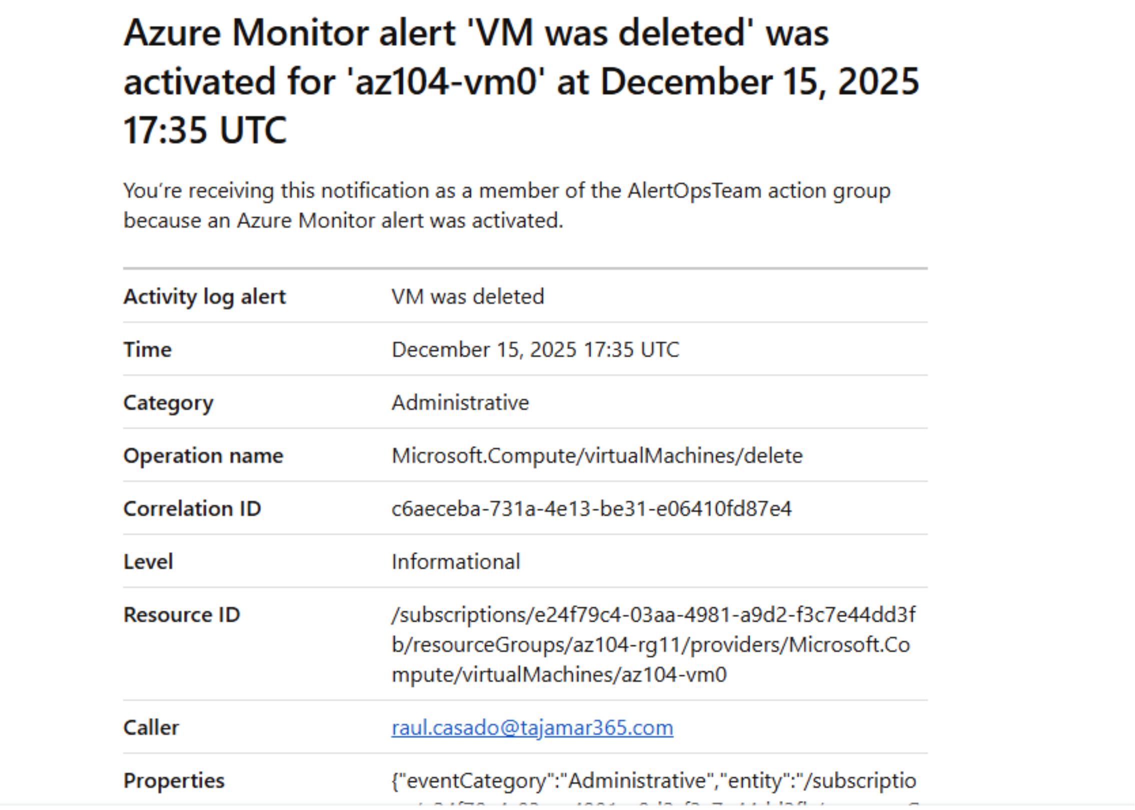


Subscription : Azure for Students | Time range : Past 24 hours | Alert condition : Fired | Severity : all

Total alerts	Critical	Error	Warning	Informational	Verbose
3	0	0	0	0	3

Name	Severity	Affected resource	Alert condition	User response	Fire time
VM was deleted	4 - Verbose	az104-vm0	Fired	New	15/12/2025, 18:39
VM was deleted	4 - Verbose	az104-vm0	Fired	New	15/12/2025, 18:39
VM was deleted	4 - Verbose	az104-vm0	Fired	New	15/12/2025, 18:39

Salta la alerta en azure monitor.



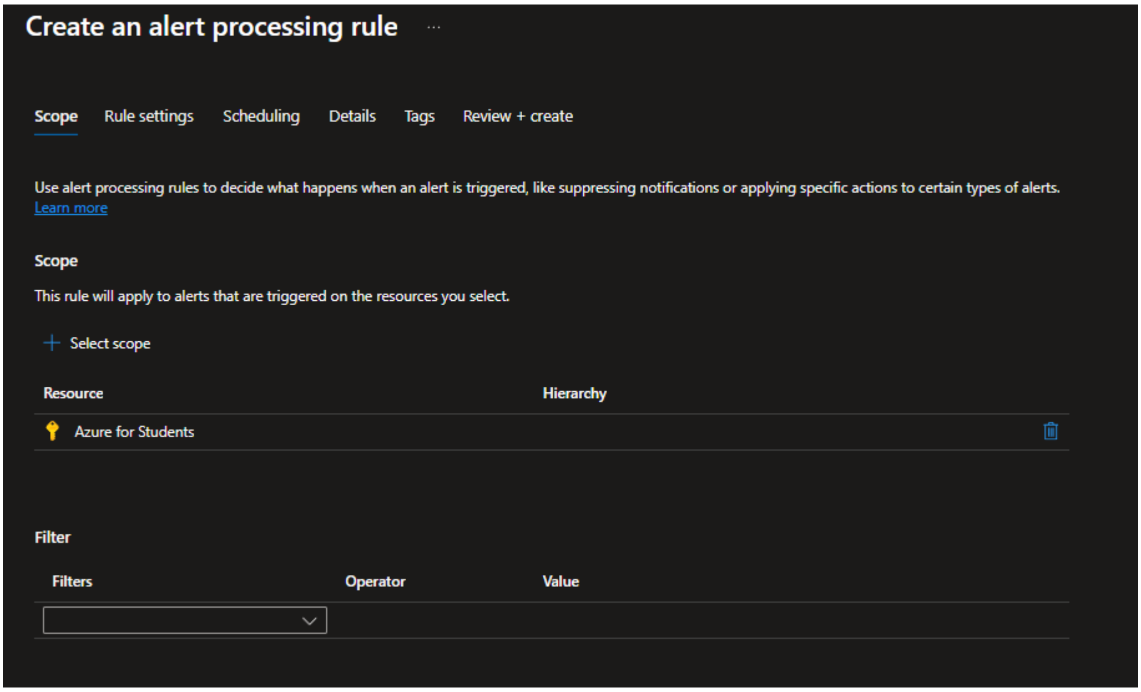
Azure Monitor alert 'VM was deleted' was activated for 'az104-vm0' at December 15, 2025 17:35 UTC

You're receiving this notification as a member of the AlertOpsTeam action group because an Azure Monitor alert was activated.

Activity log alert	VM was deleted
Time	December 15, 2025 17:35 UTC
Category	Administrative
Operation name	Microsoft.Compute/virtualMachines/delete
Correlation ID	c6aeceba-731a-4e13-be31-e06410fd87e4
Level	Informational
Resource ID	/subscriptions/e24f79c4-03aa-4981-a9d2-f3c7e44dd3fb/resourceGroups/az104-rg11/providers/Microsoft.Compute/virtualMachines/az104-vm0
Caller	raul.casado@tajamar365.com
Properties	{"eventCategory":"Administrative","entity":"/subscriptio

Me llega este correo.

Alert processing rule



Create an alert processing rule

Use alert processing rules to decide what happens when an alert is triggered, like suppressing notifications or applying specific actions to certain types of alerts.
Learn more

Scope

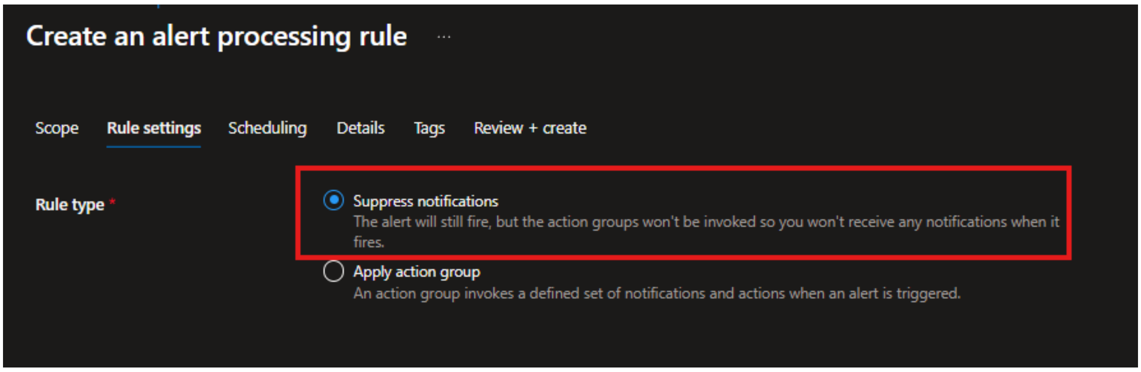
This rule will apply to alerts that are triggered on the resources you select.

Resource	Hierarchy
Azure for Students	

Filter

Filters	Operator	Value

Selecciono mi suscripción.



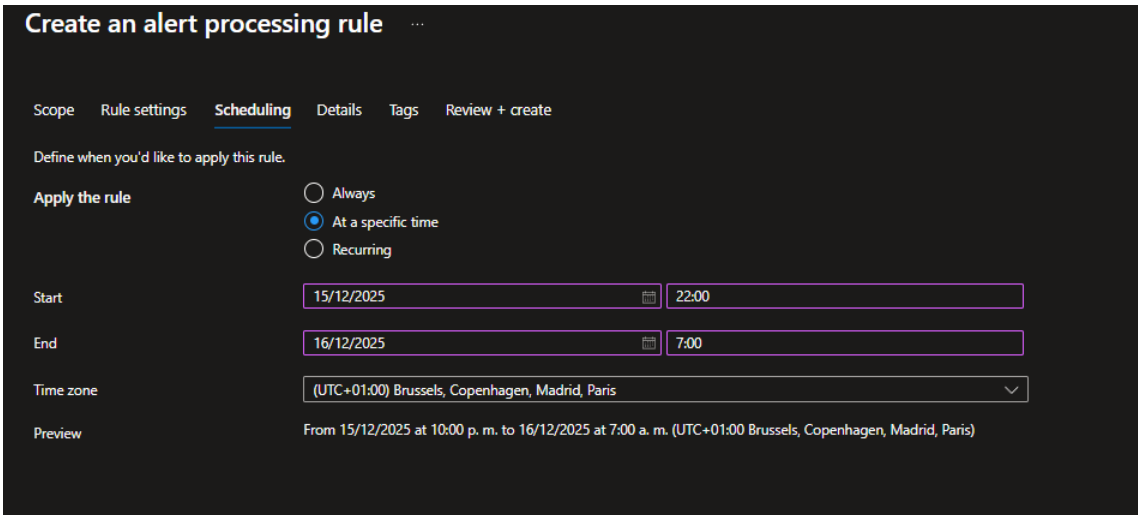
Create an alert processing rule ···

Scope | **Rule settings** | Scheduling | Details | Tags | Review + create

Rule type *

● Suppress notifications
The alert will still fire, but the action groups won't be invoked so you won't receive any notifications when it fires.

○ Apply action group
An action group invokes a defined set of notifications and actions when an alert is triggered.



Create an alert processing rule ···

Scope | Rule settings | **Scheduling** | Details | Tags | Review + create

Define when you'd like to apply this rule.

Apply the rule
○ Always
● At a specific time
○ Recurring

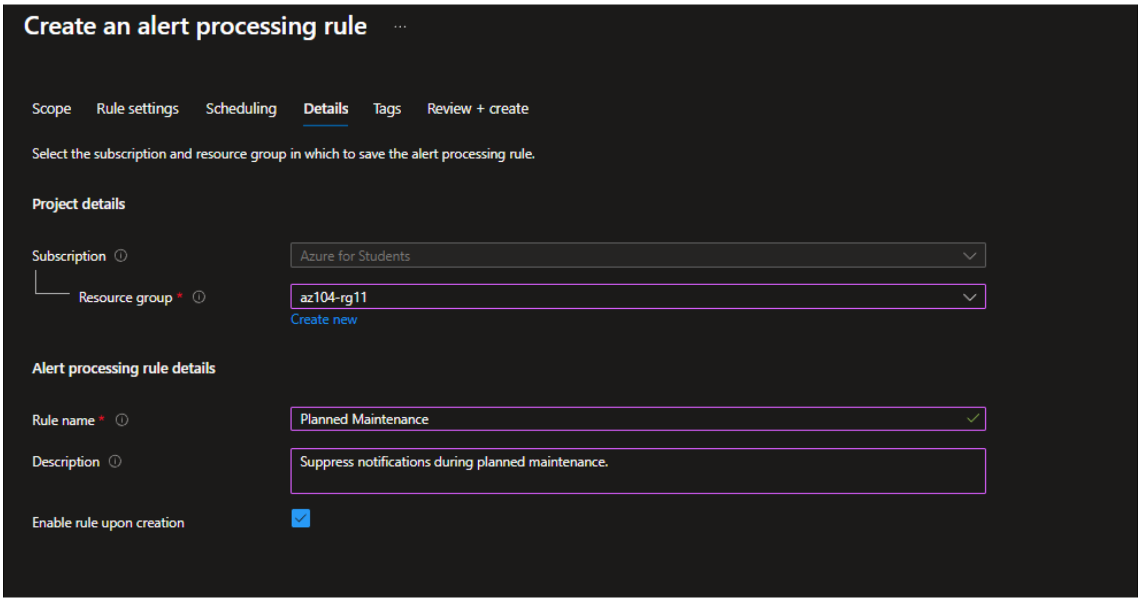
Start: 15/12/2025 22:00

End: 16/12/2025 7:00

Time zone: (UTC+01:00) Brussels, Copenhagen, Madrid, Paris

Preview: From 15/12/2025 at 10:00 p. m. to 16/12/2025 at 7:00 a. m. (UTC+01:00 Brussels, Copenhagen, Madrid, Paris)

Durante estas horas no van a llegar notificaciones a mi correo sobre mantenimiento ni nada entre las 10 de hoy y las 7 de mañana.



Create an alert processing rule ···

Scope | Rule settings | Scheduling | **Details** | Tags | Review + create

Select the subscription and resource group in which to save the alert processing rule.

Project details

Subscription ⓘ: Azure for Students

Resource group * ⓘ: az104-rg11
Create new

Alert processing rule details

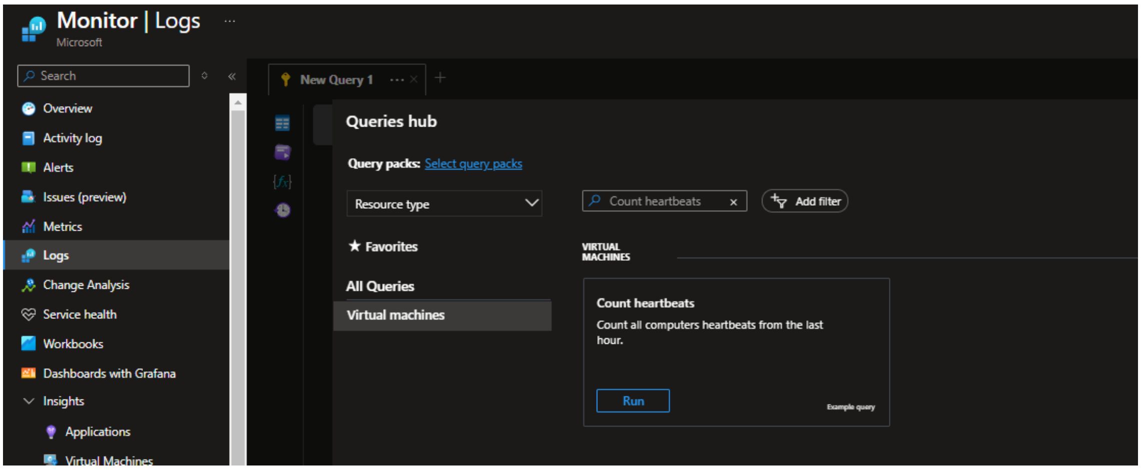
Rule name * ⓘ: Planned Maintenance

Description ⓘ: Suppress notifications during planned maintenance.

Enable rule upon creation ☑

Doy nombre a la alerta y una descripción de lo que hace.

Azure Monitor log queries.



Count heartbeats

Count all computers heartbeats from the last hour.

Aqui puedes hacer consultas sobre los logs utilizando KQL.