

 tajamar.	Máster en Ingeniería MultiCloud, DevOps y Seguridad.
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Implementación de protección de datos

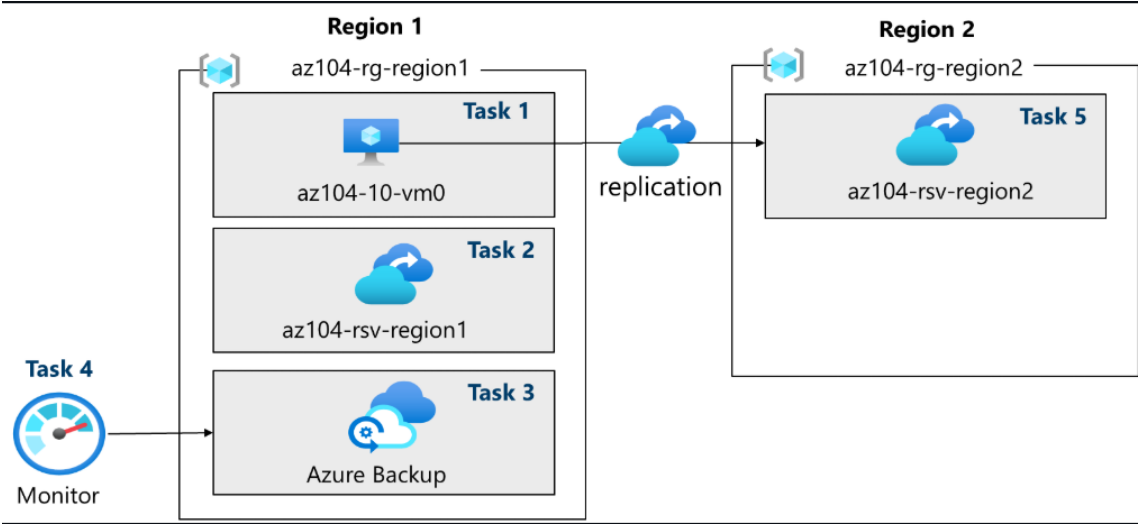
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Usando una plantilla para desplegar la infraestructura.	4
Crear y configurar Recovery Services vault	6
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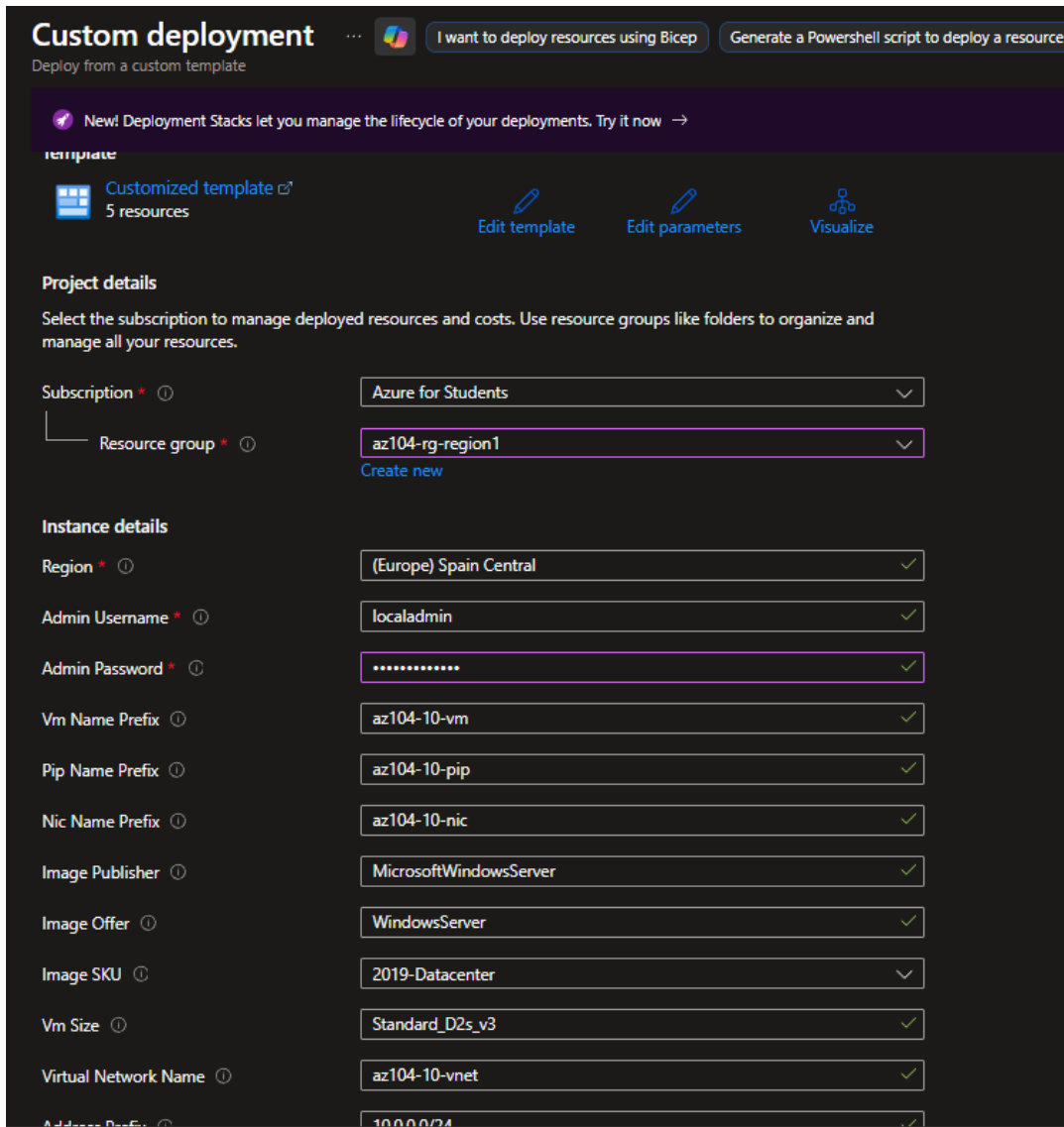
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Esquema del laboratorio



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Usando una plantilla para desplegar la infraestructura.



Custom deployment ... [I want to deploy resources using Bicep](#) [Generate a Powershell script to deploy a resource](#)

Deploy from a custom template

New! Deployment Stacks let you manage the lifecycle of your deployments. Try it now →

template

Customized template 5 resources [Edit template](#) [Edit parameters](#) [Visualize](#)

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-rg-region1 ✓ [Create new](#)

Instance details

Region * ⓘ (Europe) Spain Central ✓

Admin Username * ⓘ localadmin ✓

Admin Password * ⓘ ✓

Vm Name Prefix ⓘ az104-10-vm ✓

Pip Name Prefix ⓘ az104-10-pip ✓

Nic Name Prefix ⓘ az104-10-nic ✓

Image Publisher ⓘ MicrosoftWindowsServer ✓

Image Offer ⓘ WindowsServer ✓


Image SKU ⓘ 2019-Datacenter ✓


Vm Size ⓘ Standard_D2s_v3 ✓


Virtual Network Name ⓘ az104-10-vnet ✓

Address Prefix ⓘ 10.0.0.0/24 ✓

Utilizo la plantilla proporcionada en el laboratorio, la cual me crea una máquina virtual, una red virtual, una ip pública y un nsg.

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 Your deployment is complete

 Deployment name : Microsoft.Template-20251214115310











Subscription : Azure for Students

Resource group : az104-rg-region1


Start time : 14/12/2025, 11:53:13

Correlation ID : f712f38b-e68a-4b47-8eac-ef8e885aed76

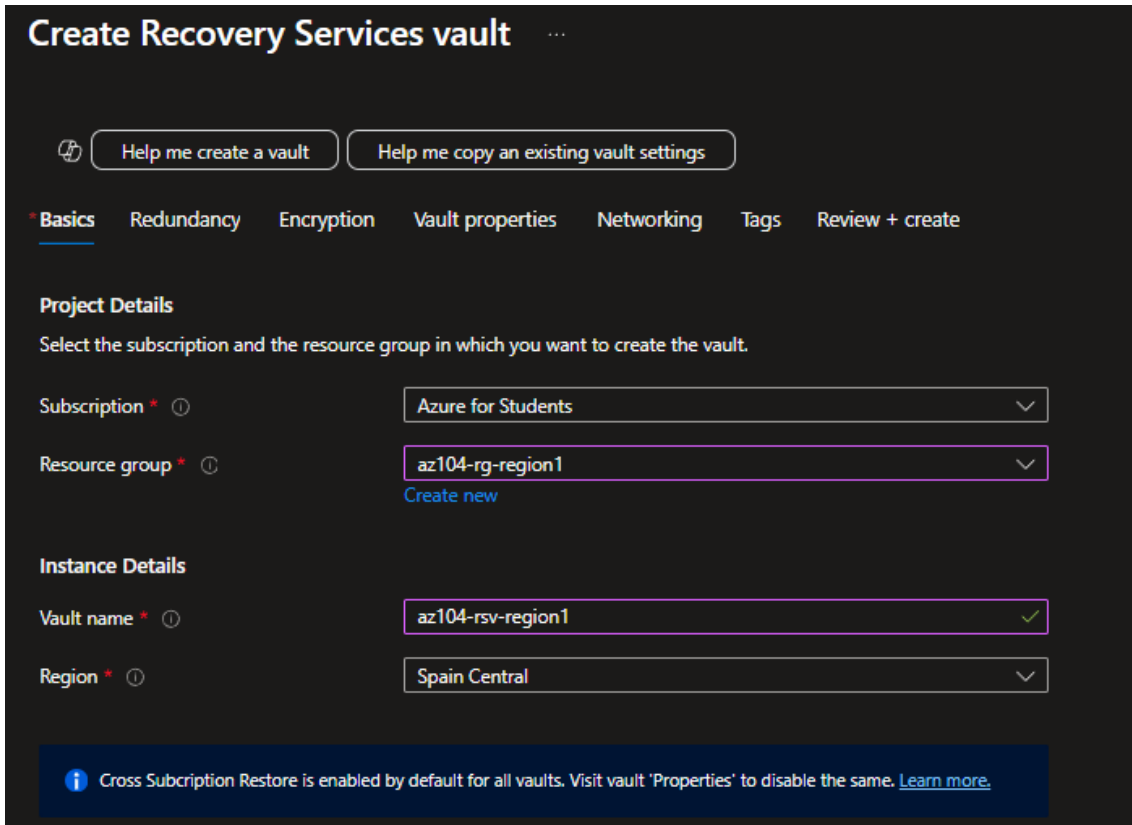
Deployment details

Resource	Type	Status	Operation details
 az104-10-vm0	 Virtual machine	OK	Operation details
 az104-10-nic0	 Microsoft.Network/networkInterfaces	OK	Operation details
 az104-10-pip0	 Public IP address	OK	Operation details
 az104-10-vnet	 Virtual network	OK	Operation details
 az104-10-nsg01	 Network security group	OK	Operation details

Recursos desplegados

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Crear y configurar Recovery Services vault



Create Recovery Services vault ...

Help me create a vault Help me copy an existing vault settings

Basics Redundancy Encryption Vault properties Networking Tags Review + create

Project Details
Select the subscription and the resource group in which you want to create the vault.

Subscription * ⓘ Azure for Students

Resource group * ⓘ az104-rg-region1
[Create new](#)

Instance Details


Vault name * ⓘ az104-rsv-region1 ✓

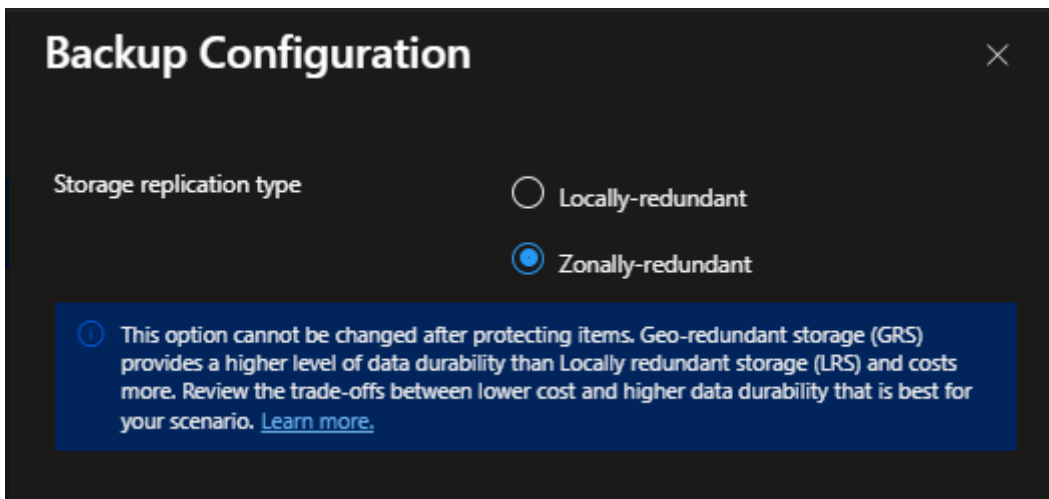
Region * ⓘ Spain Central

i Cross Subscription Restore is enabled by default for all vaults. Visit vault 'Properties' to disable the same. [Learn more.](#)

Creo el rsv.

El resto de las opciones las he dejado por defecto.

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Backup Configuration [Close]

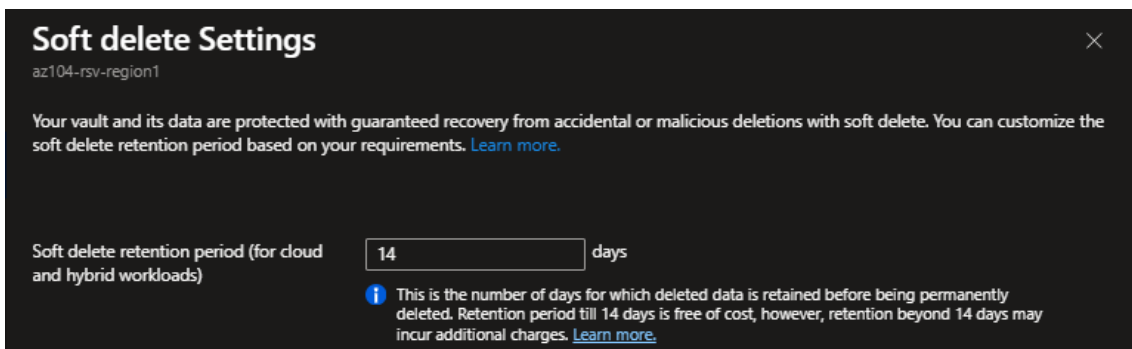
Storage replication type

☐ Locally-redundant

☒ Zonally-redundant

i This option cannot be changed after protecting items. Geo-redundant storage (GRS) provides a higher level of data durability than Locally redundant storage (LRS) and costs more. Review the trade-offs between lower cost and higher data durability that is best for your scenario. [Learn more.](#)

En el laboratorio pide utilizar GRS pero como he seleccionado de región España no permite GRS.



Soft delete Settings [Close]


az104-rsv-region1

Your vault and its data are protected with guaranteed recovery from accidental or malicious deletions with soft delete. You can customize the soft delete retention period based on your requirements. [Learn more.](#)

Soft delete retention period (for cloud and hybrid workloads) days


i This is the number of days for which deleted data is retained before being permanently deleted. Retention period till 14 days is free of cost, however, retention beyond 14 days may incur additional charges. [Learn more.](#)

Este es el tiempo predeterminado por el cual los datos borrados permanecen en Azure aun así de haberlos borrados antes de borrarse permanentemente.

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Configurar un BackUp


Backup Goal ...

 The storage replication is set to Zone Redundant. This option cannot be changed later. Before proceeding further, click he

Where is your workload running?

Azure


What do you want to backup?

 Virtual machine


Step: Configure Backup

Backup

Give feedback

 [Help improve this page](#)

Dentro del recursos accedo a la pestaña de backup, donde voy a crear un backup para máquina virtual.

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Configure backup

az104-rsv-region1

Policy sub type *

☐ Enhanced

- Multiple backups per day
- Up to 30 days operational tier retention
- Support for Trusted Launch Azure VM
- Support for VMs with Ultra Disks and Premium SSD v2

☒ Standard

- Once-a-day backup
- Up to 5 days operational tier retention

Backup policy * ⓘ

DefaultPolicy

[Create a new policy](#)

i The list contains the policies pertaining to the selected policy sub type. [Learn more.](#)

Policy details

Full backup

Backup frequency
Daily at 9:00 PM UTC

Instant restore
Retain instant recovery snapshot(s) for 2 day(s)

Retention of daily backup point
Retain backup taken every day at 9:00 PM for 30 Day(s)

Consistency type ⓘ

Application or file-system consistent

Virtual machines

Name	Resource group
No virtual machines selected.	


[Add](#)

i **Selective disk backup** option allows you to include or exclude specific data disks based on their LUN numbers. OS Disk exclusion is not supported. Know more about Selective Disk Backup feature, its limitation and pricing. [Learn more](#)

⚠ **Selective disk backup with Standard policy** incurs Snapshot cost which is always calculated for all the disks in the VM (both the included and excluded disks). This snapshot cost of excluded disks is **not** incurred if **Enhanced policy** is chosen.

[Enable backup](#)
[Download a template for automation](#)

Selecciono Standard para los backups.

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Create policy

Azure Virtual Machine

Recovery points can be automatically moved to the vault-archive tier using backup policy. [Learn more.](#) →

Policy name ⓘ ✓

Backup schedule

Frequency * Time * Timezone *

Instant restore ⓘ

Retain instant recovery snapshot(s) for ✓ Day(s) ⓘ

Retention range

☒ Retention of daily backup point

At For Day(s)

☐ Retention of weekly backup point
Not Configured

☐ Retention of monthly backup point
Not Configured

☐ Retention of yearly backup point
Not Configured

ⓘ Azure Backup service creates a separate resource group to store the instant recovery points of managed virtual machines. The default naming format of resource group created by Azure Backup service is AzureBackupRG_{Geo}_{n}. It is optional to customize the name as per your requirement. [Learn More](#)

Azure Backup Resource Group (Optional) ⓘ


n

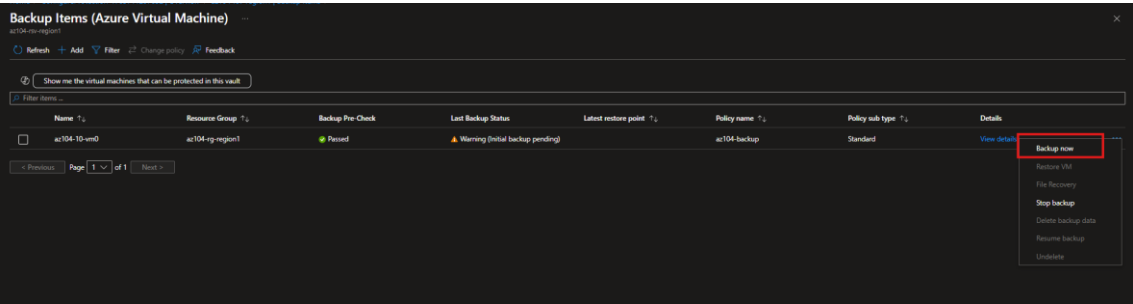
Creo la política de los backups, diarios y a las 12 de la noche.

Virtual machines			
Name	Resource group	Disks	Include future disks
az104-10-vm0	az104-rg-region1	az104-10-vm0-disk1_5fccc3e8b4094954a7985233a091807	<input checked="" type="checkbox"/>


[Add](#)

Añado la máquina virtual que he creado anteriormente para que se generen los backups de ella.

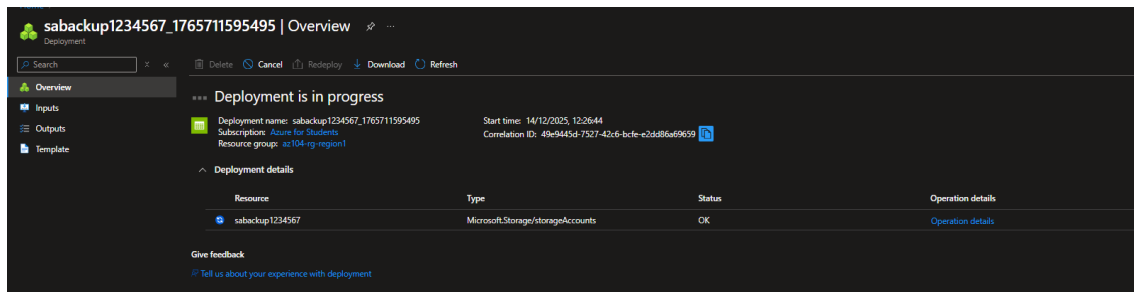
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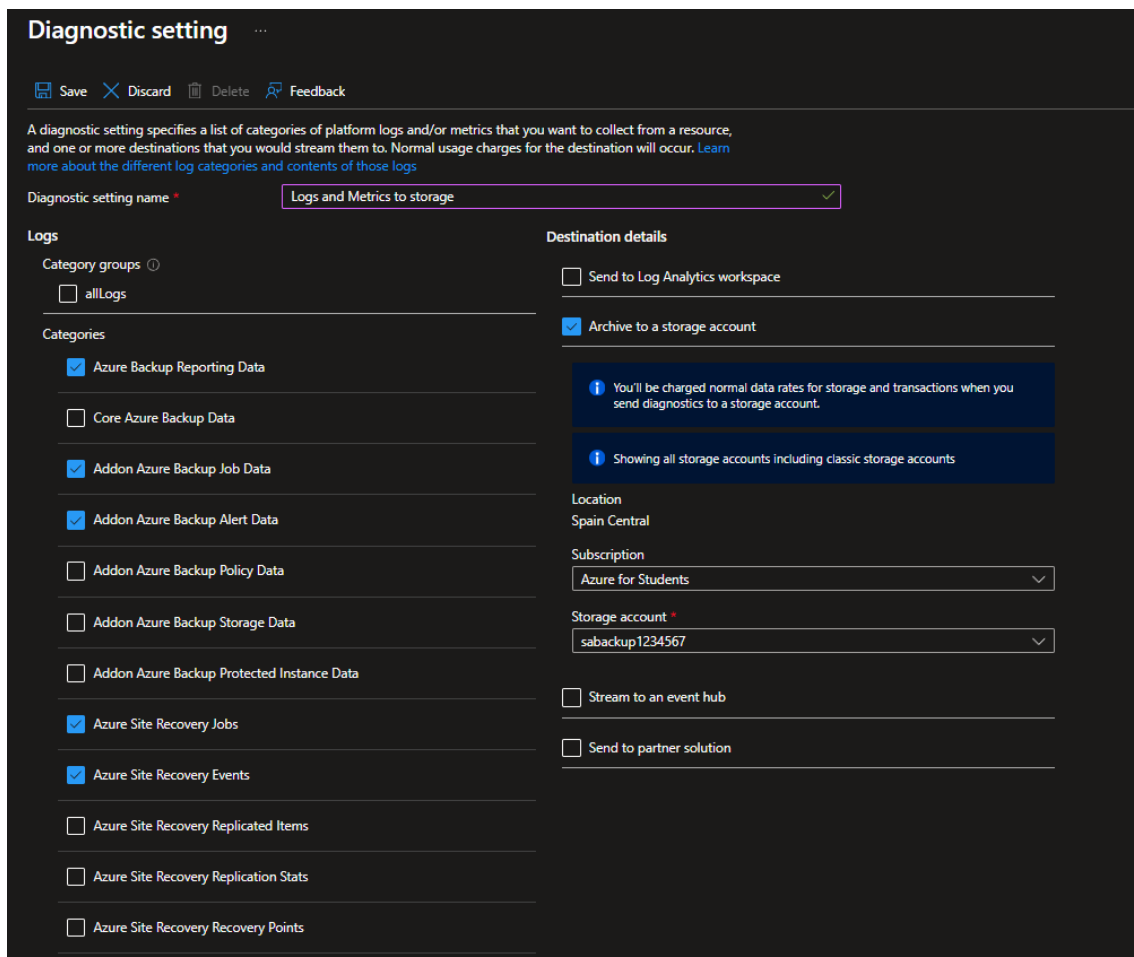
Voy a hacer el backup de la máquina ahora mismo.

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Monitorear Azure Backup



Creo una cuenta de almacenamiento para que el rsv mande los logs aquí para luego ver los logs con Log Analytics.




Dentro del rsv accedo a la pestaña monitoring – diagnostics settings, selecciono los logs que quiero generar y que cuenta de almacenamiento quiero mandarlo.

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Habilitar replicación de máquina virtual.

Home > Recovery Services vaults >

Create Recovery Services vault ...


[Help me create a vault](#)
[Help me copy an existing vault settings](#)

[* Basics](#)
[Redundancy](#)
[Encryption](#)
[Vault properties](#)
[Networking](#)
[Tags](#)
[Review + create](#)

Project Details

Select the subscription and the resource group in which you want to create the vault.

Subscription * ⓘ Azure for Students

Resource group * ⓘ az104-rg-region2 [Create new](#)


Instance Details

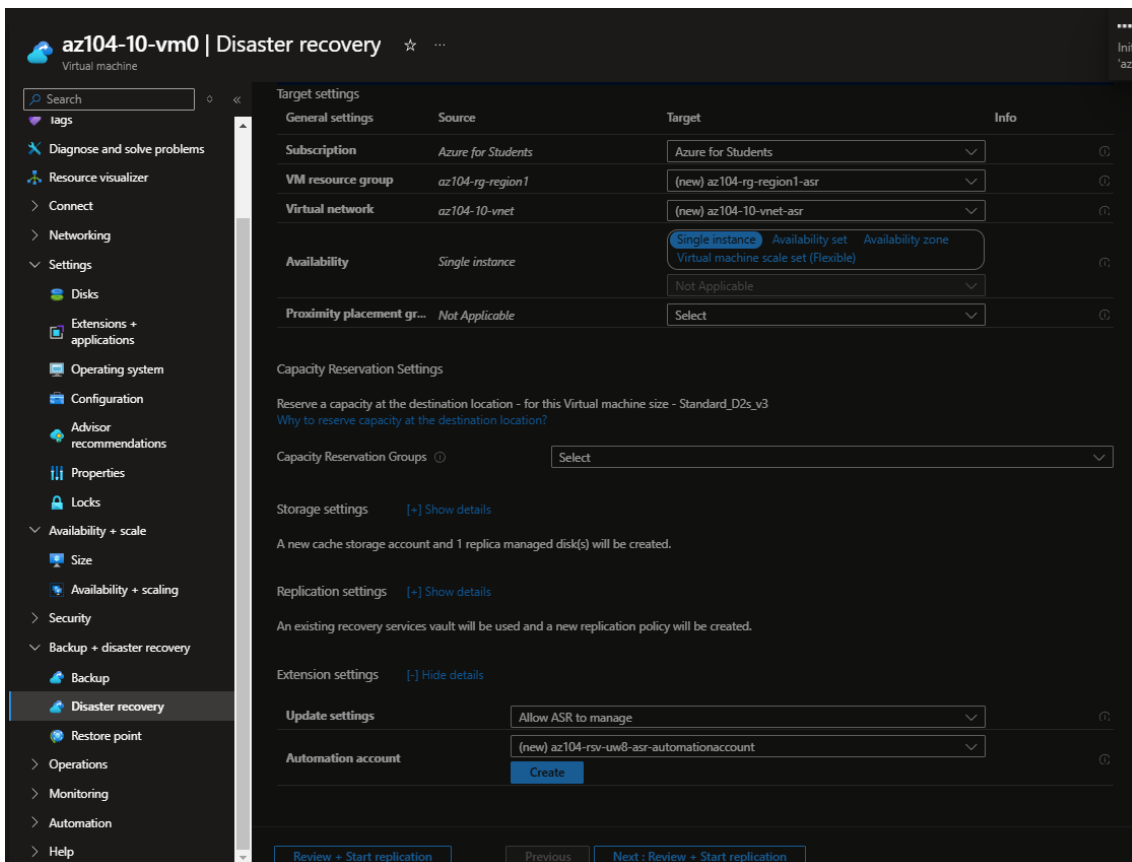
Vault name * ⓘ az104-rsv-region2 ✓

Region * ⓘ Germany West Central

i Cross Subscription Restore is enabled by default for all vaults. Visit vault 'Properties' to disable the same. [Learn more.](#)

Creo otro rsv pero esta vez en otra región.

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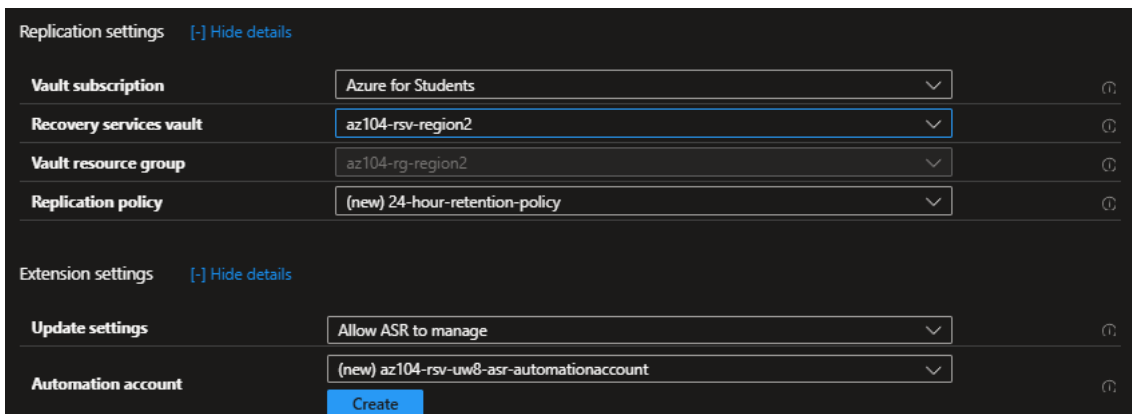
The screenshot shows the 'Disaster recovery' configuration page for the virtual machine 'az104-10-vm0'. The left sidebar contains navigation options like 'Tags', 'Diagnose and solve problems', 'Resource visualizer', 'Connect', 'Networking', 'Settings', 'Disks', 'Extensions + applications', 'Operating system', 'Configuration', 'Advisor recommendations', 'Properties', 'Locks', 'Availability + scale', 'Size', 'Availability + scaling', 'Security', 'Backup + disaster recovery', 'Backup', 'Disaster recovery', 'Restore point', 'Operations', 'Monitoring', 'Automation', and 'Help'. The 'Disaster recovery' section is selected.

The main content area is titled 'Target settings' and includes a table with columns: General settings, Source, Target, and Info. The table lists the following settings:

General settings	Source	Target	Info
Subscription	Azure for Students	Azure for Students	
VM resource group	az104-rg-region1	(new) az104-rg-region1-asr	
Virtual network	az104-10-vnet	(new) az104-10-vnet-asr	
Availability	Single instance	Single instance, Availability set, Availability zone, Virtual machine scale set (Flexible)	
Proximity placement gr...	Not Applicable	Not Applicable	

Below the table, there are sections for 'Capacity Reservation Settings' (with a note to reserve capacity at the destination location), 'Storage settings' (with a note that a new cache storage account and 1 replica managed disk(s) will be created), 'Replication settings' (with a note that an existing recovery services vault will be used and a new replication policy will be created), and 'Extension settings' (with a note to hide details). The 'Update settings' are set to 'Allow ASR to manage' and the 'Automation account' is '(new) az104-rsv-uw8-asr-automationaccount' with a 'Create' button.

At the bottom, there are buttons for 'Review + Start replication', 'Previous', and 'Next: Review + Start replication'.




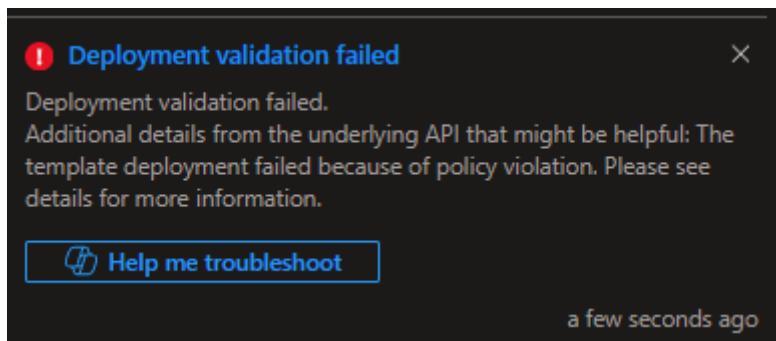
The screenshot shows the 'Replication settings' section, which is expanded to show details. The settings are as follows:

Vault subscription	Azure for Students
Recovery services vault	az104-rsv-region2
Vault resource group	az104-rg-region2
Replication policy	(new) 24-hour-retention-policy

Below these settings, there are sections for 'Extension settings' (with a note to hide details), 'Update settings' (set to 'Allow ASR to manage'), and 'Automation account' (set to '(new) az104-rsv-uw8-asr-automationaccount' with a 'Create' button).

El objetivo principal de esta configuración es establecer la Recuperación ante Desastres (Disaster Recovery) para la máquina virtual az104-10-vm0

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Por alguna política de la suscripción de estudiantes me da error al desplegar la automation account por lo que no puedo replicar la maquina en otra región.