



Máster en Ingeniería MultiCloud, DevOps y Seguridad.

AZURE LAB #2b

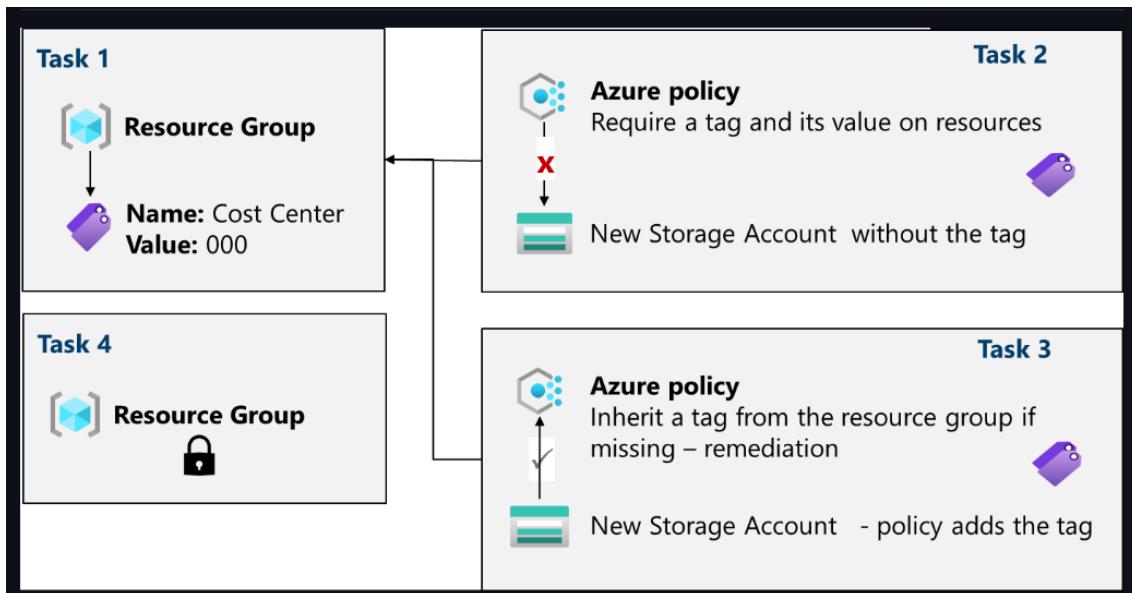
Administración de la gobernanza mediante Azure Policy

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Esquema del laboratorio





Asignar etiquetas a través de Azure Portal

The screenshot shows the 'Create a resource group' page in the Azure portal. The 'Basics' tab is selected. The form fields are as follows:

- Subscription: Azure for Students
- Resource group name: az104-rg2
- Region: (US) East US

The screenshot shows the 'Create a resource group' page in the Azure portal, with the 'Tags' tab selected. The 'Tags' section contains the following table:

Name	Value	Resource
Cost Center	000	Resource group
		Resource group

Creamos un nuevo grupo de recursos llamado az104-rg2, dentro de la pestaña Tags, creamos un tag y se lo asignamos al grupo de recursos.



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Exigir tags mediante una instancia de Azure Policy

The screenshot shows the Azure Policy Definitions blade. In the search bar, the text 'require a tag' is entered. The results table shows several policy definitions, with the first one highlighted by a red box: 'Require a tag and its value on resources'.

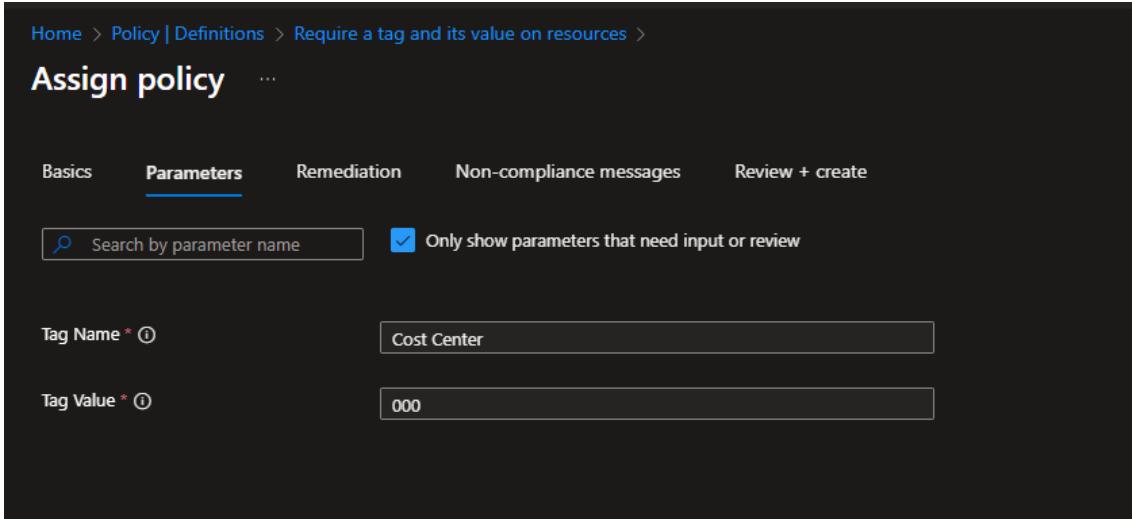
The screenshot shows the details of the 'Require a tag and its value on resources' policy definition. At the top, there is a 'Assign policy' button, which is highlighted with a red box.

Dentro de la pestaña policy, filtramos por la política que queremos aplicar, clickamos en ella y asignamos la política a la suscripción o grupo de recursos que queremos que se aplique.

The screenshot shows the 'Assign policy' blade. In the 'Scope' section, the value 'Azure for Students/az104-rg2' is selected, which is highlighted with a red box.

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Definimos sobre que suscripción y el grupo de recursos donde se va a aplicar la política.



The screenshot shows the 'Assign policy' screen in the Azure portal. The top navigation bar includes 'Home', 'Policy | Definitions', 'Require a tag and its value on resources', and a 'More' button. Below the navigation is a title 'Assign policy' with a three-dot ellipsis. A horizontal menu bar has tabs for 'Basics', 'Parameters' (which is underlined), 'Remediation', 'Non-compliance messages', and 'Review + create'. Under the 'Parameters' tab, there is a search bar with a magnifying glass icon and the placeholder 'Search by parameter name'. Next to it is a checked checkbox labeled 'Only show parameters that need input or review'. Below the search bar are two input fields: 'Tag Name * ⓘ' containing 'Cost Center' and 'Tag Value * ⓘ' containing '000'.

Configuramos la política para requerir que todos los recursos tengan:

Tag Name (Nombre de etiqueta): Cost Center

Tag Value (Valor de la etiqueta): 000

Si el recurso NO tiene esta etiqueta o tiene un valor diferente:

- Puede **bloquear** la creación/modificación del recurso (modo Deny)
- Puede **marcar** el recurso como no conforme (modo Audit)
- Puede **agregar automáticamente** la etiqueta (modo Modify/Append)

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Home > Policy | Definitions > Require a tag and its value on resources >

Assign policy

... [Edit](#) [Delete](#)

[Basics](#) [Parameters](#) [Remediation](#) [Non-compliance messages](#) [Review + create](#)

Basics

Scope	Azure for Students/az104-rg2
Exclusions	--
Policy definition	Require a tag and its value on resources
Assignment name	Require Cost Center tag and its value on resources
Version (preview)	1.0.*
Description	Require Cost Center tag and its value on all resources in the resource group
Policy enforcement	Default
Assigned by	Raúl Casado San Andrés

Advanced

Resource selectors	No selectors associated with this assignment.
Overrides	No overrides associated with this assignment.

Parameters

Tag Name	Cost Center
Tag Value	000

Remediation

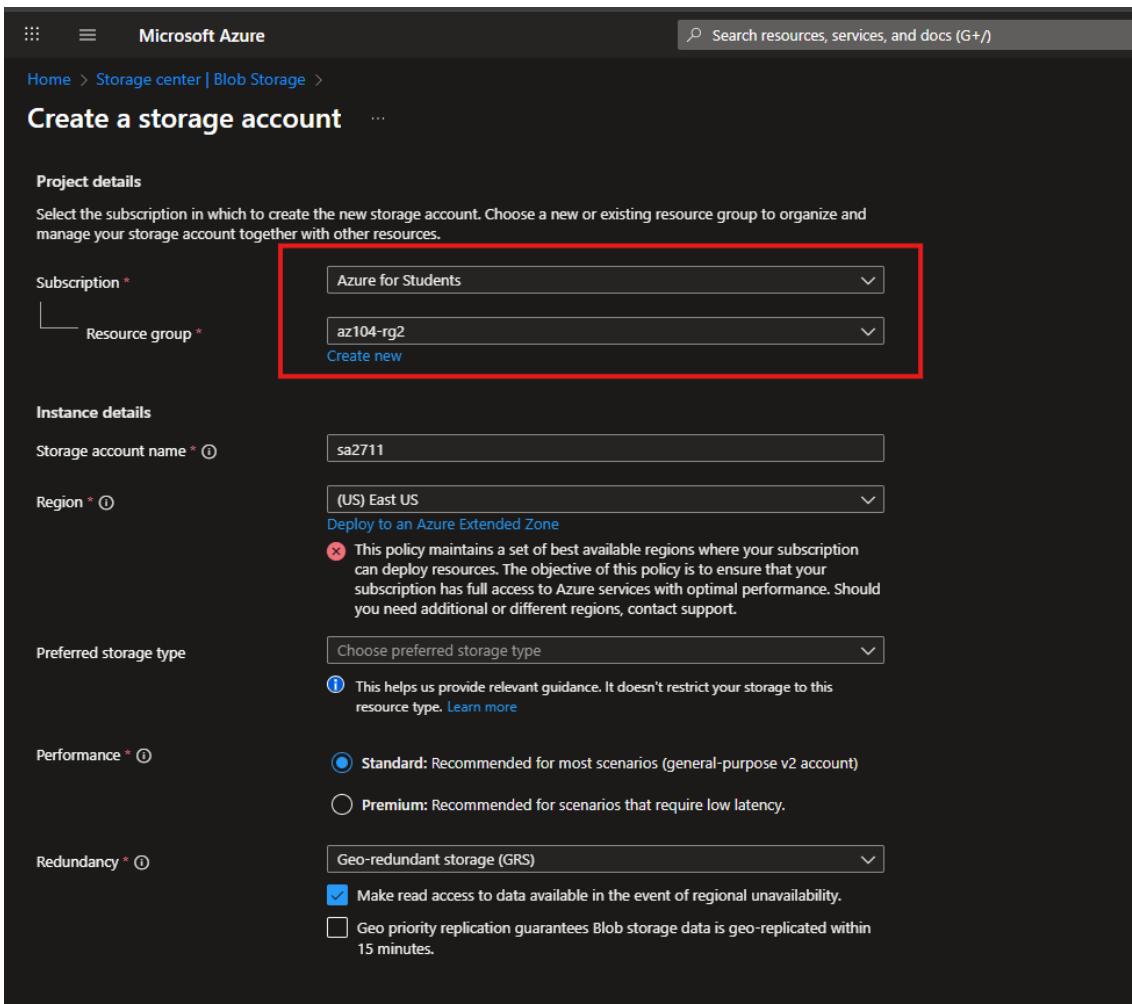
Create a Managed Identity	No managed identity associated with this assignment.
---------------------------	--

Non-compliance messages

Non-compliance messages	No non-compliance messages associated with this assignment.
-------------------------	---

Resumen de la política que hemos creado.

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Microsoft Azure

Home > Storage center | Blob Storage >

Create a storage account

Project details

Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.

Subscription * Azure for Students

Resource group * az104-rg2 [Create new](#)

Instance details

Storage account name * sa2711

Region * (US) East US

[Deploy to an Azure Extended Zone](#)

This policy maintains a set of best available regions where your subscription can deploy resources. The objective of this policy is to ensure that your subscription has full access to Azure services with optimal performance. Should you need additional or different regions, contact support.

Preferred storage type Choose preferred storage type

This helps us provide relevant guidance. It doesn't restrict your storage to this resource type. [Learn more](#)

Performance * Standard: Recommended for most scenarios (general-purpose v2 account)

Premium: Recommended for scenarios that require low latency.

Redundancy * Geo-redundant storage (GRS)

Make read access to data available in the event of regional unavailability.

Geo priority replication guarantees Blob storage data is geo-replicated within 15 minutes.

Creamos una cuenta de almacenamiento dentro del grupo de recursos en el que hemos aplicado la política.



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The screenshot shows the 'Create a storage account' wizard in the Microsoft Azure portal. The 'Basics' tab is selected, displaying configuration details like Subscription (Azure for Students), Resource group (az104-ri2), Location (Spain Central), and Storage account name (sa2711). The 'Advanced' and 'Security' tabs are also visible. A red box highlights the 'Validation failed. View error details →' link in the top navigation bar. To the right, an 'Errors' panel is open, showing a single entry: 'Resource 'sa2711' was disallowed by policy. (Code: RequestDisallowedByPolicy, PolicyId: RequireCostCenterTagAndItsValueOnResources)'. Below the error message is a 'WAS THIS HELPFUL?' feedback section with a thumbs up/down icon and a 'Give Feedback' button.

Al momento de crear la cuenta de almacenamiento, como no le hemos aplicado ningún tag al momento de su configuración nos da un error, que no cumple con las políticas para este grupo de recursos.



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Aplicar tags a través de una instancia de Azure Policy

The screenshot shows the Azure Policy interface under the 'Assignments' tab. It displays three active assignments:

Assignment name	Scope	Type
Allowed resource deployment regions	Azure for Students	Policy
ASC Default (subscription: e2479c4-03aa-4981-a9d2-f3c7e44cd3f8)	Azure for Students	Initiative
Require Cost Center tag and its value on resources	Azure for Students/az104-rg2	Policy

Dentro de policy | assignments encontramos todas las políticas que están activas.

Vamos a quitar la que hemos creado anteriormente.

The screenshot shows the 'Assign policy' dialog for the 'Inherit a tag from the resource group if missing' policy. The 'Basics' tab is selected. The 'Policy definition' field contains the selected policy. Other fields include 'Scope' (Azure for Students/az104-rg2), 'Version (preview)' (1.0.*), and 'Assignment name' (Inherit the Cost Center tag and its value 000 from the resource group if missing). The 'Description' field also contains the same assignment name. The 'Policy enforcement' toggle is set to 'Enabled'.

Creamos una nueva política aplicada al grupo de recursos az104-rg2, este caso trata de una política para que los recursos que se creen hereden el tag del grupo de recursos si les falta.

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Home > Policy | Definitions > Inherit a tag from the resource group if missing >

Assign policy

Basics **Parameters** Remediation Non-compliance messages Review + create

Only show parameters that need input or review

Tag Name * ⓘ	Cost Center
--------------	-------------

Home > Policy | Definitions > Inherit a tag from the resource group if missing >

Assign policy

Basics Parameters **Remediation** Non-compliance messages Review + create

By default, this assignment will only take effect on newly created resources. Existing resources can be updated via a remediation task after the policy is assigned. For deployIfNotExists policies, the remediation task will deploy the specified template. For modify policies, the remediation task will edit tags on the existing resources.

Create a remediation task

Policy to remediate	Inherit a tag from the resource group if missing
---------------------	--

Managed Identity
 Policies with the deployIfNotExists and modify effect types need the ability to deploy resources and edit tags on existing resources respectively. To do this, choose between an existing user assigned managed identity or creating a system assigned managed identity. [Learn more about Managed Identity](#).

Create a Managed Identity ⓘ

Type of Managed Identity ⓘ System assigned managed identity User assigned managed identity

System assigned identity location

Permissions

This identity will also be given the following permissions: Contributor

ⓘ Role assignments (permissions) are created based on the role definitions specified in the policies.

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Configuramos la política para que se aplique.

Home > Storage center | Blob Storage >

Create a storage account

Basics Advanced Networking Data protection Encryption Tags Review + create

Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below. [Learn more about Azure storage accounts](#)

Project details

Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.

Subscription * Azure for Students

Resource group * az104-rg2 [Create new](#)

Instance details

Storage account name * sa2711

Region * (Europe) Spain Central [Deploy to an Azure Extended Zone](#)

Preferred storage type Choose preferred storage type

This helps us provide relevant guidance. It doesn't restrict your storage to this resource type. [Learn more](#)

Performance * Standard: Recommended for most scenarios (general-purpose v2 account)

Premium: Recommended for scenarios that require low latency.

Redundancy * Locally-redundant storage (LRS)

Previous Next **Review + create**

Creamos otra cuenta de almacenamiento.



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The screenshot shows the Microsoft Azure Deployment Overview page for a deployment named 'sa2711_1764233844355'. The deployment status is marked as 'Your deployment is complete'. Deployment details include the name, subscription ('Azure for Students'), and resource group ('az104-rg'). The deployment started at 27/11/2025, 10:00:50. A Correlation ID is also provided. On the right side of the page, there are promotional links for Cost Management, Microsoft Defender for Cloud, Free Microsoft tutorials, and Work with an expert.

Se crea la cuenta.

The screenshot shows the Microsoft Azure Storage account 'sa2711' Tags page. The 'Tags' option in the left navigation menu is selected. A table displays a single tag entry: 'Name' is 'Cost Center' and 'Value' is '000'. A note below the table states: 'Do not enter names or values that could make your resources less secure or that contain personal/sensitive information because tag data will be replicated globally.' A red box highlights the 'Cost Center : 000' entry.

El tag se ha aplicado automáticamente.



Configurar y probar los locks en recursos.

The screenshot shows the Azure Resource Manager interface for a resource group named 'az104-rg2'. On the left, there's a navigation sidebar with various options like Overview, Activity log, Access control (IAM), Tags, Resource visualizer, Events, Settings (with Deployments, Security, Deployment stacks), Policies, Properties, and Locks. The 'Locks' option is currently selected and highlighted with a red box. In the main content area, there's a sub-header 'az104-rg2 | Locks' with a lock icon. Below it, there's a search bar and some navigation buttons. A modal dialog box titled 'Add lock' is open, also highlighted with a red box. It contains fields for 'Lock name' (set to 'rg-loc') and 'Lock type' (set to 'Delete'). There's also a 'Notes' field and two buttons at the bottom: 'OK' and 'Cancel'.

Creamos el lock de delete en el grupo de recursos.

The screenshot shows a modal dialog with an exclamation mark icon and the text 'Delete resource group az104-rg2 failed'. Below it, a message states: 'The resource group az104-rg2 is locked and can't be deleted. Click here to manage locks for this resource group.' At the bottom, there's a blue button labeled 'Help me troubleshoot'.



Al borrar nos da error.

```
PS /home(raul_casado) Remove-AzResourceGroup -name "az104-rg2"
Confirm
Are you sure you want to remove resource group 'az104-rg2'
[Y] Yes [N] No [S] Suspend [?] Help (default is "Y"): y
True
PS /home(raul_casado)> []
```

Vamos a utilizar az powershell para borrar el grupo de recursos, antes hemos tenido que quitar el lock.