Project Summary Report: Enforcing Governance with Azure Resource Tags and Policies

I'm pleased to provide a summary of the work I've completed on the project, "Enforcing Governance with Azure Resource Tags and Policies." This project aimed to establish and validate robust tagging standards within the Azure environment, a crucial step for organisation and cost management.

My core objectives for this project were clear: to apply resource tags, create and assign a tag enforcement policy, and finally, to validate compliance through testing. I'm happy to report that I've successfully achieved all these objectives.

Here's a breakdown of the journey:

1. Applying Tags to Resources

I began by manually applying essential tags, specifically `Environment` and `CostCenter` to existing resources in my `TagsRG` resource group, using the Azure Portal. For instance, I successfully tagged a VM named `TestTagVM`, setting the foundation for the policy, and this resulted in successful deployment according to the policy definition of the TagsRG.
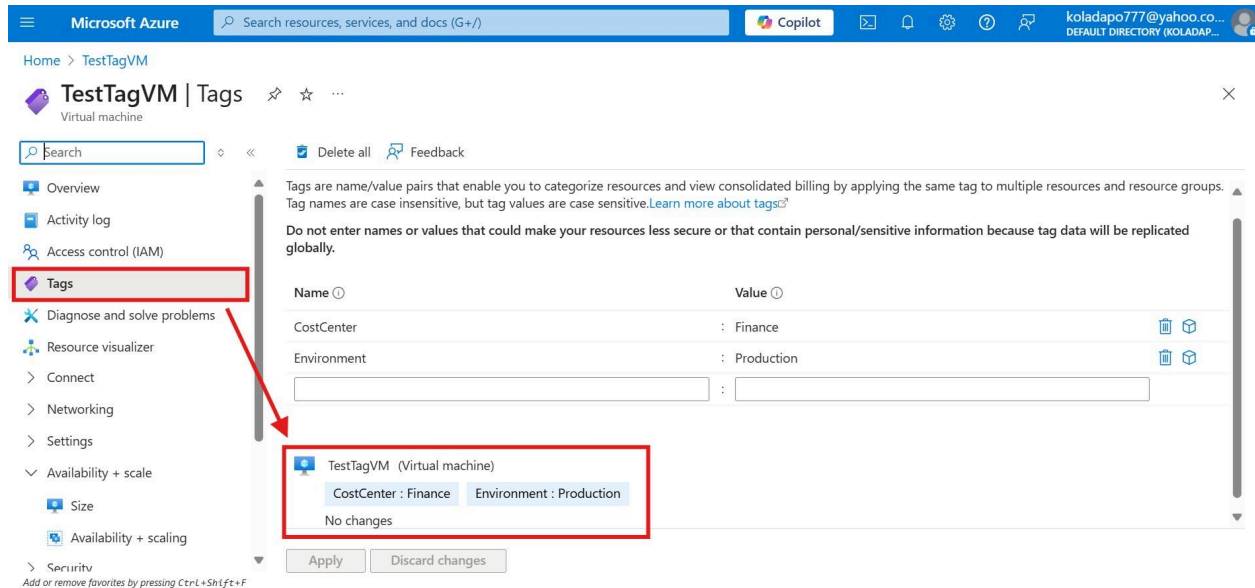
Screenshot with a resource 'TestTagVM' with applied Tags

2. <u>Enforcing Tagging with Azure Policy</u>

This was a key phase. Although there was an option to use a built-in policy, I opted for the more advanced route of creating a **custom policy definition**. This allowed me to precisely define the governance rule. I created a custom policy named `Custom-Require-Environment-Tag-Deny` that specifically denies the creation or update of any resource if the `Environment` tag is missing. I encountered a minor hiccup during the assignment of a built-in policy earlier (missing the `tagName` parameter), but I quickly resolved it by ensuring all required parameters were correctly provided. The custom policy assignment went smoothly, setting up a strong guardrail for future deployments.
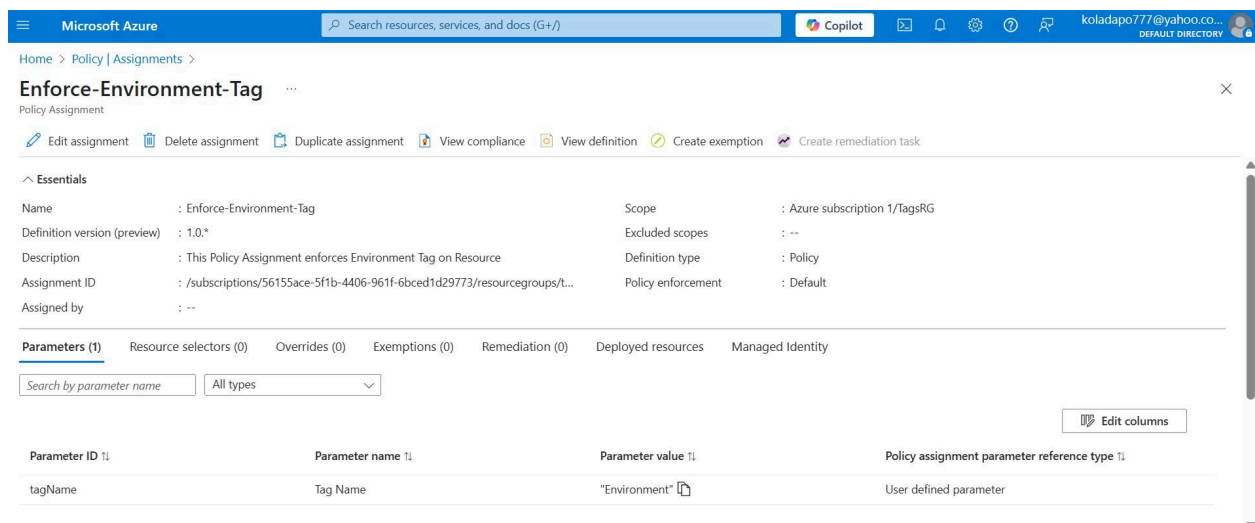

Screenshot of Azure Policy enforcing Tag Requirement

## 3. <u>Testing Policy Compliance</u>

With the policy in place, I moved on to rigorous testing to ensure its effectiveness:

- **Compliant Deployment (Test 1):** I successfully deployed a new storage account, `myowncompliancestorage`, into the `TagsRG` resource group. This deployment included the mandatory `Environment` tag, confirming that resources adhering to the policy are allowed.
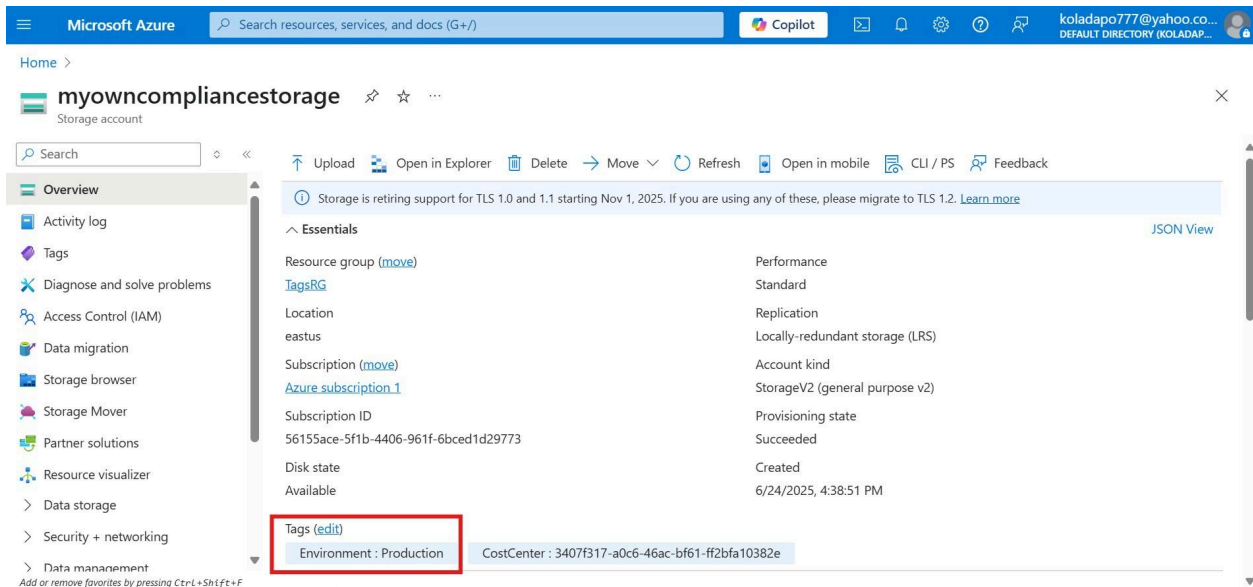
Screenshot of the successful deployment of a compliant storage account

- **Non-Compliant Deployment (Test 2):** Critically, I then attempted to deploy another storage account, `mykbuncompliancestorage`, **without** the `Environment` tag. As expected and intended, this deployment was **denied** by the Azure Policy. This was a clear and direct validation that the policy is actively preventing untagged resources from being created.
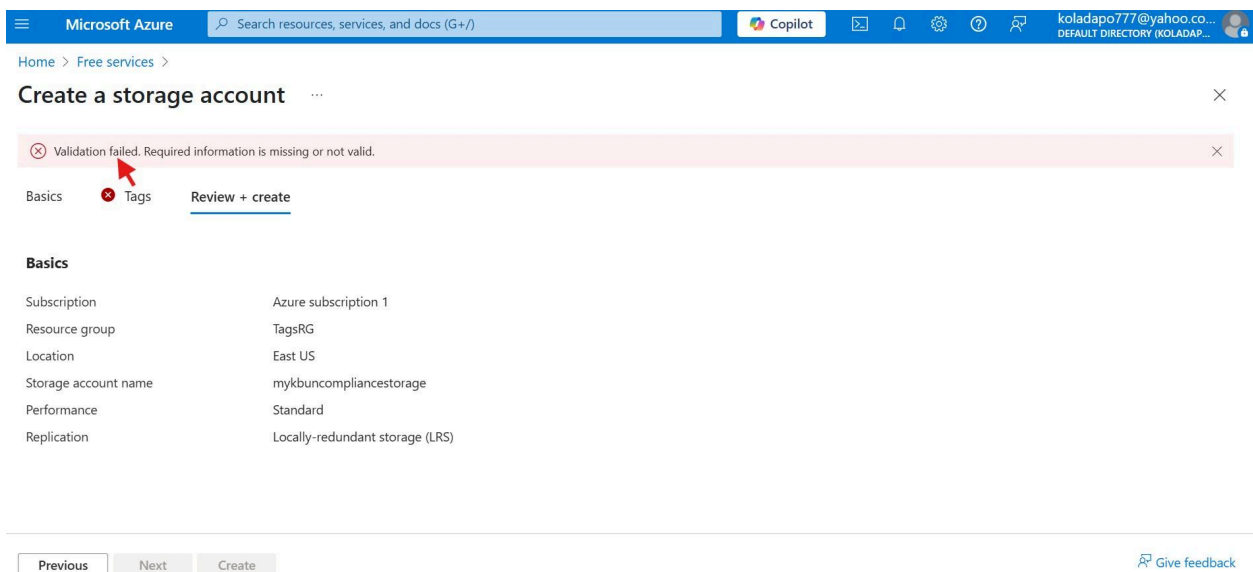

Screenshot of a failed deployment of a Non-Compliant Storage Account "`mykbuncompliancestorage`" due to a missing tag.
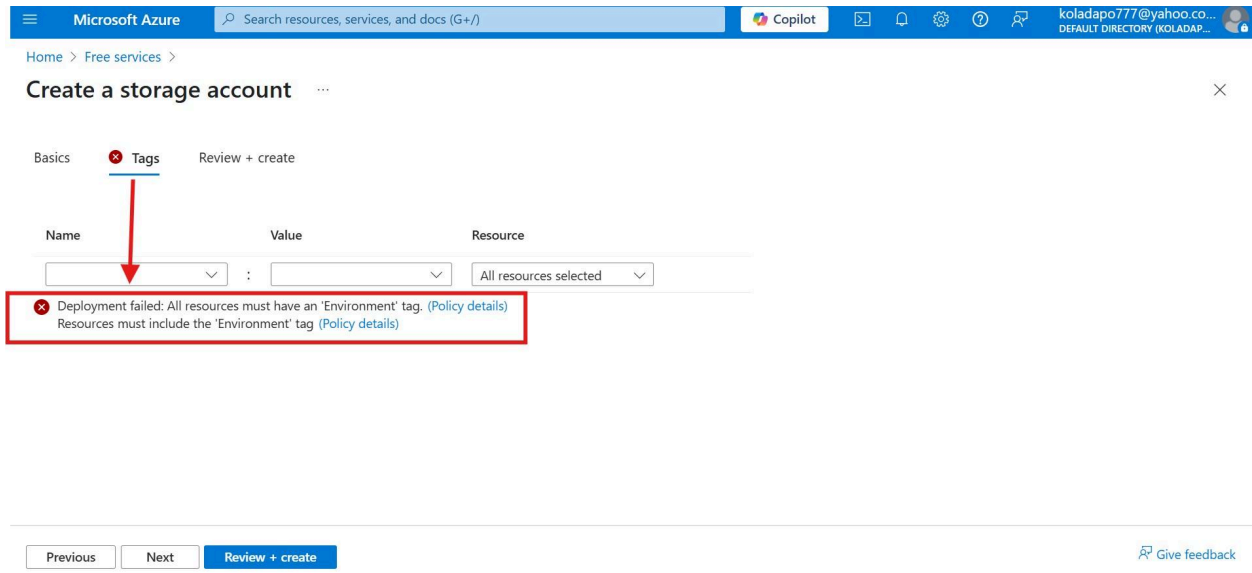
Screenshot of failed reason for the Non-Compliant Storage Account
`mykbuncompliancestorage`" due to a missing tag

- **Verify Compliance (Test 3):** I then navigated to the Azure Policy "Compliance" blade. Here, I could see the `Enforce-Environment-Tag` policy assignment. While the attempted denied resource doesn't show as non-compliant (because it was never successfully created), any existing untagged resources within the policy's scope would be flagged, giving a comprehensive overview of my environment's tagging adherence. My `testtagvm` is reflected as compliant.
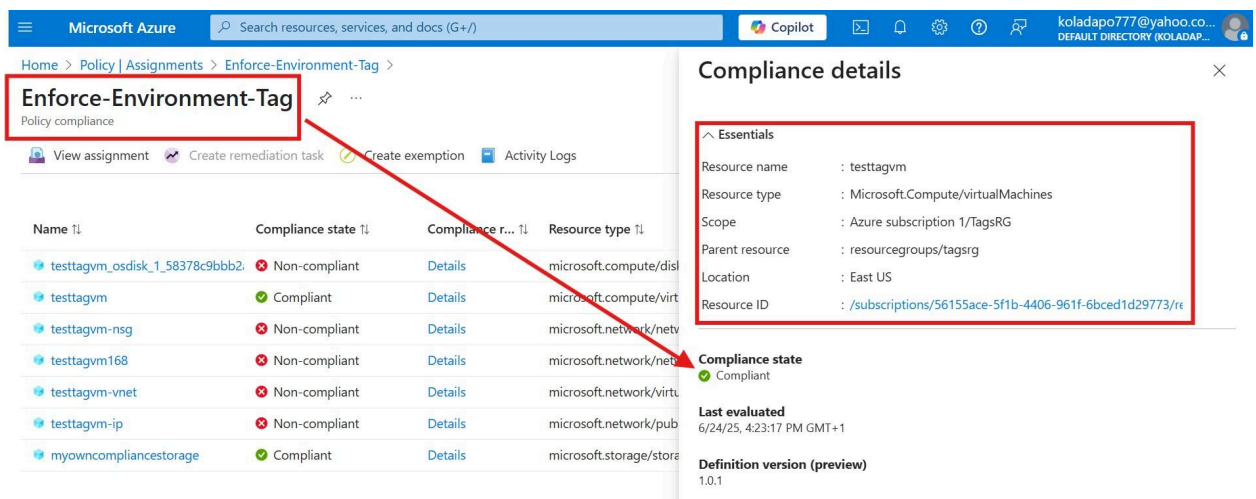
Screenshot of the Compliant Resource 'TestTagVM' in the Policy Compliant Page

Screenshot of an existing untagged Non-Compliant resource flagged within the policy's scope

Real-World Applications and Deeper Insights

Beyond this project, enforcing governance with Azure Resource Tags and Policies has powerful real-world applications. It enables disciplined management by acting as a preventative guardrail.

Here are key use cases:

- **Cost Management:** Track and allocate cloud spending accurately by tagging resources to `CostCenter` or `Project`.
- **Resource Organisation:** Easily discover and manage resources across complex environments using tags like `Environment`, `Owner`, or `Application`.
- **Security & Compliance:** Enforce security standards (e.g., specific network rules, encryption) and regulatory compliance across all deployments.
- **Automation:** Drive automated processes (e.g., resource cleanup, reporting) based on tag values.
- **DevOps Integration:** Ensure consistent compliance directly within Infrastructure as Code deployments, blocking untagged resources.
- **Audit Readiness:** Provide clear, auditable compliance reports on resource configurations.

By strategically combining tags with Azure Policy, organisations can build a more organised, secure, and cost-efficient cloud environment.

In summary, this project has successfully established a robust tagging governance framework using Azure Policies. I've demonstrated that the Azure environment can now enforce mandatory tagging, automatically blocking resources that do not conform to the organisation's defined standards. This will significantly aid in maintaining a well-organised and cost-trackable cloud infrastructure.

I'm confident that this implementation provides a strong foundation for the ongoing Azure governance efforts.