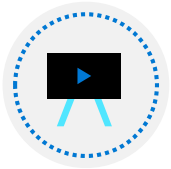
Microsoft Azure

AZ-104T00A
Module 02: Governance and Compliance

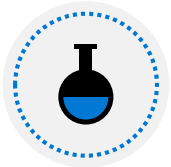
Module Overview



Lesson 01: Subscriptions and Accounts

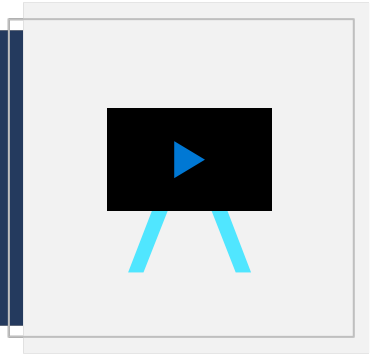
Lesson 02: Azure Policy

Lesson 03: Role-Based Access Control

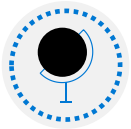


Lesson 04: Module 02 Lab and Review

Lesson 01: Subscriptions and Accounts

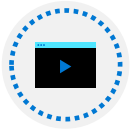


Subscriptions and Accounts Overview



Regions

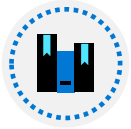
Azure Subscriptions



Getting a Subscription

Subscription Usage

Cost Management



Resource Tags

Cost Savings

Regions

A region represents a collection of datacenters

Provides flexibility and scale

Preserves data residency

Select regions close to your users

Be aware of region deployment availability

There are global services that are region independent

Regions are paired for high availability

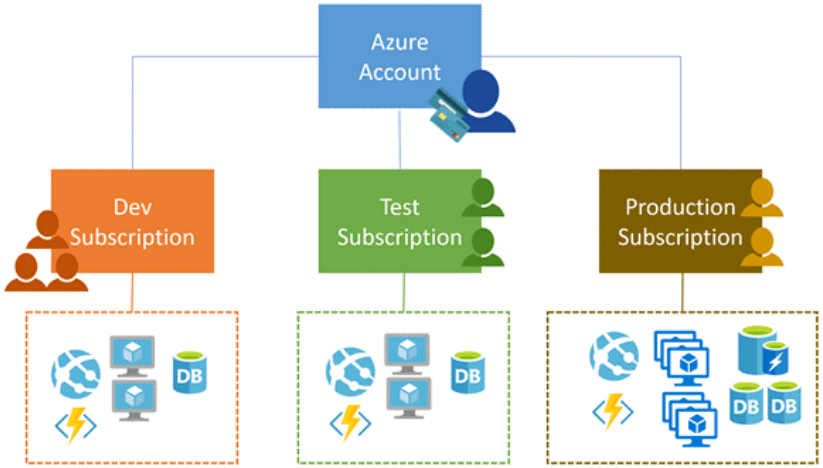
Worldwide there are 60+ regions representing 140 countries

Azure Subscriptions

Only identities in Azure AD or in a directory that is trusted by Azure AD can create a subscription

Logical unit of Azure services that is linked to an Azure account

Security and billing boundary



Getting a Subscription

Enterprise Agreement customers make an upfront monetary commitment and consume services throughout the year

Resellers provide a simple, flexible way to purchase cloud services

Partners can design and implement your Azure cloud solution

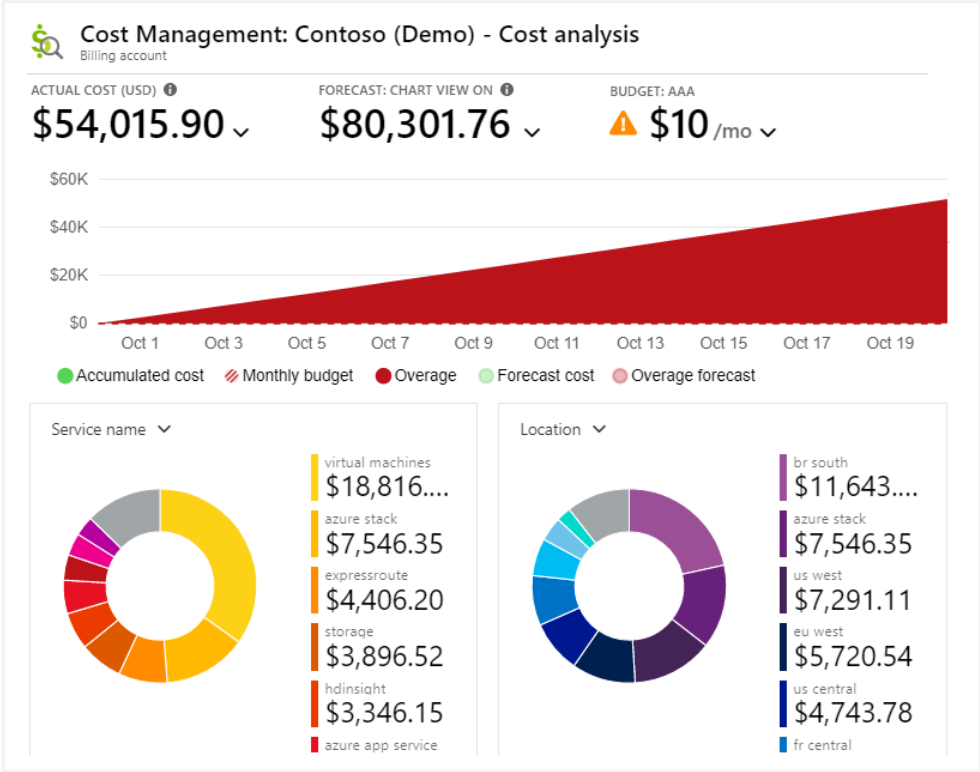
Personal free account – Start right away

Subscription Usage

Subscription	Usage
Free	Includes a $200 credit for the first 30 days, free limited access for 12 months
Pay-As-You-Go	Charges you monthly
CSP	Agreement with possible discounts through a Microsoft Cloud Solutions Provider Partner – typically for small to medium businesses
Enterprise	One agreement, with discounts for new licenses and Software Assurance – targeted at enterprise-scale organizations
Student	Includes $100 for 12 months – must verify student access

Cost Management

- Conduct cost analysis
- Create a budget
- Review recommendations
- Export the data



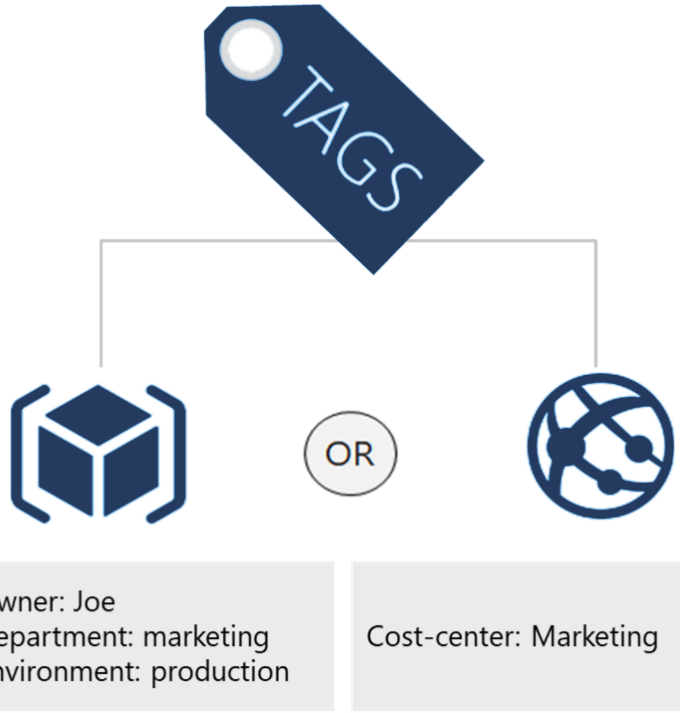
Resource Tags

Provides metadata for your Azure resources

Logically organizes resources into a taxonomy

Consists of a name-value pair

Very useful for rolling up billing information



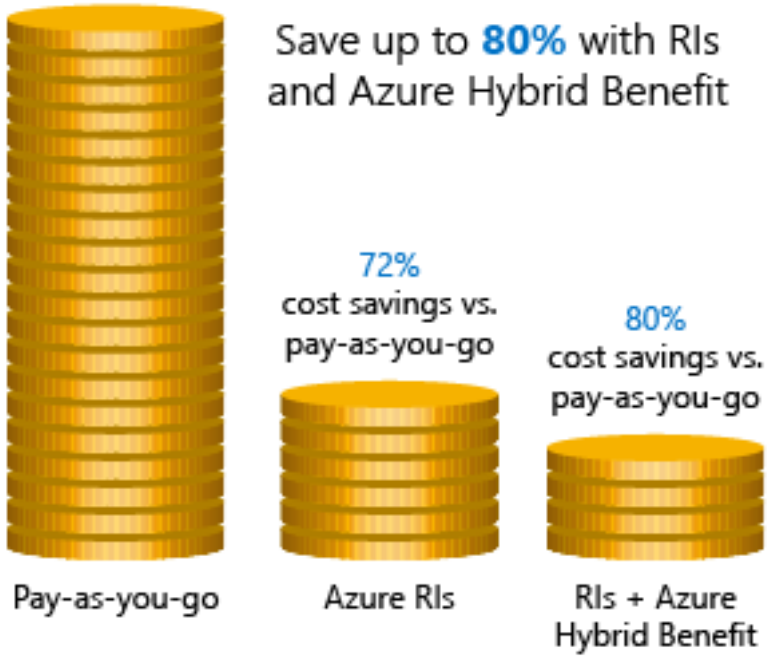
Cost Savings

Azure Reservations – Helps you save money by pre-paying for services

Azure Hybrid Benefits – Use Windows Server and SQL Server on-premises licenses with Software Assurance

Azure Credits – Monthly credit benefit that allows you to experiment with, develop, and test new solutions on Azure

Regions – Choose low-cost locations and regions



Lesson 02: Azure Policy

Azure Policy Overview

Management Groups

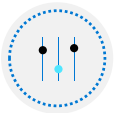
Azure Policy

Implementing Azure Policy

Policy Definitions

Create Initiative Definitions

Scope the Initiative Definition



Determine Compliance

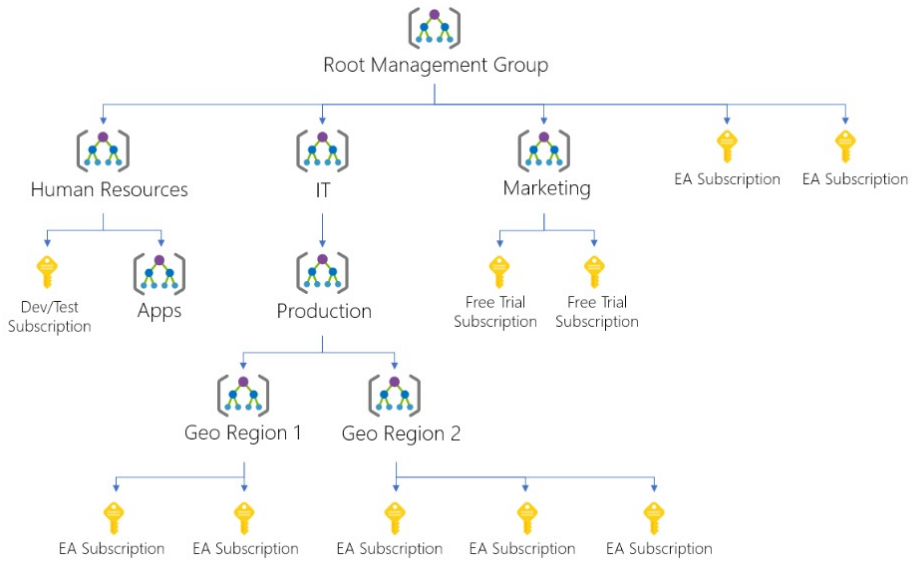
Demonstration – Azure Policy

Management Groups

Provides a level of scope above subscriptions

Targeting of policies and spend budgets across subscriptions and inheritance down the hierarchies

Compliance and cost reporting by organization (business/teams)



Azure Policy

Azure Policy is a service in Azure that you use to create, assign and, manage policies

Azure Policy runs evaluations and scans for non-compliant resources

Advantages:

Enforcement and compliance

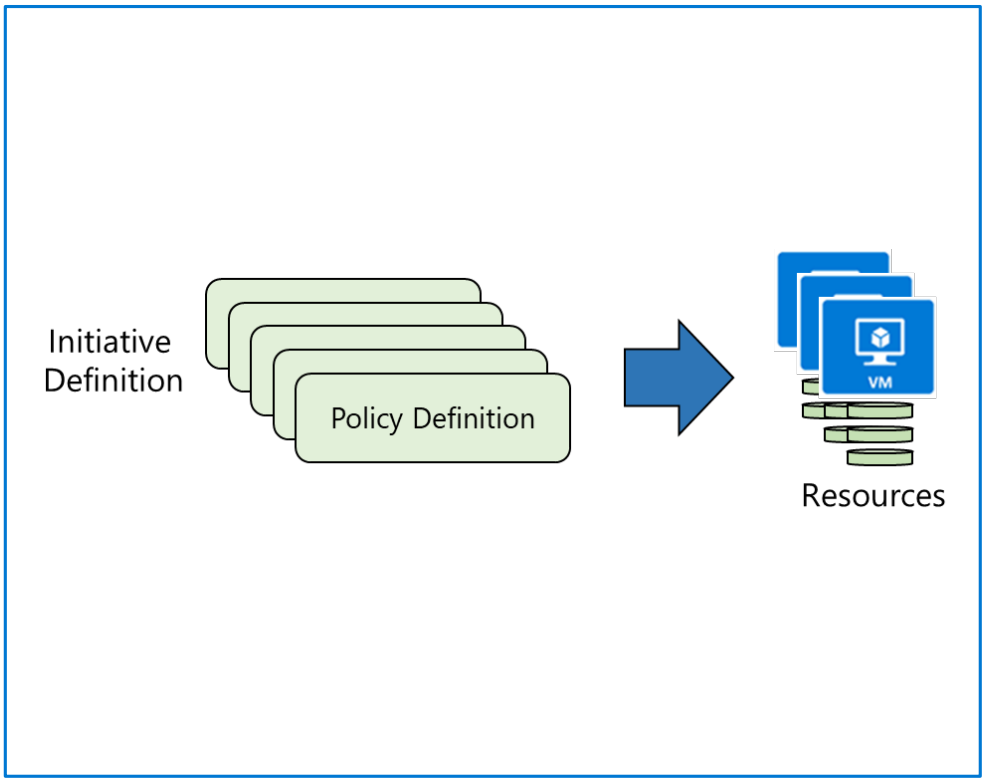
Apply policies at scale

Remediation

Usage Cases
Allowed resource types – Specify the resource types that your organization can deploy
Allowed virtual machine SKUs – Specify a set of virtual machine SKUs that your organization can deploy
Allowed locations – Restrict the locations your organization can specify when deploying resources
Require tag and its value – Enforces a required tag and its value
Azure Backup should be enabled for Virtual Machines – Audit if Azure Backup service is enabled for all Virtual machines

Implementing Azure Policy

1. Browse Policy Definitions
2. Create Initiative Definitions
3. Scope the Initiative Definition
4. View Policy evaluation results



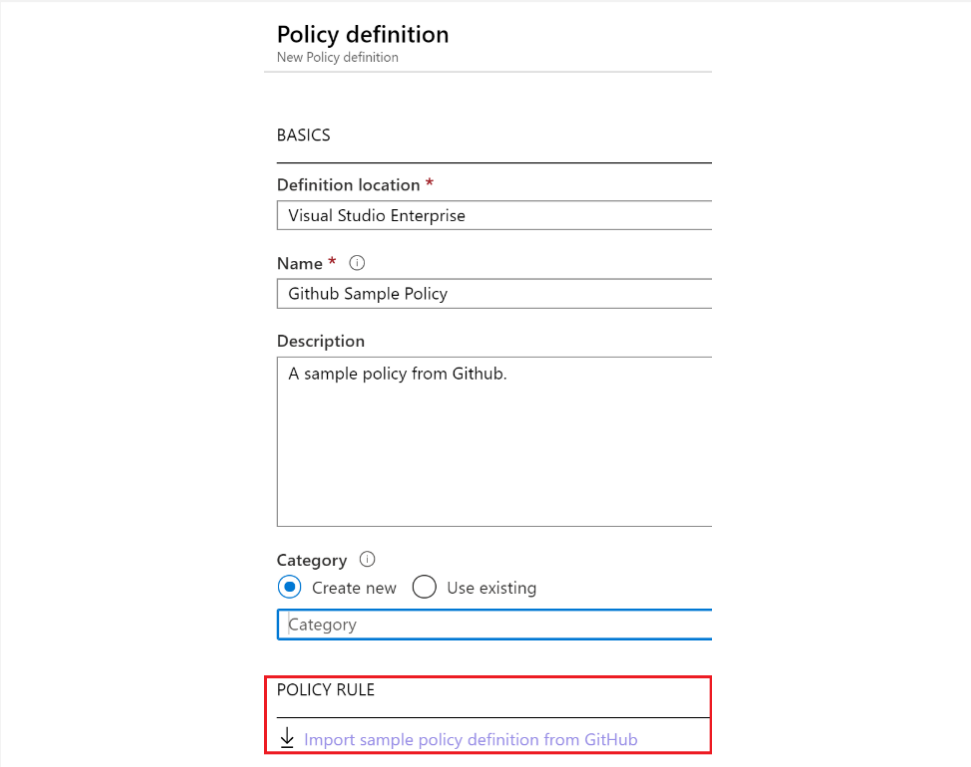
Policy Definitions

Many policy definitions are available

You can import policies from GitHub

Policy Definitions have a specific JSON format

You can create custom policy definitions

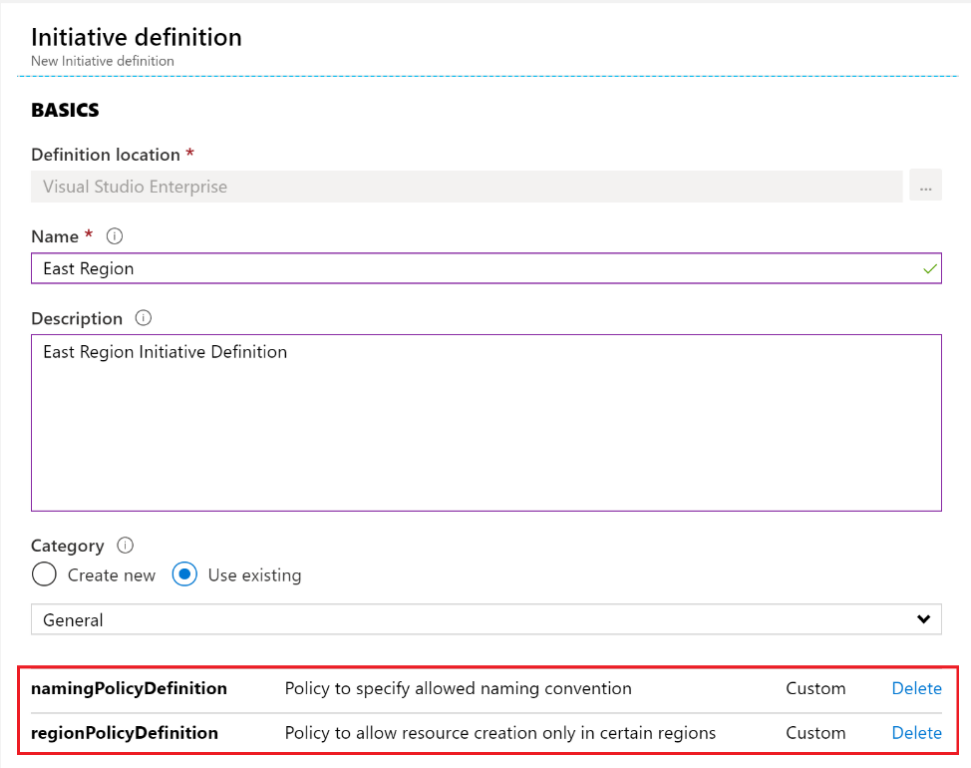


Create Initiative Definitions

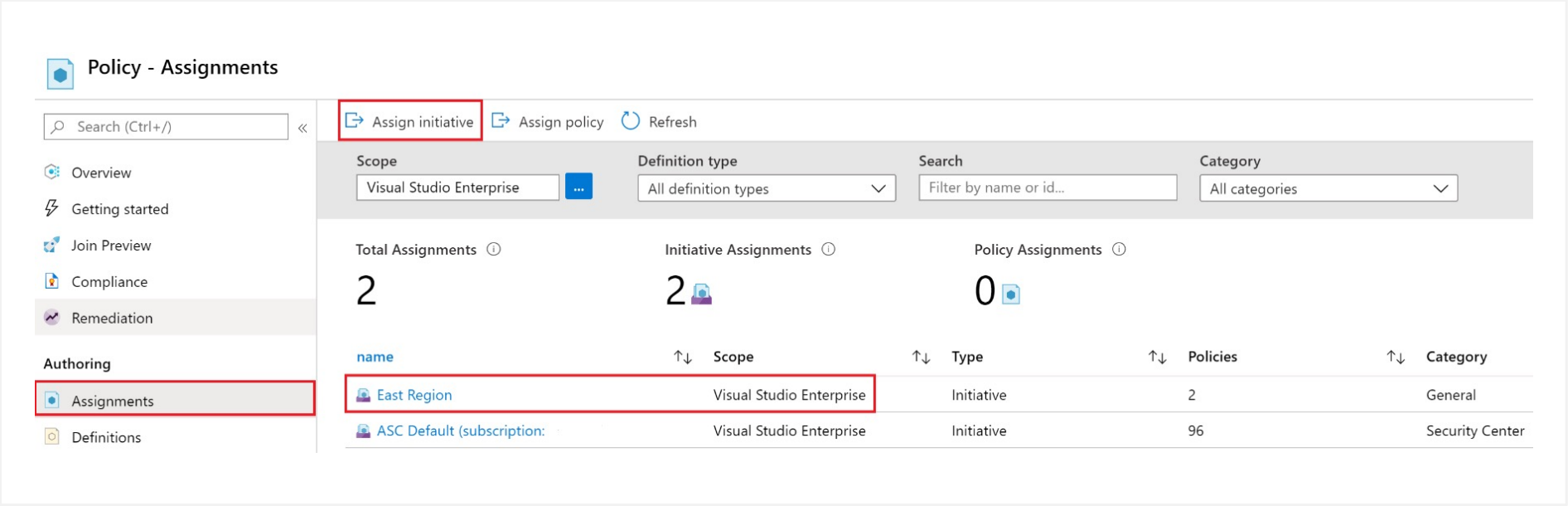
Group policy definitions

Include one or more policies

Requires planning



Scope the Initiative Definition

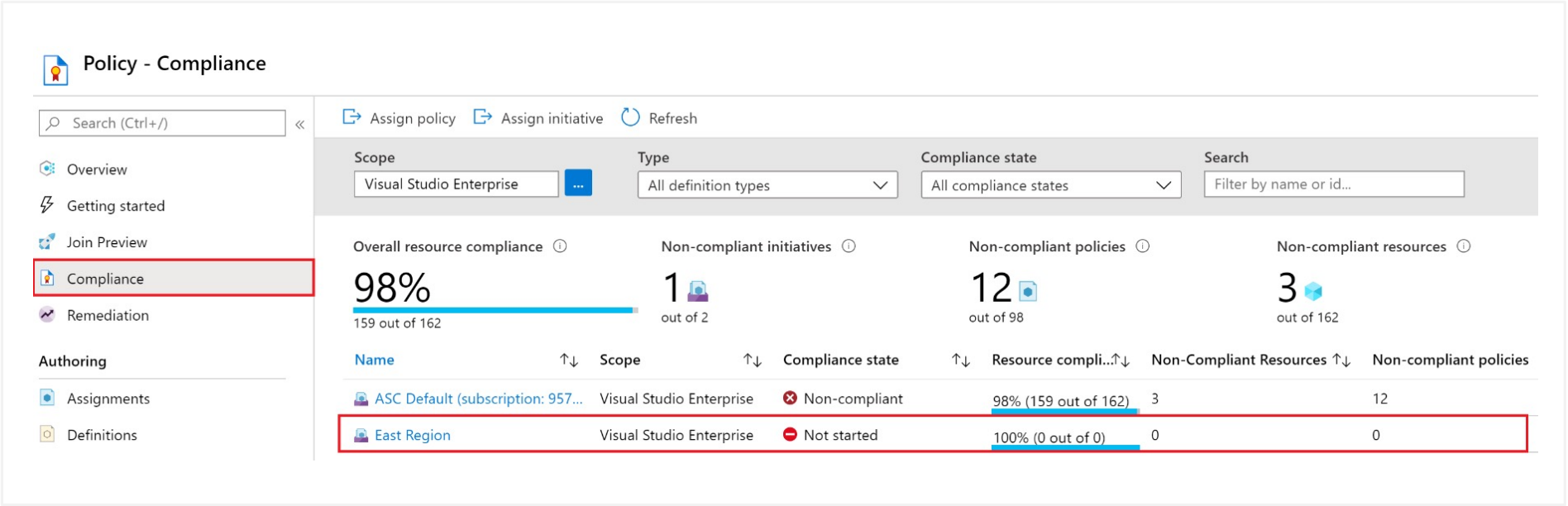


Assign the definition to a scope

The scope enforces the policy

Select the subscription, and optionally the resource group

Determine Compliance



Non-compliant initiatives

Non-compliant policies

Non-compliant resources

Lesson 03: Role-Based Access Control

Role-Based Access Control Overview

Role-Based Access Control

Role Definition

Role Assignment

Azure RBAC Roles vs Azure AD Administrator Roles

RBAC Authentication

Azure RBAC Roles

Demonstration – RBAC Roles

Role-Based Access Control

Provides fine-grained access management of resources in Azure

Built on Azure Resource Manager

Segregate duties within your team

Grant only the amount of access to users that they need to perform their jobs

Concepts

Security principal. Object that represents something that is requesting access to resources

Role definition. Collection of permissions that lists the operations that can be performed

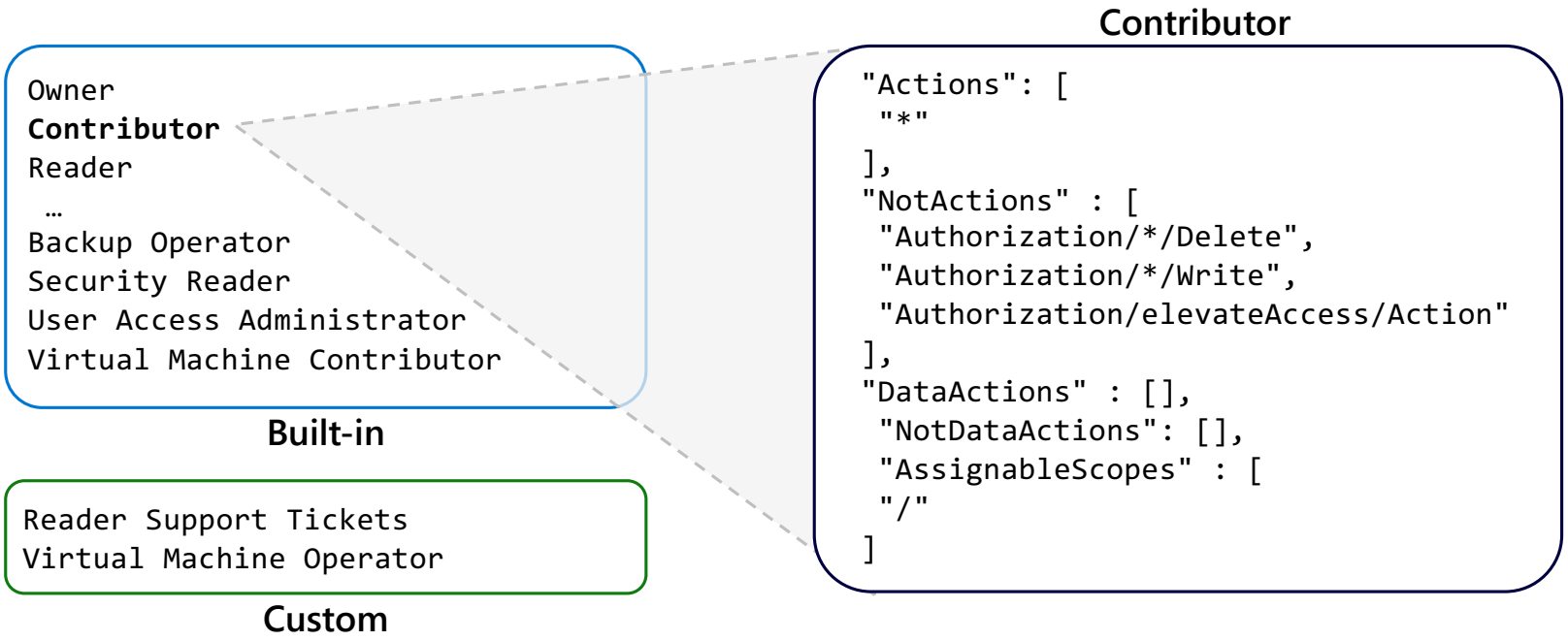
Scope. Boundary for the level of access that is requested

Assignment. Attaching a role definition to a security principal at a particular scope:

- Users can grant access described in a role definition by creating an assignment
- Deny assignments are currently read-only and are set by Azure Blueprints and Azure Managed Apps

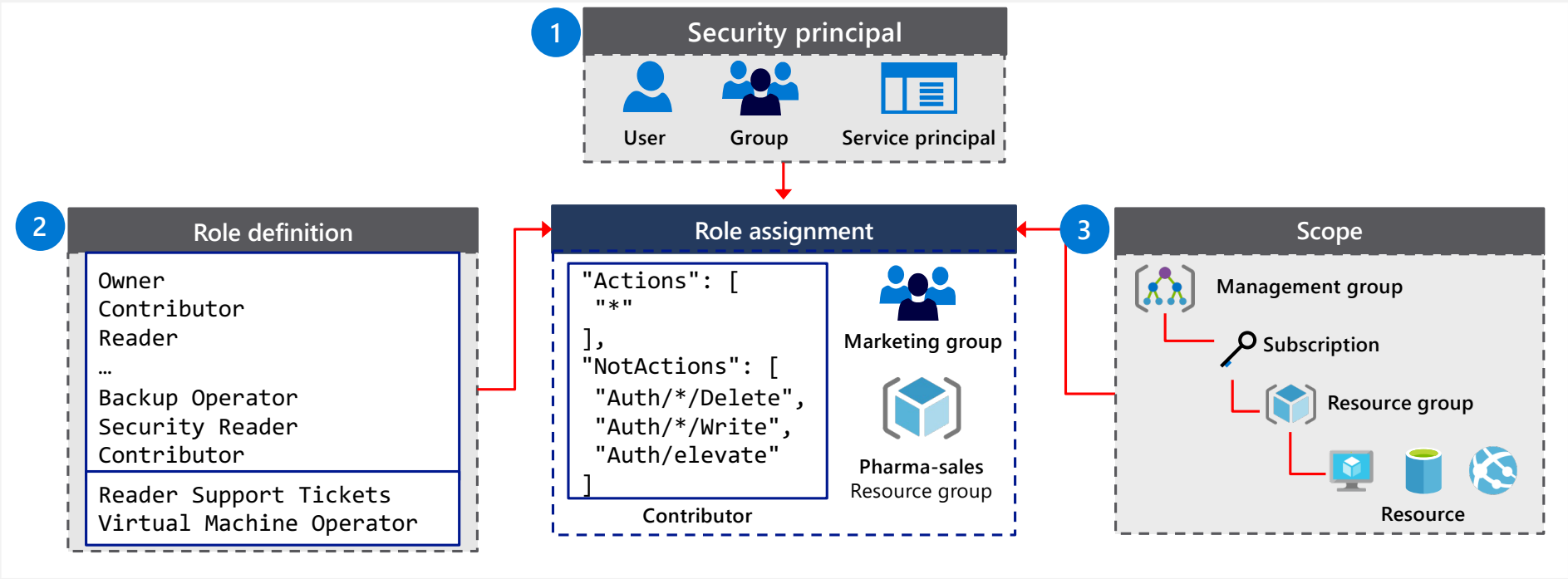
Role Definition

Collection of permissions that lists the operations that can be performed



Role Assignment

Process of binding a role definition to a user, group, or service principal at a scope for the purpose of granting access



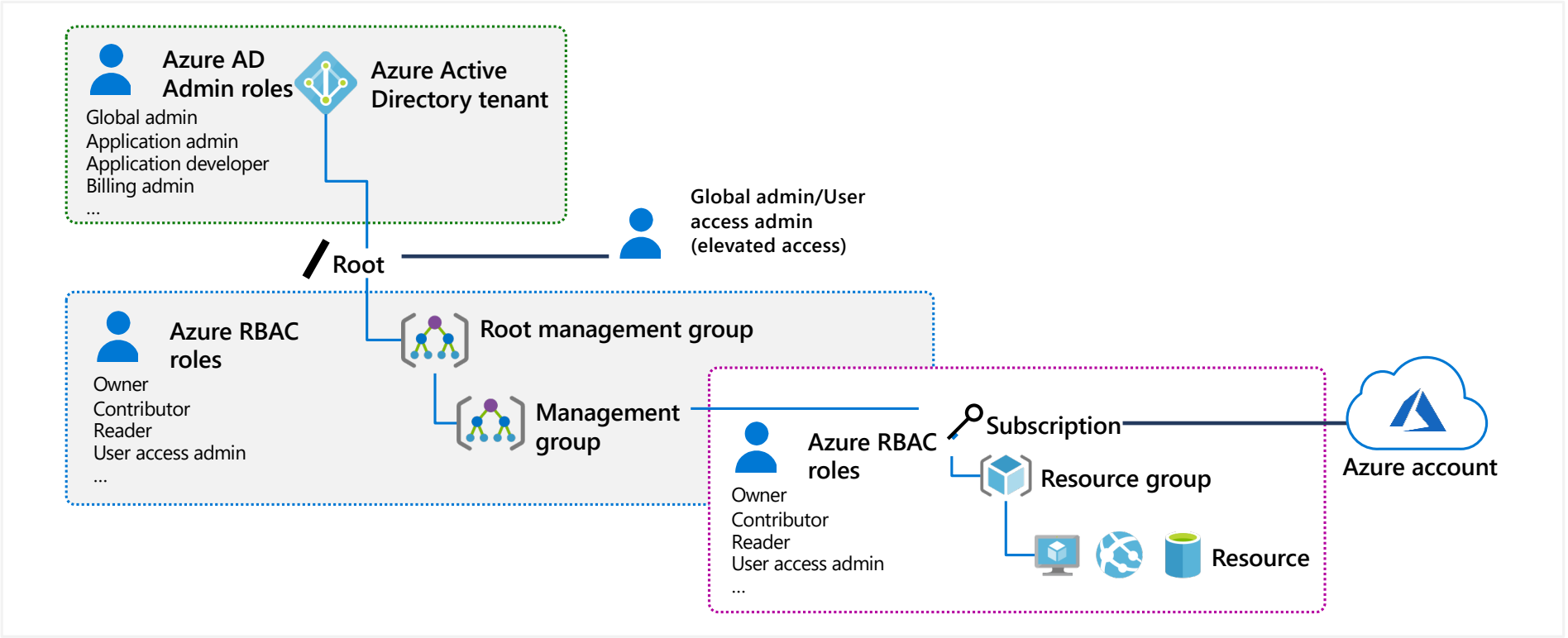
Azure RBAC Roles vs. Azure AD Roles

Azure and Azure AD offer two types of roles

Azure RBAC roles	Azure AD roles
Manage access to Azure resources	Manage access to Azure AD objects
Scope can be specified at multiple levels	Scope is at the tenant level
Role information can be accessed in the Azure portal, Azure CLI, Azure PowerShell, Azure Resource Manager templates, REST API	Role information can be accessed in Azure portal, Microsoft 365 admin portal, Microsoft Graph, Azure Active Directory PowerShell for Graph

Classic administrator roles should be avoided if using Azure Resource Manager

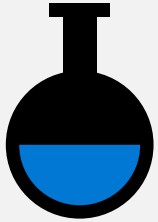
RBAC Authentication



Azure RBAC Roles

RBAC role in Azure	Permissions	Notes
Owner	Has full access to all resources and can delegate access to others	The Service Administrator and Co-Administrators are assigned the Owner role at the subscription scope. This applies to all resource types
Contributor	Creates and manages all types of Azure resources but cannot grant access to others	This applies to all resource types
Reader	Views Azure resources	This applies to all resource types
User Access Administrator	Manages user access to Azure resources	This applies to managing access, rather than to managing resources

Lesson 04: Module 02 Lab and Review



Lab 02a – Manage Subscriptions and Azure RBAC

Lab scenario

To improve the management of Azure resources in Contoso, you have been tasked with implementing the following functionality:

- Using management groups for the Contoso's Azure subscriptions
- Granting user permissions for submitting support requests. This user would only be able to create support request tickets and view resource groups

Objectives

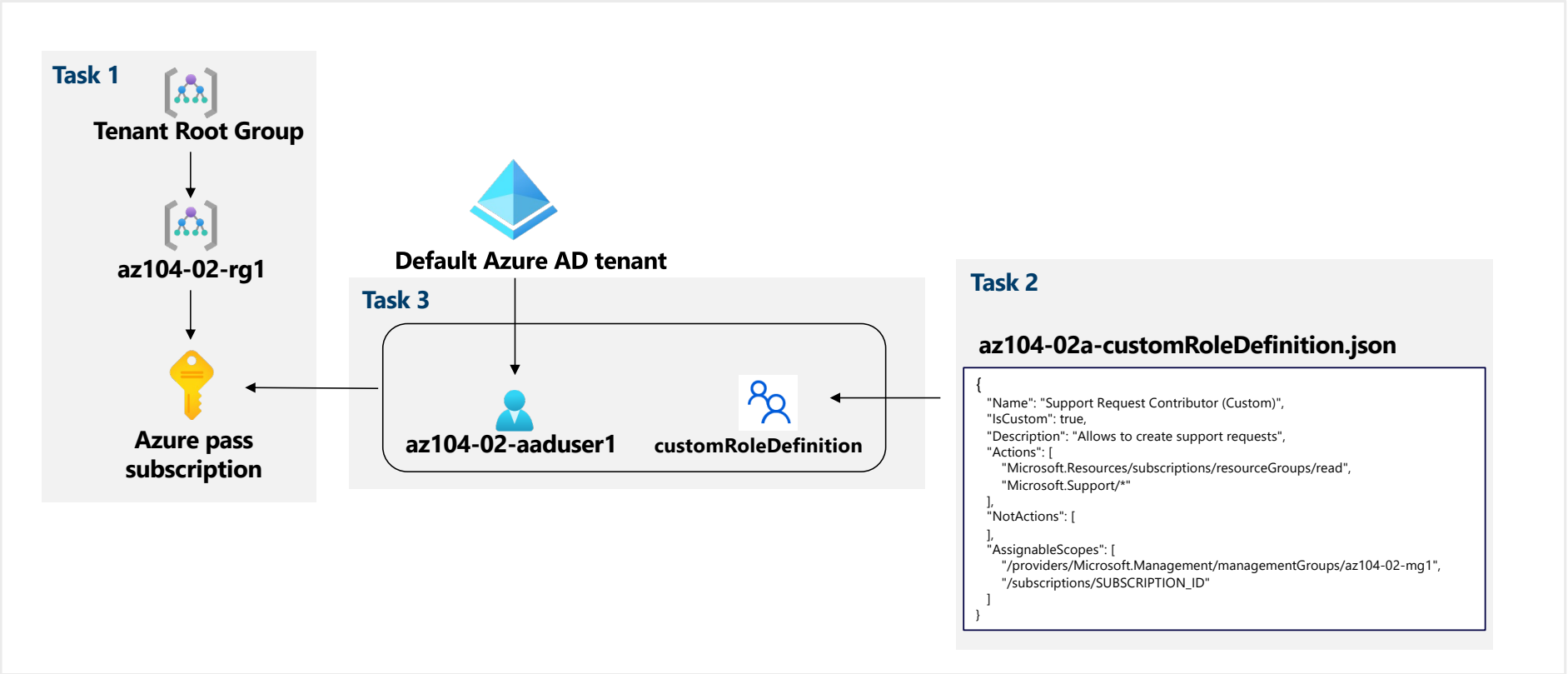
Task 1:
Implement Management Groups

Task 2:
Create custom RBAC roles

Task 3:
Assign RBAC roles

Next slide for an architecture diagram

Lab 02a – Architecture diagram



Lab 02b – Manage Governance via Azure Policy

Lab scenario

To improve management of Azure resources in Contoso, you have been tasked with implementing the following functionality:

- Tagging resource groups that include only infrastructure resources
- Ensuring that only properly tagged infrastructure resources can be added to infrastructure resource groups
- Remediating any non-compliant resources

Objectives

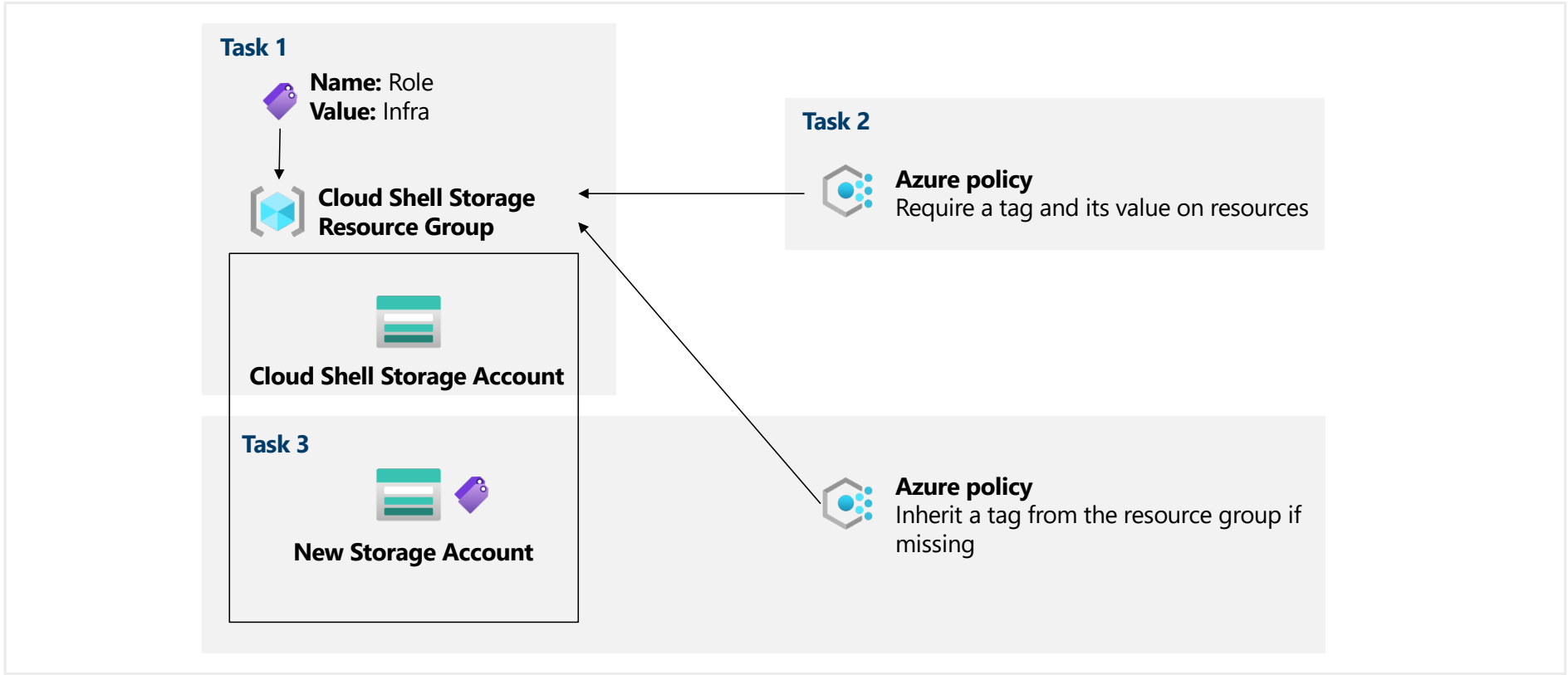
Task 1:
Create and assign tags via the Azure portal

Task 2:
Enforce tagging via an Azure Policy

Task 3:
Apply tagging via an Azure Policy

Next slide for an architecture diagram

Lab 02b – Architecture diagram



Module Review

Module Review Questions

Microsoft Learn Modules (docs.microsoft.com/Learn)

- Analyze costs and create budgets with Azure Cost Management
- Predict costs and optimize spending for Azure
- Control and organize Azure resources with Azure Resource Manager
- Apply and monitor infrastructure standards with Azure Policy
- Create custom roles for Azure resources with role-based access control (RBAC)
- Manage access to an Azure subscription by using Azure role-based access control (RBAC)
- Secure your Azure resources with role-based access control (RBAC)

End of presentation