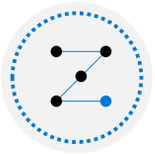
Microsoft Azure

AZ-104

Administer Governance and Compliance

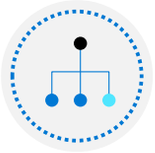
About this course: Course Outline

01: Administer Identity



02: Administer Governance and Compliance

03: Administer Azure Resources

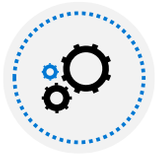


04: Administer Virtual Networking

05: Administer Intersite Connectivity

06: Administer Network Traffic Management

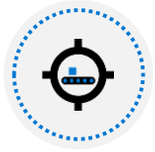
07: Administer Azure Storage



08: Administer Azure Virtual Machines

09: Administer PaaS Compute Options

10: Administer Data Protection



11: Administer Monitoring

Administer Governance and Compliance Introduction

Configure Subscriptions

Configure Azure Policy

Configure Role-Based Access Control

Lab 02a - Manage Subscriptions and RBAC
Lab 02b - Manage Governance via Azure Policy
Lab 03a – Manage Azure resources with the Azure portal

Configure Subscriptions and Configure Azure Resource Manager Resources

Configure Subscriptions Introduction


Identify Regions


Implement Azure Subscriptions


Identify Subscription Usage


Obtain a Subscription


Create Resource Groups


Determine Service Limits and Quotas


Create an Azure Resource Hierarchy


Apply Resource Tagging


Manage Costs


Summary and Resources

Identify 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

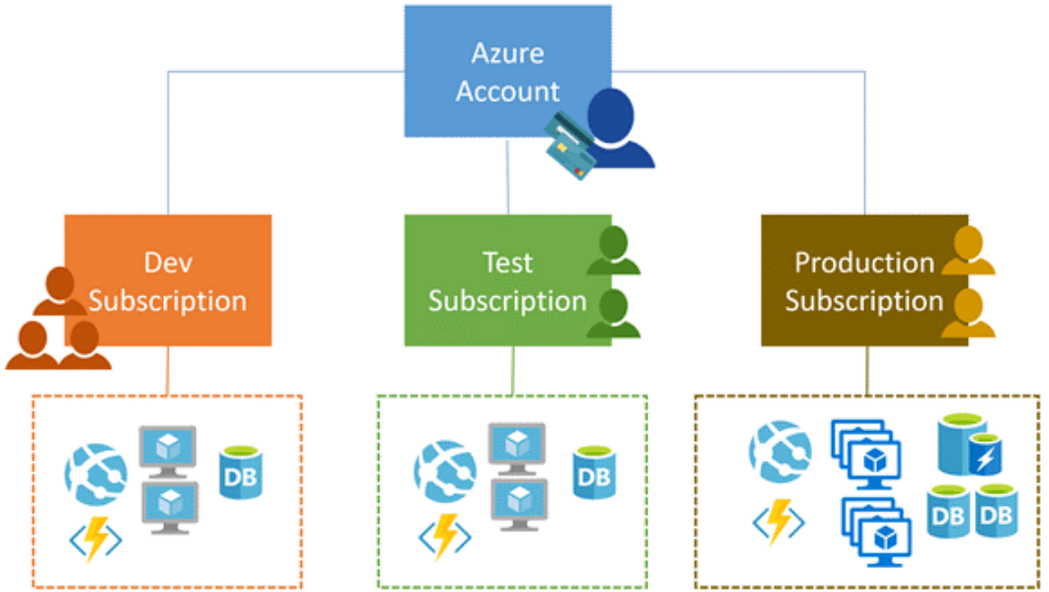
Worldwide there are 60+ regions representing 140 countries

Implement 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*



Identify 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

Obtain 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

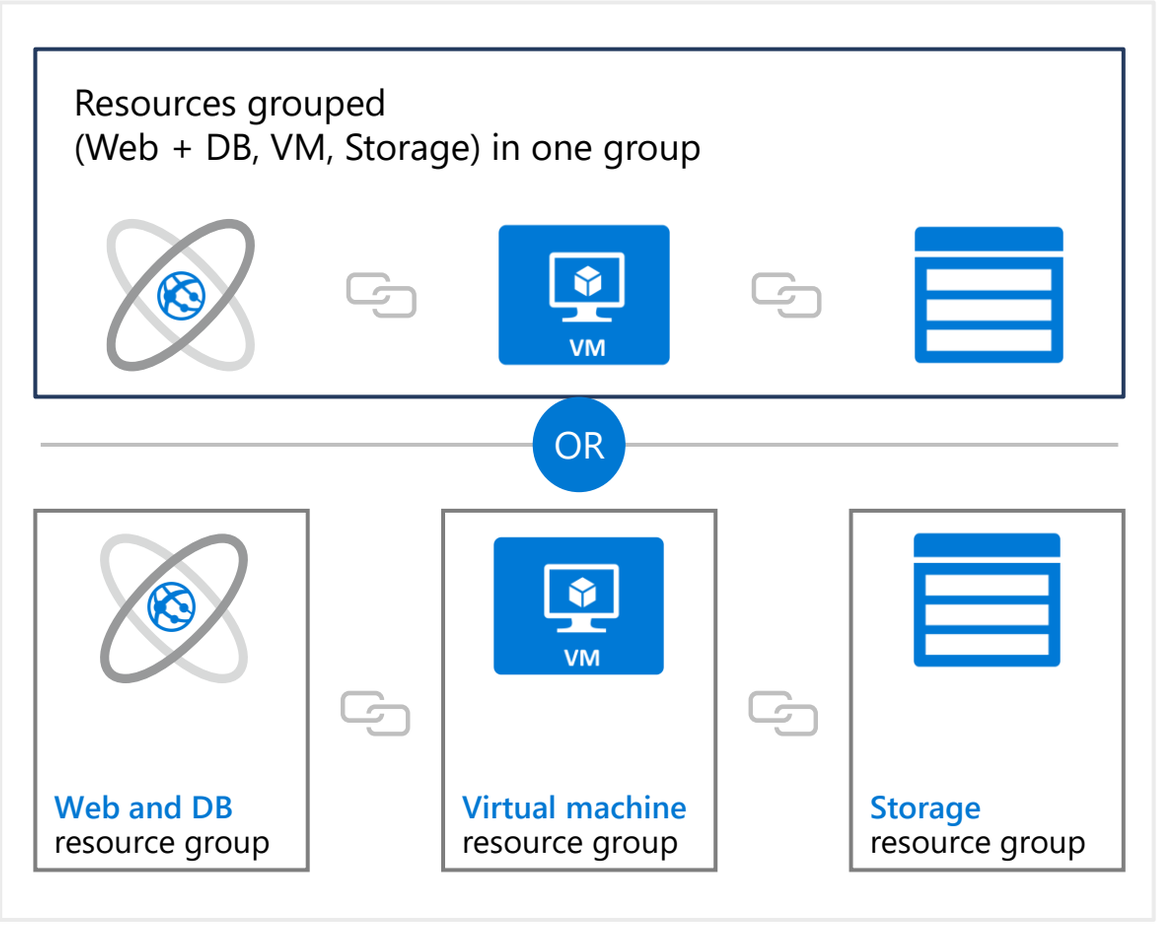
Create Resource Groups

Resources can only exist in one resource group

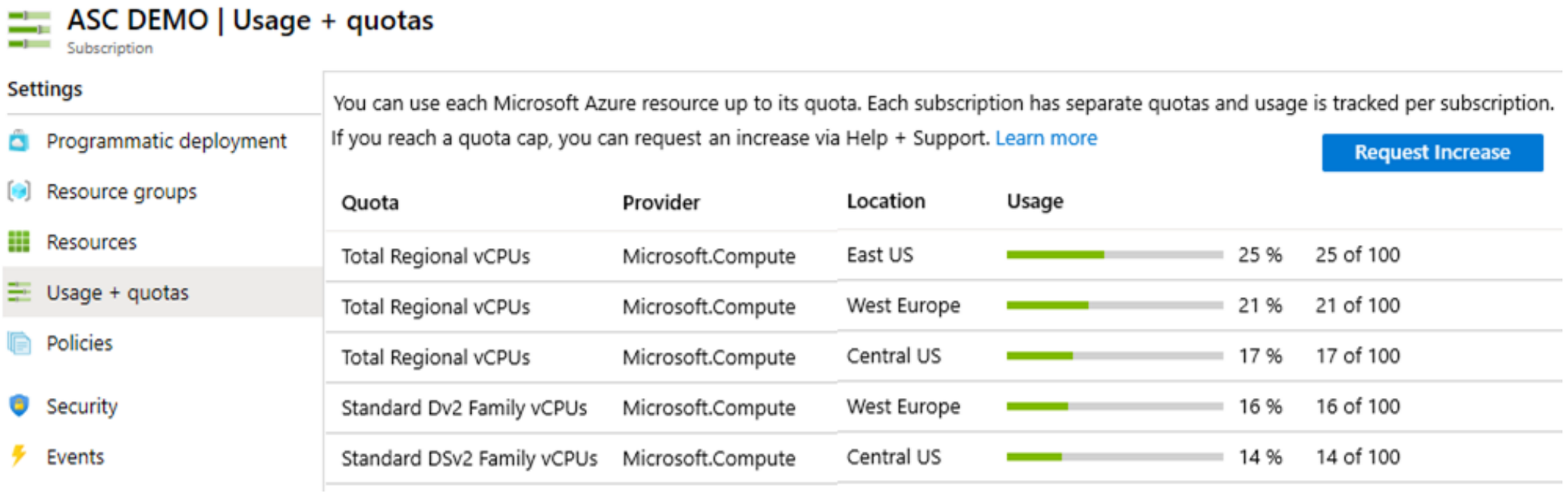
Groups can have resources of many different types (services) and from many different regions

Groups cannot be renamed or nested

You can move resources between groups



Determine Service Limits and Quotas



Resources have a default limit - a subscription quota

Helpful to track current usage, and plan for future use

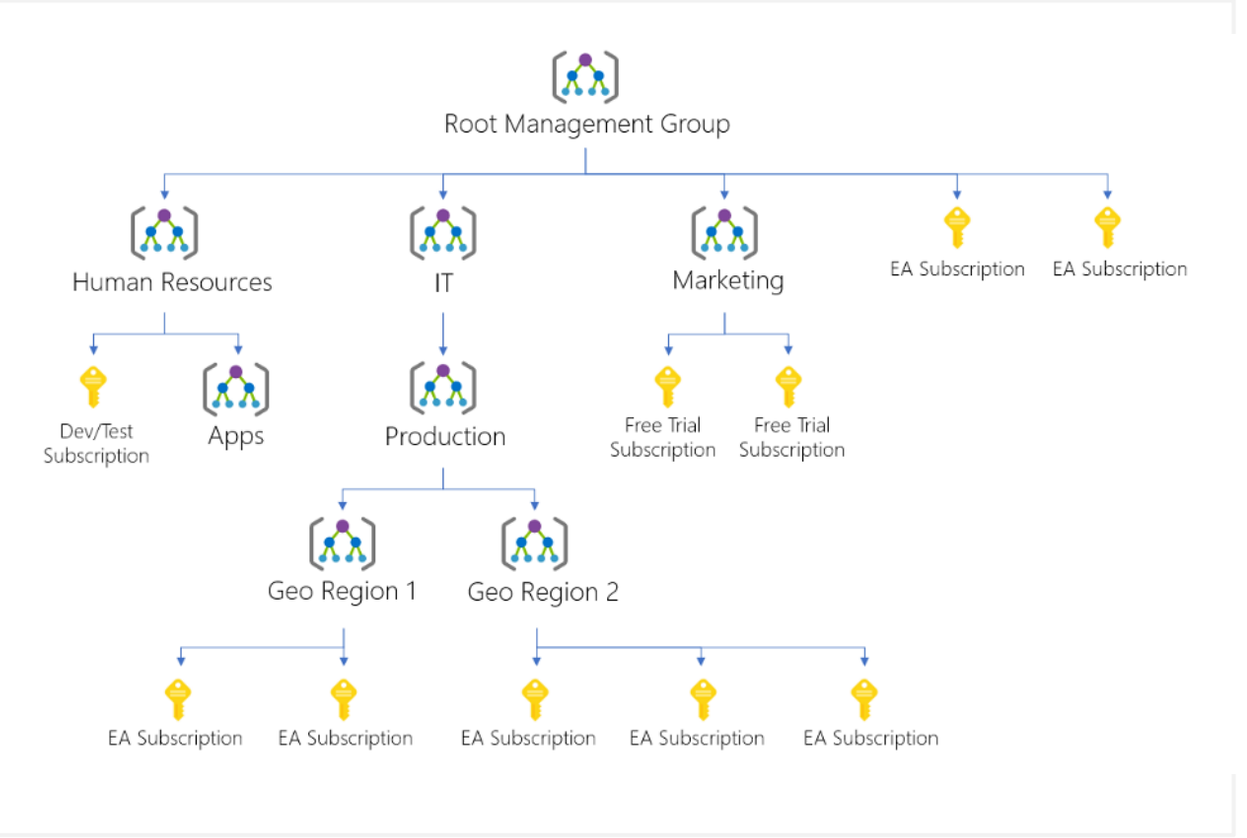
You can open a free support case to increase limits to published maximums

Create an Azure Resource Hierarchy

Management groups provides a level of scope above subscriptions

Target policies and spend budgets across subscriptions and inheritance down the hierarchies

Implement compliance and cost reporting by organization (business/teams)



* To prevent changes, apply resource locks at the subscription, resource group, or resources level

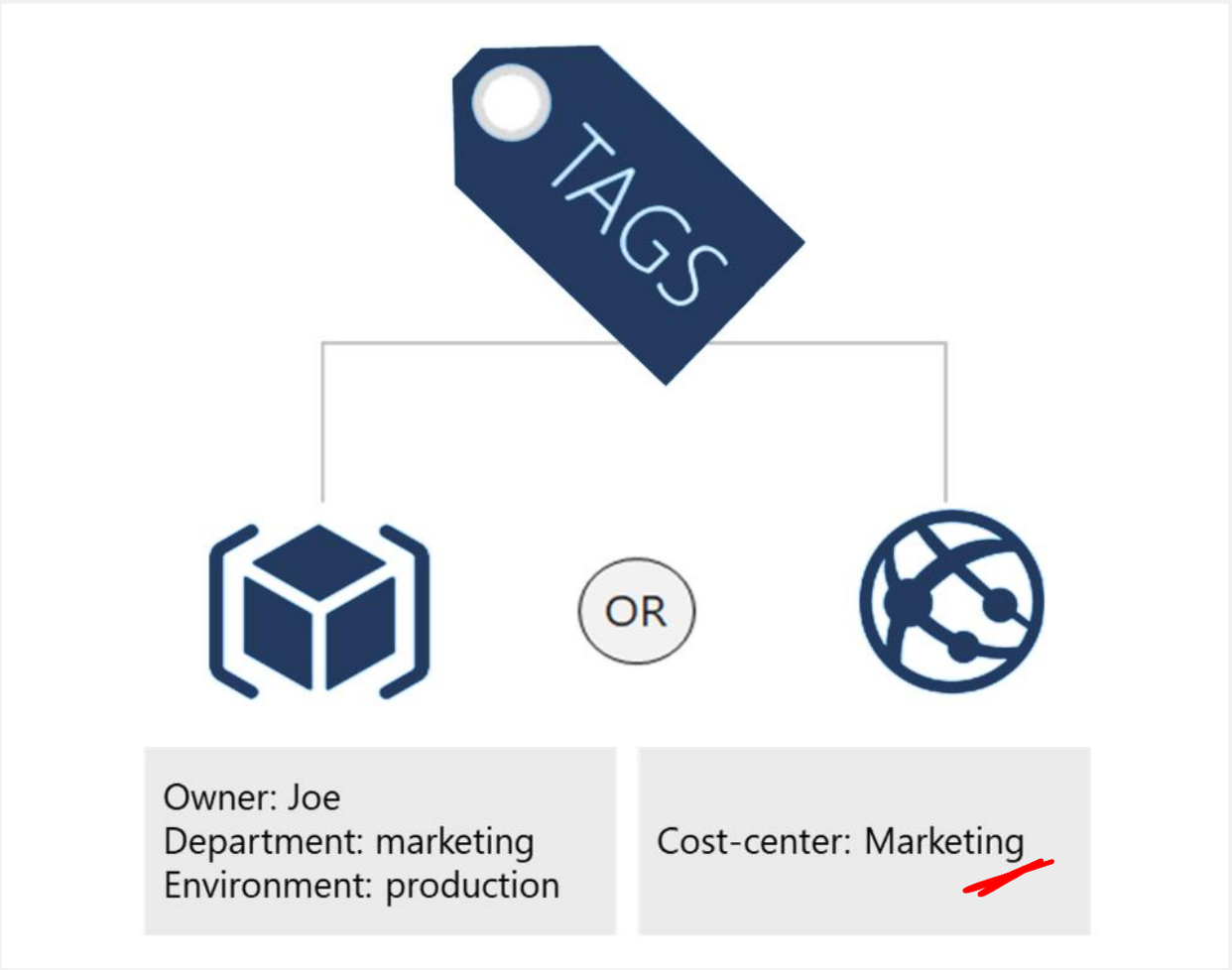
Apply Resource Tagging

Provides metadata for your Azure resources

Logically organizes resources

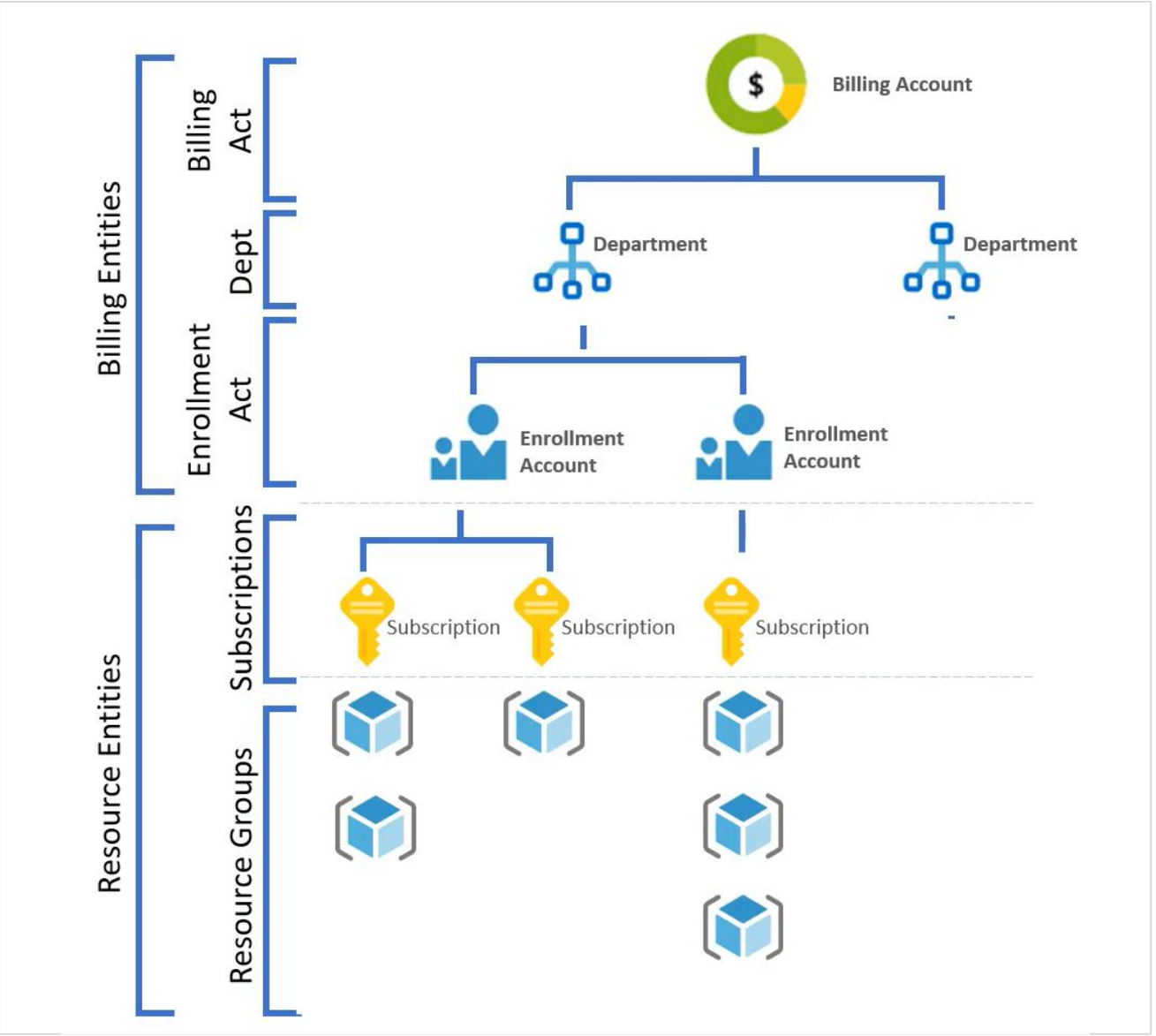
Consists of a name-value pair

Very useful for rolling up billing information



Manage Costs

- Costs are resource-specific
- Usage costs may vary between locations
- Costs for inbound and outbound data transfers differ
- Pre-pay with Azure reserved instances
- Use your on-premises licenses with Azure Hybrid Benefit
- Optimize with alerts, budgets, and Azure Advisor recommendations



Summary and Resources - Configure Subscriptions

Knowledge Check Questions

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

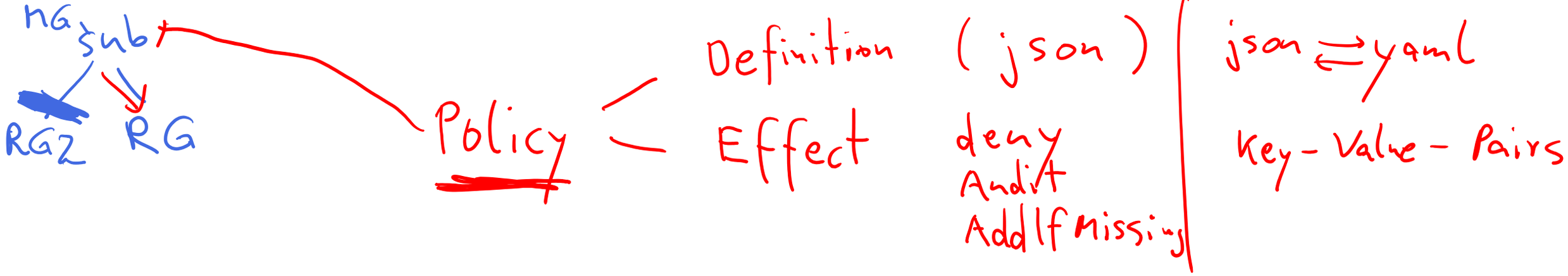
Introduction to analyzing costs and creating budgets with Azure Cost Management

Plan and manage your Azure costs (Sandbox)

Control and organize Azure resources with Azure Resource Manager

Use Azure Resource manager

A *sandbox* indicates a hands-on exercise.



Configure Azure Policy

Deployment

Configure Azure Policy Introduction

Implement Azure Policy

Create Azure Policies

Demonstration – Azure Policies

- Create Policy Definitions
- Create and Scope the Initiative Definition
- Determine Compliance

Summary and Resources

Implement Azure Policies

A service to create, assign, and manage policies

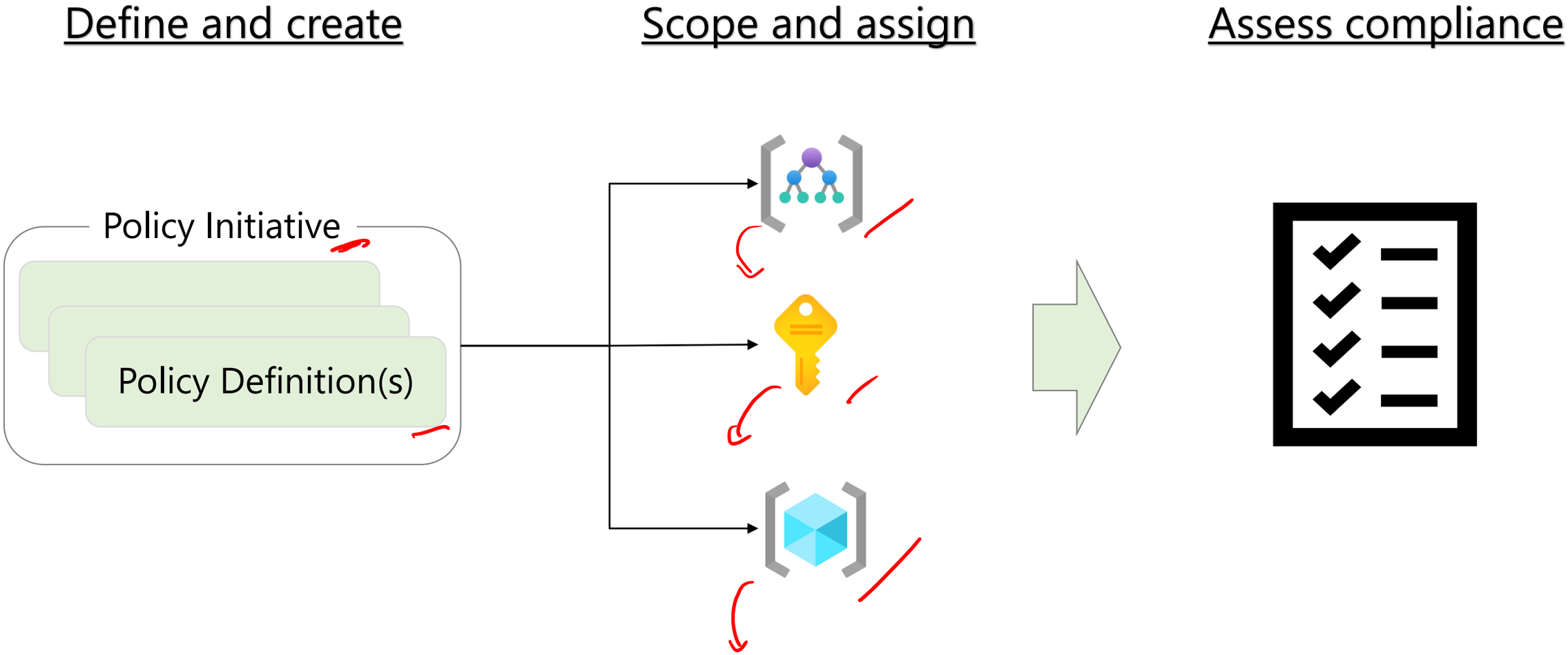
Runs evaluations and scans for non-compliant resources

Advantages:

- Enforcement and compliance
- Apply policies at scale
- Remediation

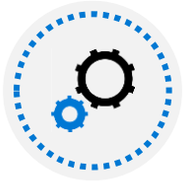
Usage Cases
Allowed resource types – Specify the resource types that your organization can deploy
Allowed virtual machine SKUs – Specify a set of virtual machine SKUs that your organization can deploy
Allowed locations – Restrict the locations your organization can specify when deploying resources
Require 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

Create Azure Policies



Demonstration – Azure Policy

Assign a policy



Create and assign an initiative definition

Check for compliance

Check for remediation tasks

Remove your policy and initiative

Summary and Resources – Configure Azure Policy

Knowledge Check Questions

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

Introduction to Azure Policy

Build a cloud governance strategy on Azure

Configure Role-Based Access Control

Configure Role-Based Access Control Introduction

Compare Azure RBAC Roles to Azure AD Roles

Create a Role Definition

Create a Role Assignment

Apply RBAC Authentication

Demonstration – Azure RBAC

Summary and Resources

Compare Azure RBAC Roles to Azure AD Roles

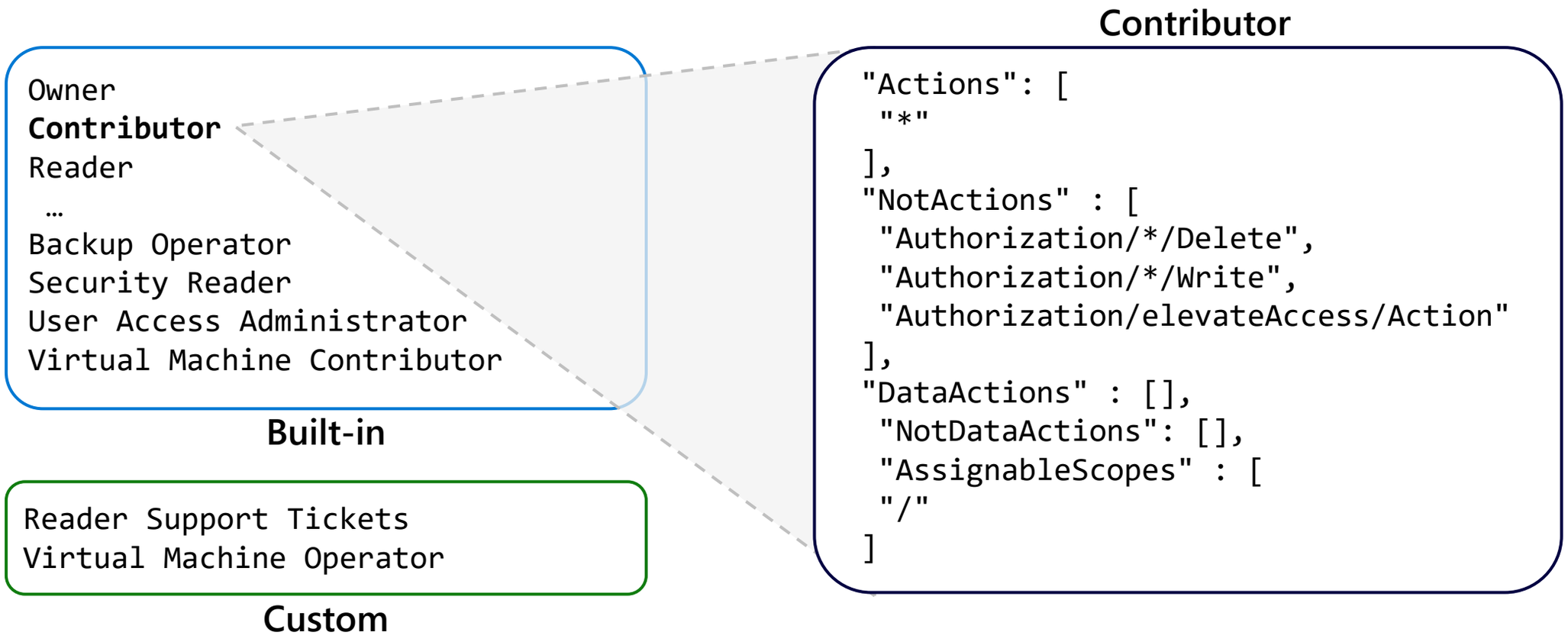
RBAC roles provide fine-grained access management

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

There are many built-in roles, or you can create your own custom role

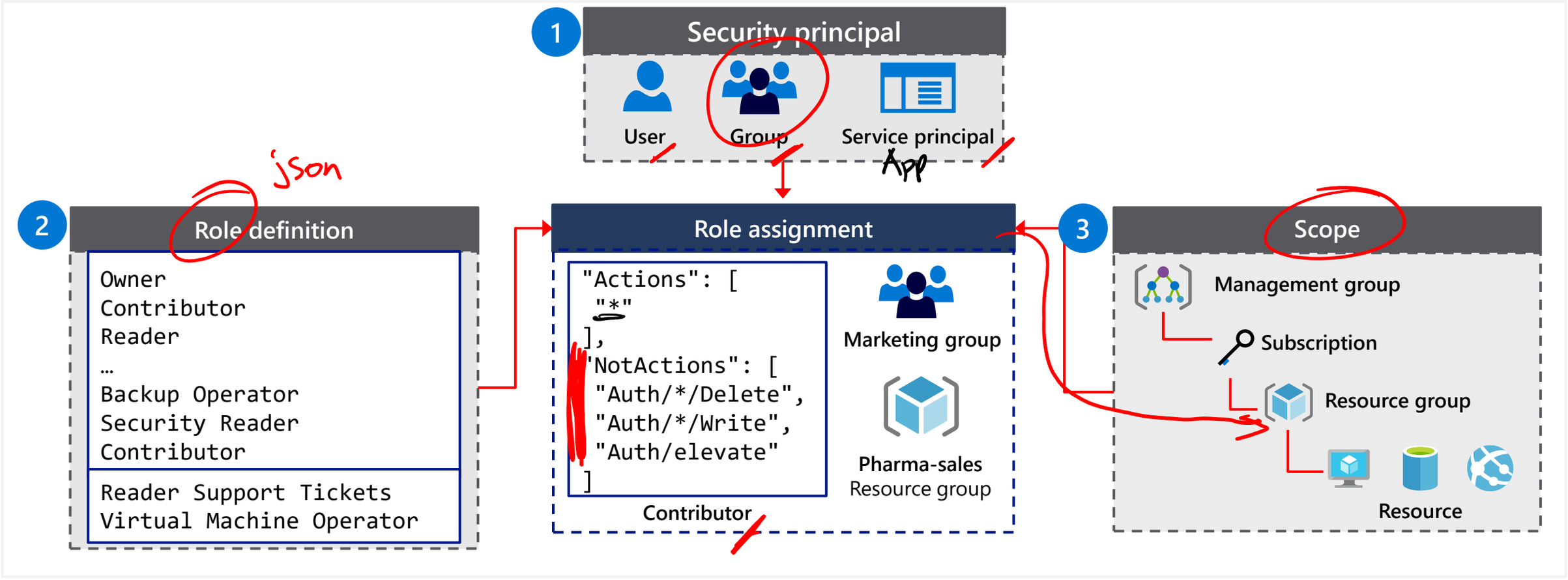
Create a Role Definition

Collection of permissions that lists the operations that can be performed

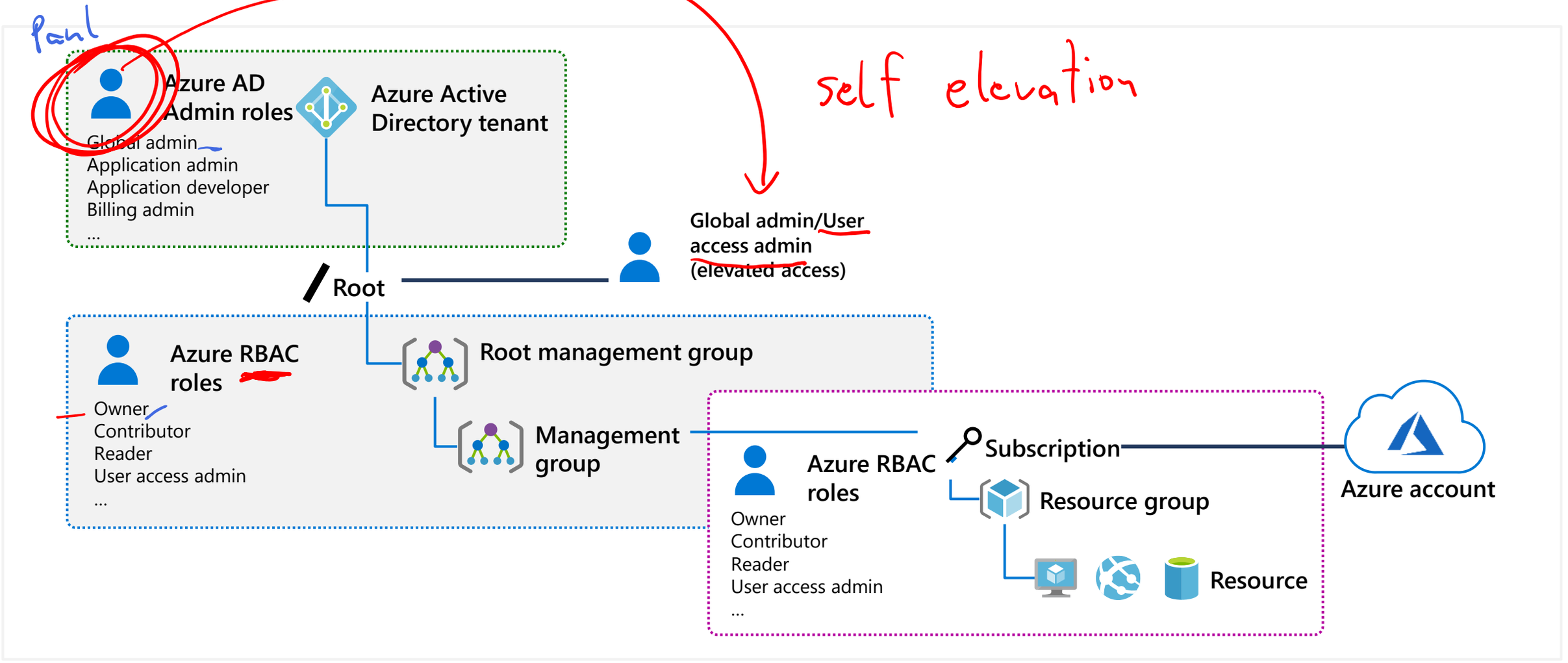


Create a Role Assignment

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



Apply RBAC Authentication



Demonstration – Azure RBAC

Locate the Access Control blade

Review role permissions

Add a role assignment

Explore PowerShell commands

Summary and Resources – Configure RBAC

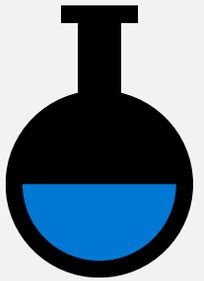
Knowledge Check

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

- Create custom roles for Azure resources with Azure role-based access control
- Manage access to an Azure subscription by using Azure role-based access control
- Secure your Azure resources with Azure role-based access control (Sandbox)

A *sandbox* indicates a hands-on exercise.

Lab 02a - Manage Subscriptions and RBAC
Lab 02b - Manage Governance via Azure Policy
Lab 03a – Manage Azure resources with the Azure portal



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

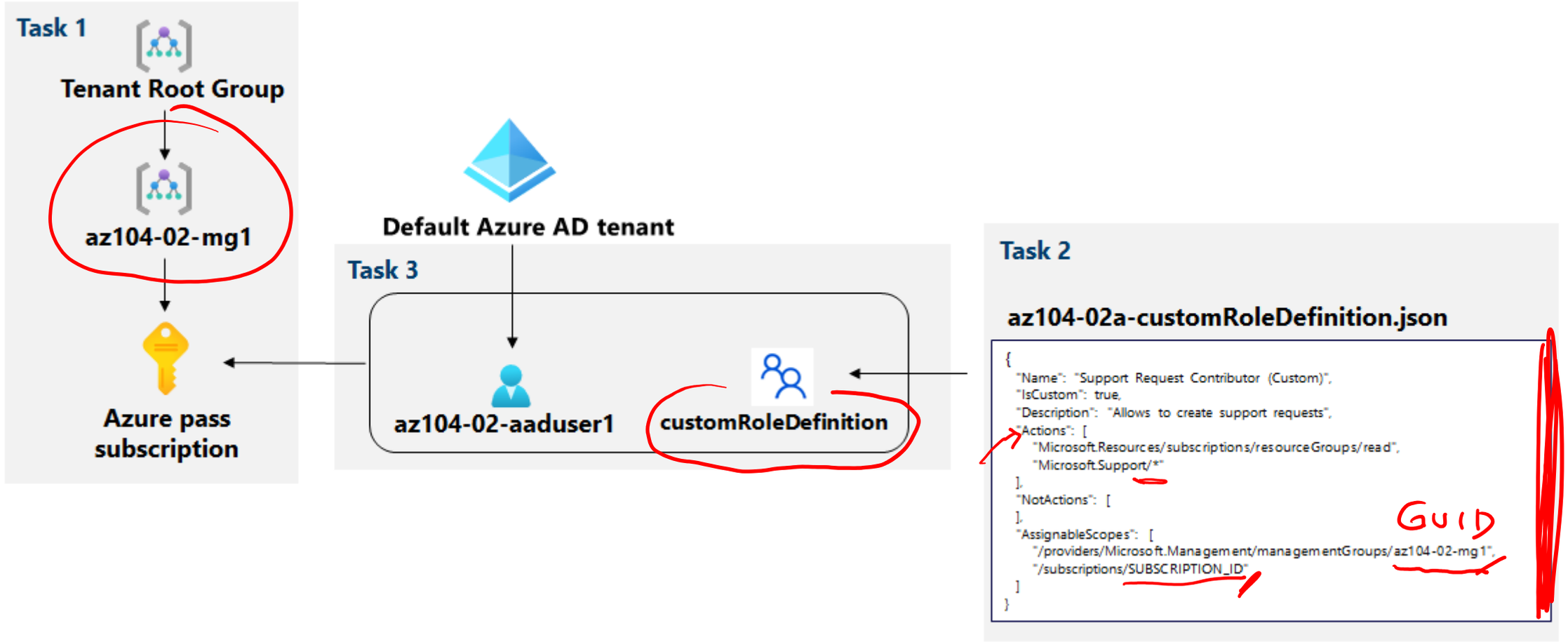
Task 1:
Implement Management Groups

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

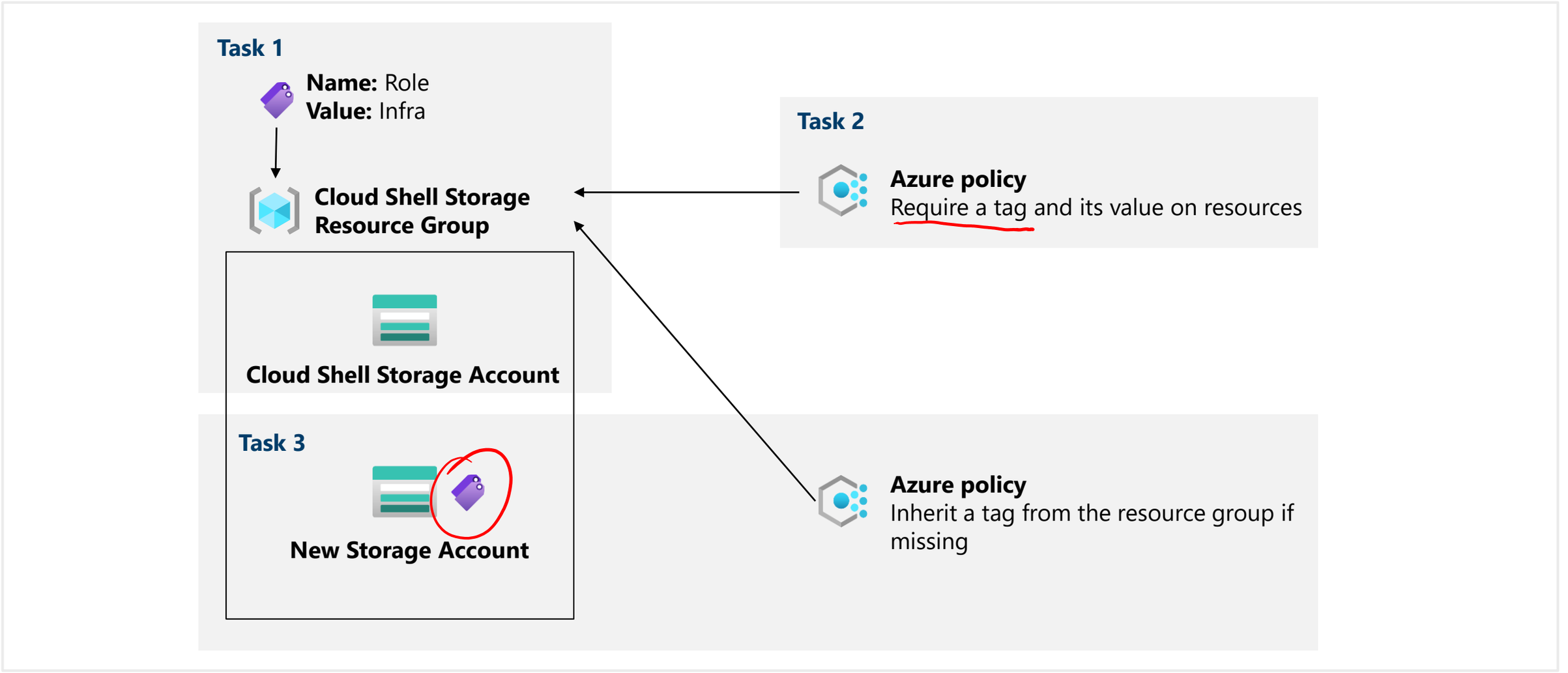
Task 1:
Create and assign tags via the Azure portal

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



Lab 03a – Manage Azure resources with the Azure portal

Lab scenario

You need to explore the basic Azure administration capabilities associated with provisioning resources and organizing them based on resource groups, including moving resources between resource groups. You also want to explore options for protecting disk resources from being accidentally deleted, while still allowing for modifying their performance characteristics and size

Objectives

Task 1:

Create resource groups and deploy resources to resource groups

Task 2:

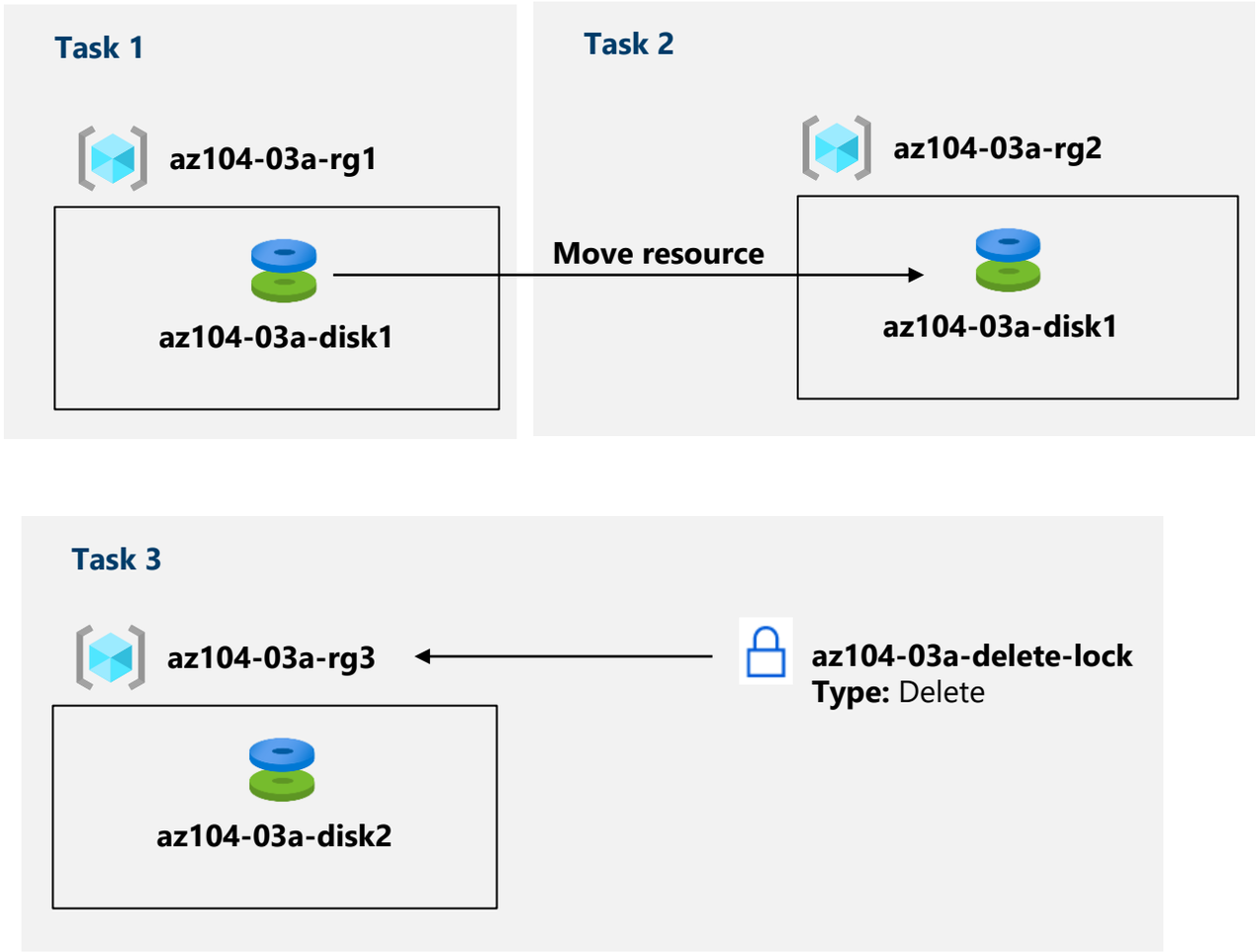
Move resources between resource groups

Task 3:

Implement and test resource locks

Next slide for an architecture diagram

Lab 03a – Architecture diagram



End of presentation