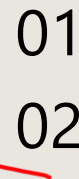


AZ-104 Course Outline

- 
- 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

RBAC, Policies



AZ-104

Administer Governance and Compliance

Learning Objectives

- Configure Subscriptions
- Configure Azure Policy
- Configure Role-Based Access Control
- Lab 02a - Manage Subscriptions and RBAC
- Lab 02b - Manage Governance via Azure Policy

Lab 01

Describe the core architectural components of Azure



Learning Objectives – Subscriptions and Azure RM

- 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
- Learning Recap

Manage Azure identities and governance (20–25%): Manage subscriptions and governance

- Configure resource locks
- Apply and manage tags on resources
- Manage resource groups
- Manage subscriptions
- Manage costs by using alerts, budgets, and Azure Advisor recommendations
- Configure management groups

Identify Regions

A region represents a collection of datacenters

Provides flexibility and scale

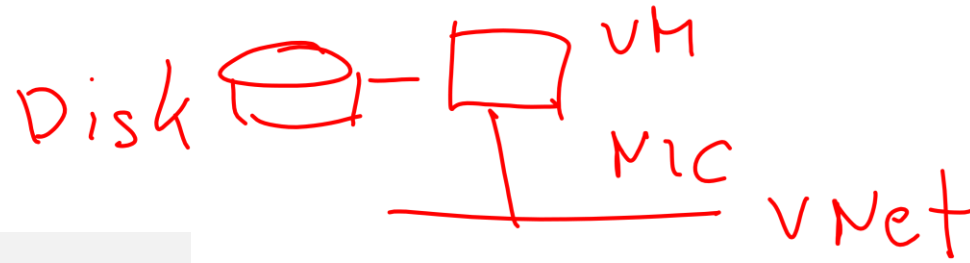
Preserves data residency

Select regions close to your users

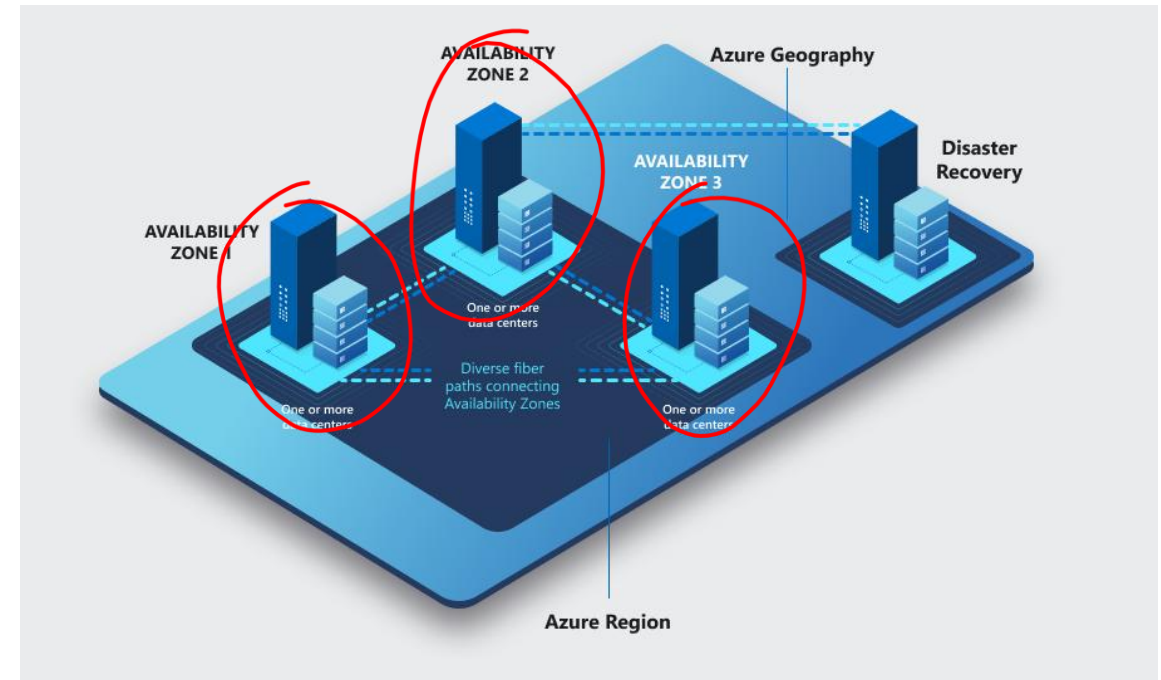
Be aware of region deployment availability

There are global services that are region independent

Most regions are paired for high availability



Regional



Global

Handwritten notes:

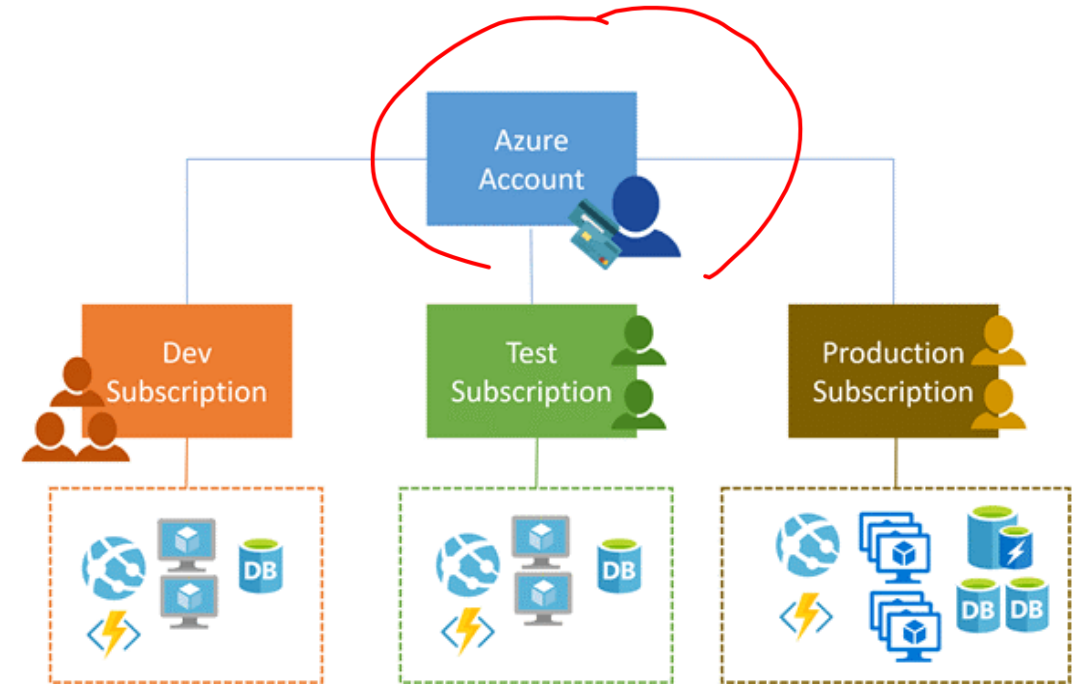
- DIS Zone
- Front Door

Implement Azure Subscriptions

Only identities in Entra ID, or in a directory that is trusted by Entra ID, 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 <u>30 days</u> , free limited access for 12 months
Pay-As-You-Go	Charges you monthly CC
CSP	Agreement with possible discounts through a Microsoft Cloud Solutions Provider Partner – typically for small to medium businesses
Enterprise EA	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



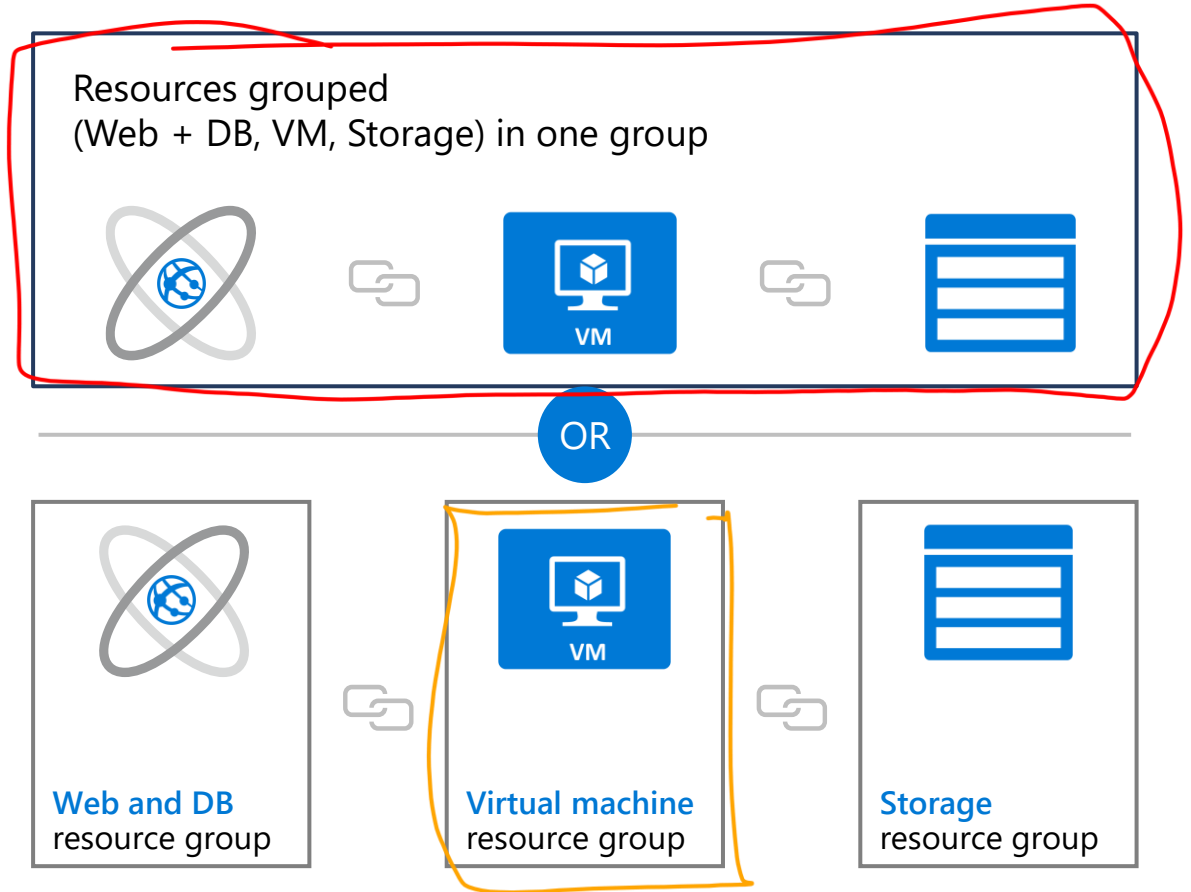
Create Resource Groups

Resources can only exist in one resource group

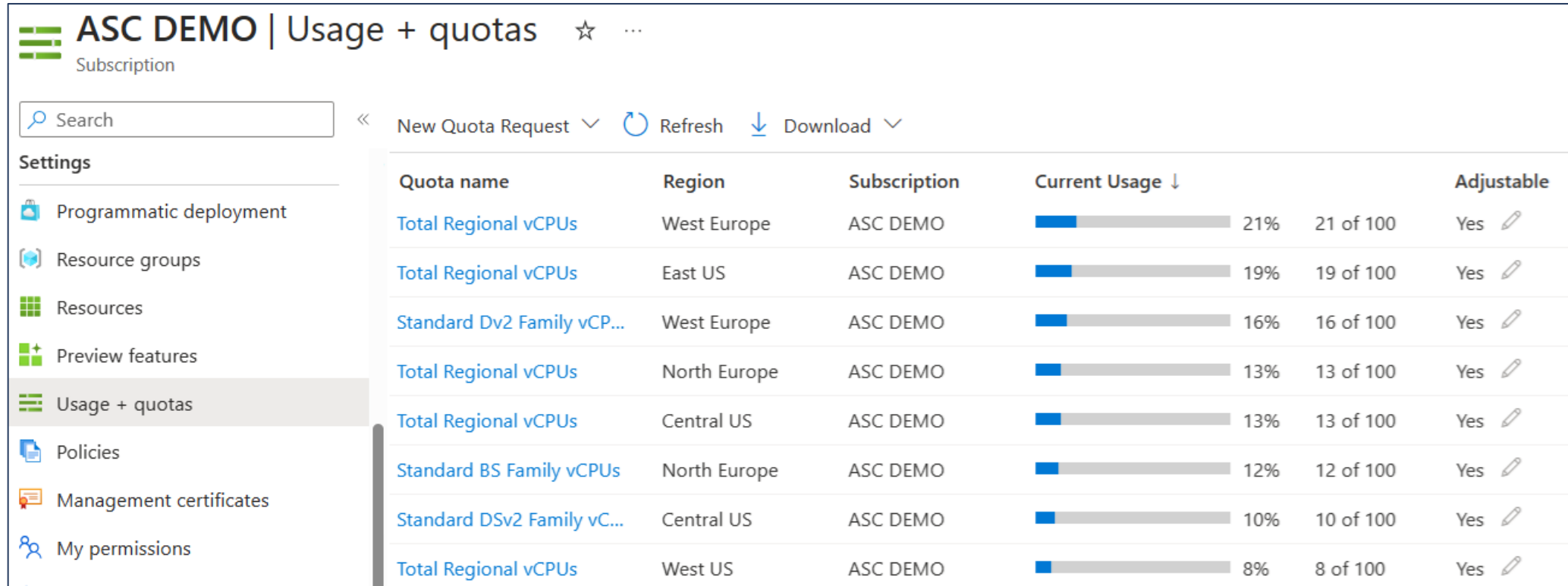
Groups can have resources of many different types (services) and from many different regions

Groups cannot be renamed or nested

You can move resources between groups



Determine Service Limits and Quotas



ASC DEMO Usage + quotas ☆ ...					
Subscription					
Search << New Quota Request Refresh Download >>					
Settings					
Programmatic deployment					
Resource groups					
Resources					
Preview features					
Usage + quotas					
Policies					
Management certificates					
My permissions					
Quota name	Region	Subscription	Current Usage ↓		Adjustable
Total Regional vCPUs	West Europe	ASC DEMO	<div><div></div></div> 21%	21 of 100	Yes
Total Regional vCPUs	East US	ASC DEMO	<div><div></div></div> 19%	19 of 100	Yes
Standard Dv2 Family vCP...	West Europe	ASC DEMO	<div><div></div></div> 16%	16 of 100	Yes
Total Regional vCPUs	North Europe	ASC DEMO	<div><div></div></div> 13%	13 of 100	Yes
Total Regional vCPUs	Central US	ASC DEMO	<div><div></div></div> 13%	13 of 100	Yes
Standard BS Family vCPUs	North Europe	ASC DEMO	<div><div></div></div> 12%	12 of 100	Yes
Standard DSv2 Family vC...	Central US	ASC DEMO	<div><div></div></div> 10%	10 of 100	Yes
Total Regional vCPUs	West US	ASC DEMO	<div><div></div></div> 8%	8 of 100	Yes

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

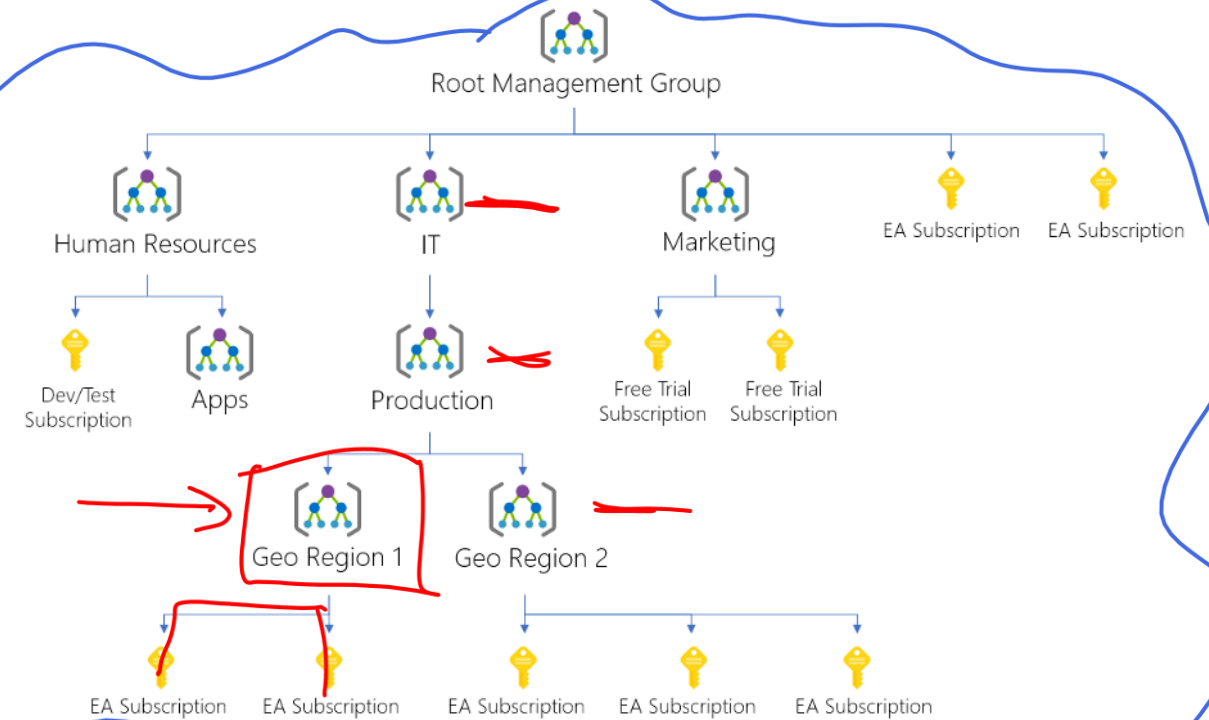
Create an Azure Resource Hierarchy

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



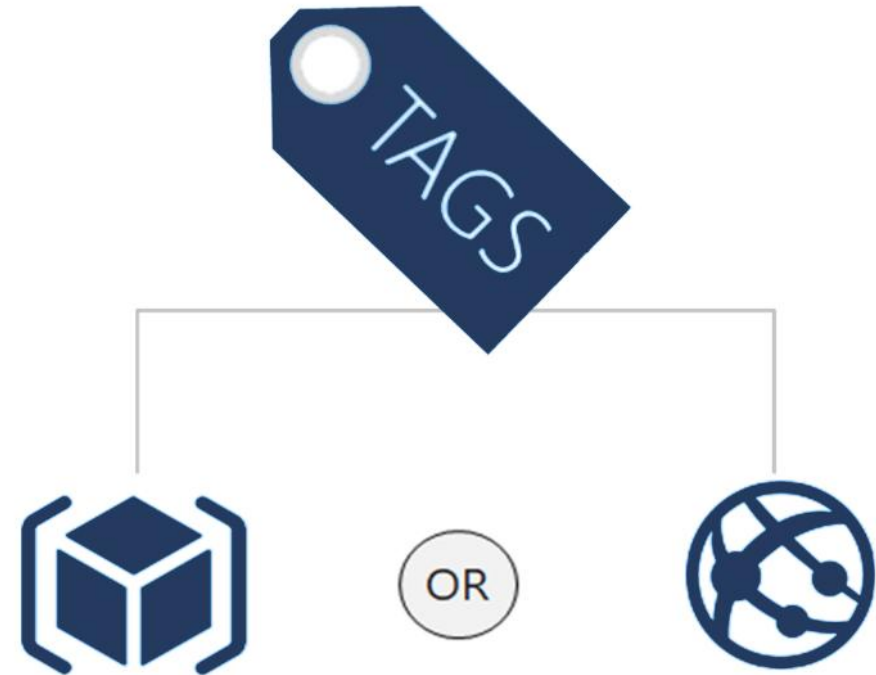
Apply Resource Tagging

Provides metadata for your Azure resources

Logically organizes resources

Consists of a name-value pair

Very useful for rolling up billing information

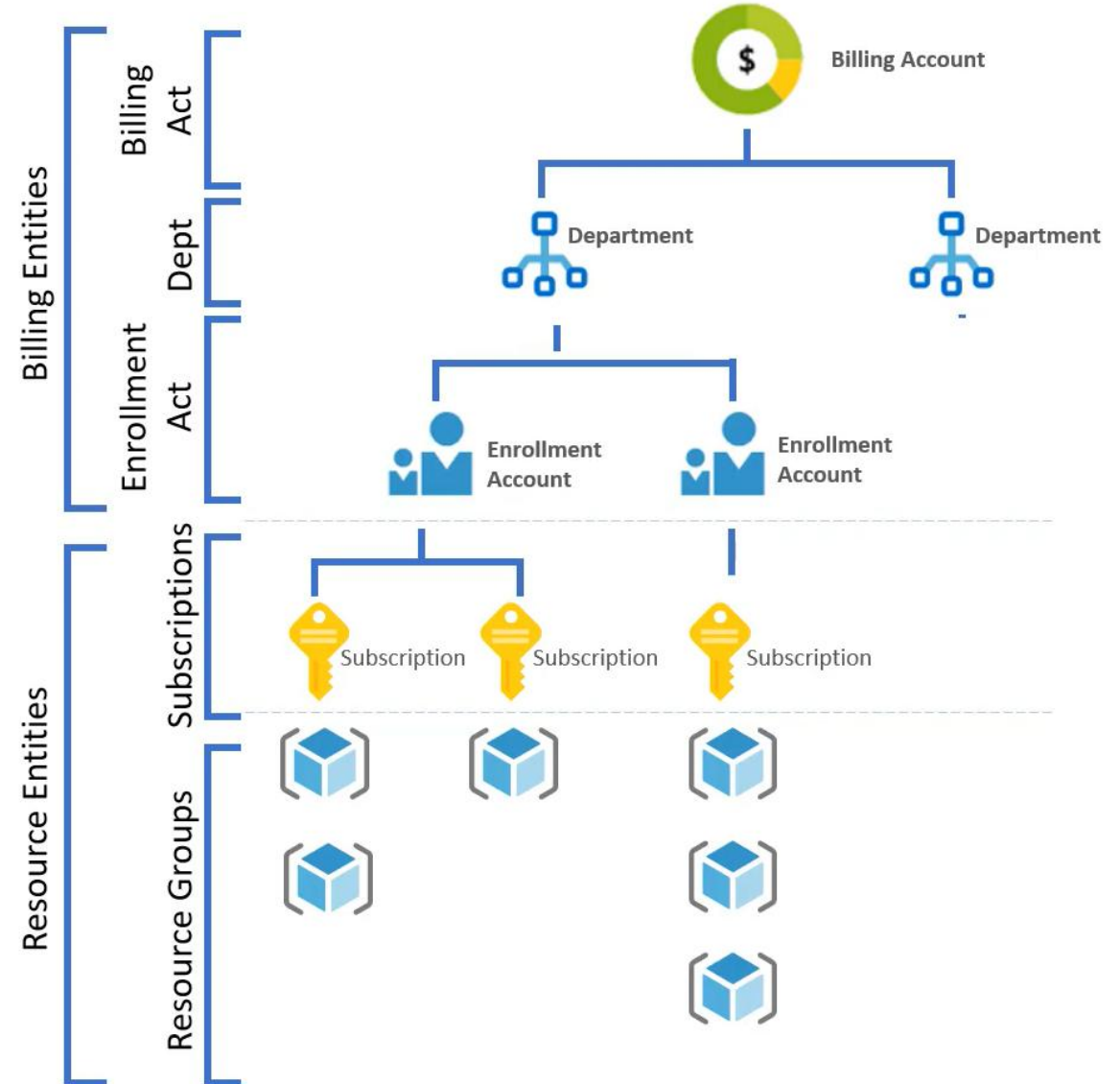


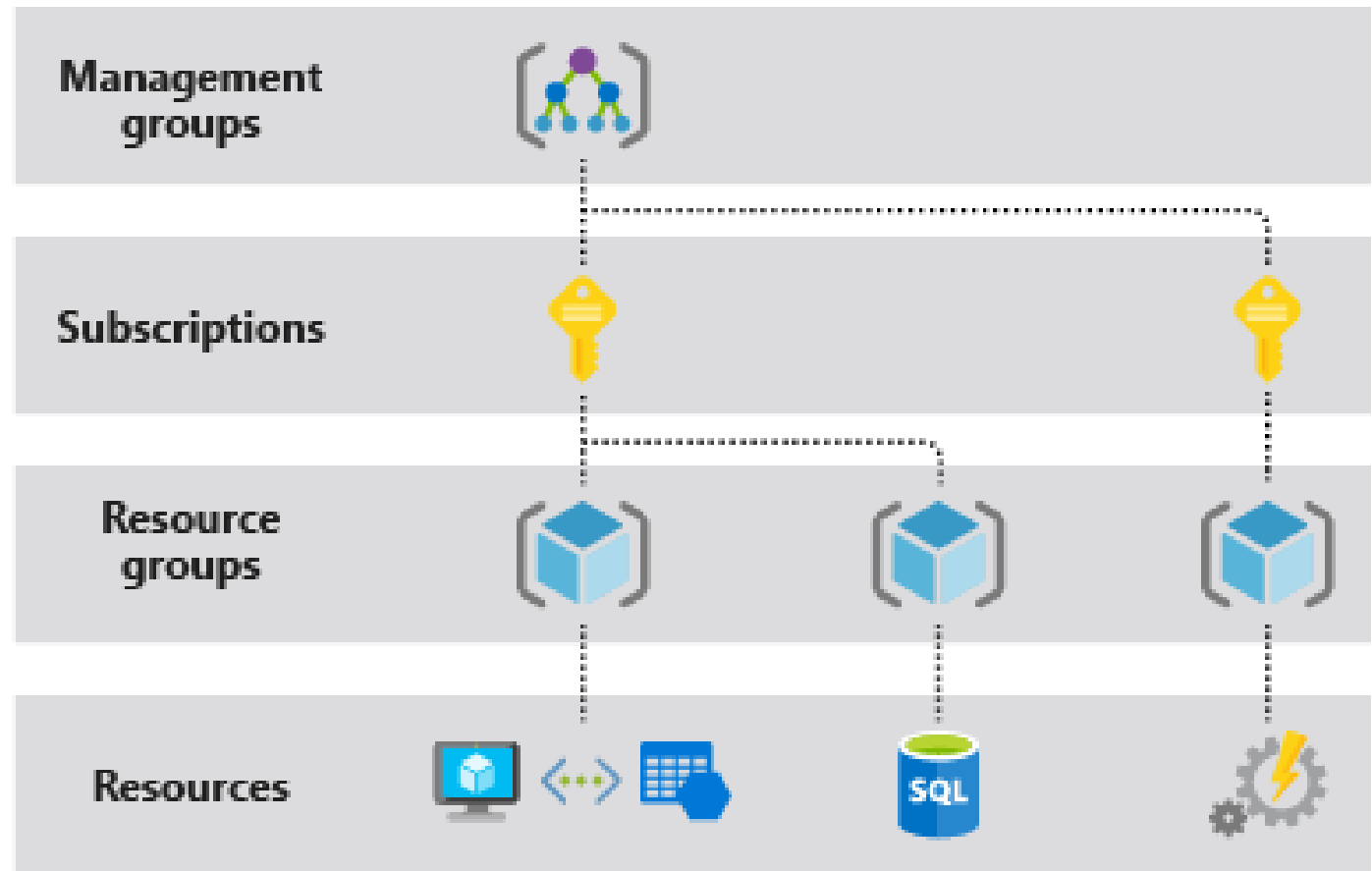
Owner: Joe
Department: marketing
Environment: production

Cost-center: Marketing

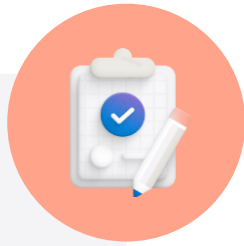
Manage Costs

- 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





Learning Recap - Configure Subscriptions



**Check your
knowledge
questions and
additional
study**

- Introduction to analyzing costs and creating budgets with Azure Cost Management
- Control and organize Azure resources with Azure Resource Manager
- Use Azure Resource manager

Configure Azure Policy



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

Lab 2b

Usage Cases

Allowed resource types – Specify the resource types that your organization can deploy

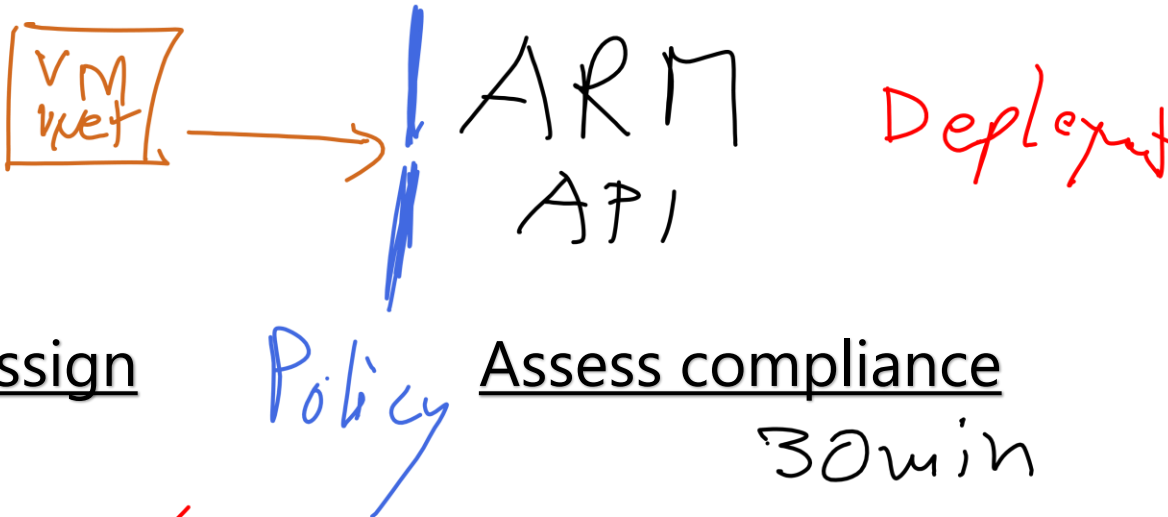
Allowed virtual machine SKUs – Specify a set of virtual machine SKUs that your organization can deploy

Allowed locations – Restrict the locations your organization can specify when deploying resources

Require tag and its value – Enforces a required tag and its value

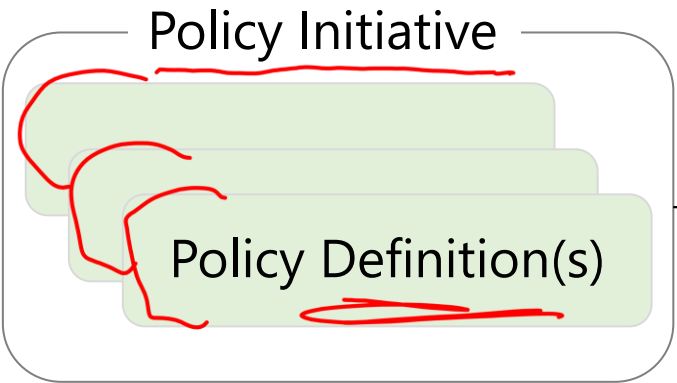
Azure Backup should be enabled for Virtual Machines – Audit if Azure Backup service is enabled for all Virtual machines

Create Azure Policies

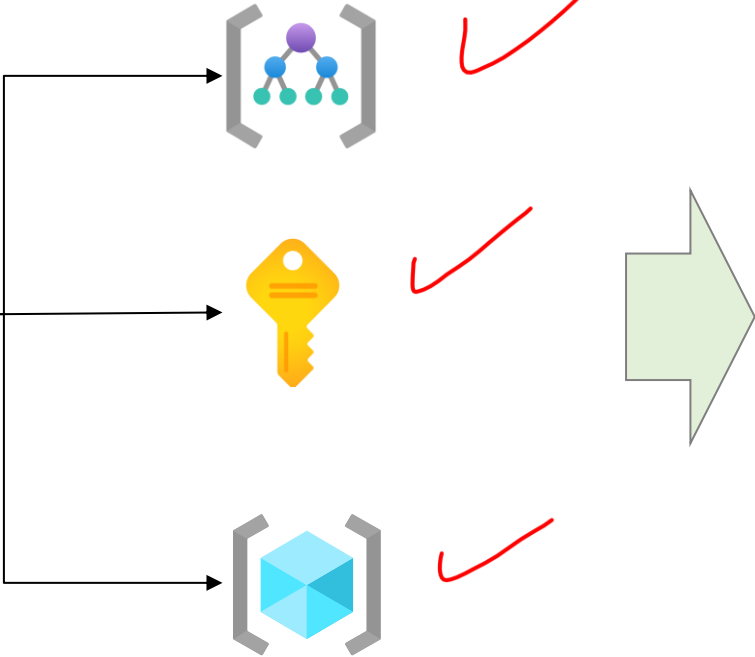


Define and create

Scope and assign



json

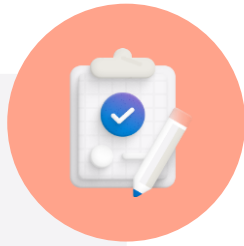


Policy Effect

Deny

Audit

Learning Recap – Configure Azure Policy



Check your
knowledge
questions and
additional
study

- Introduction to Azure Policy

Configure Role-Based Access Control (RBAC)



Compare Azure RBAC Roles to Entra ID Roles

RBAC roles provide fine-grained access management

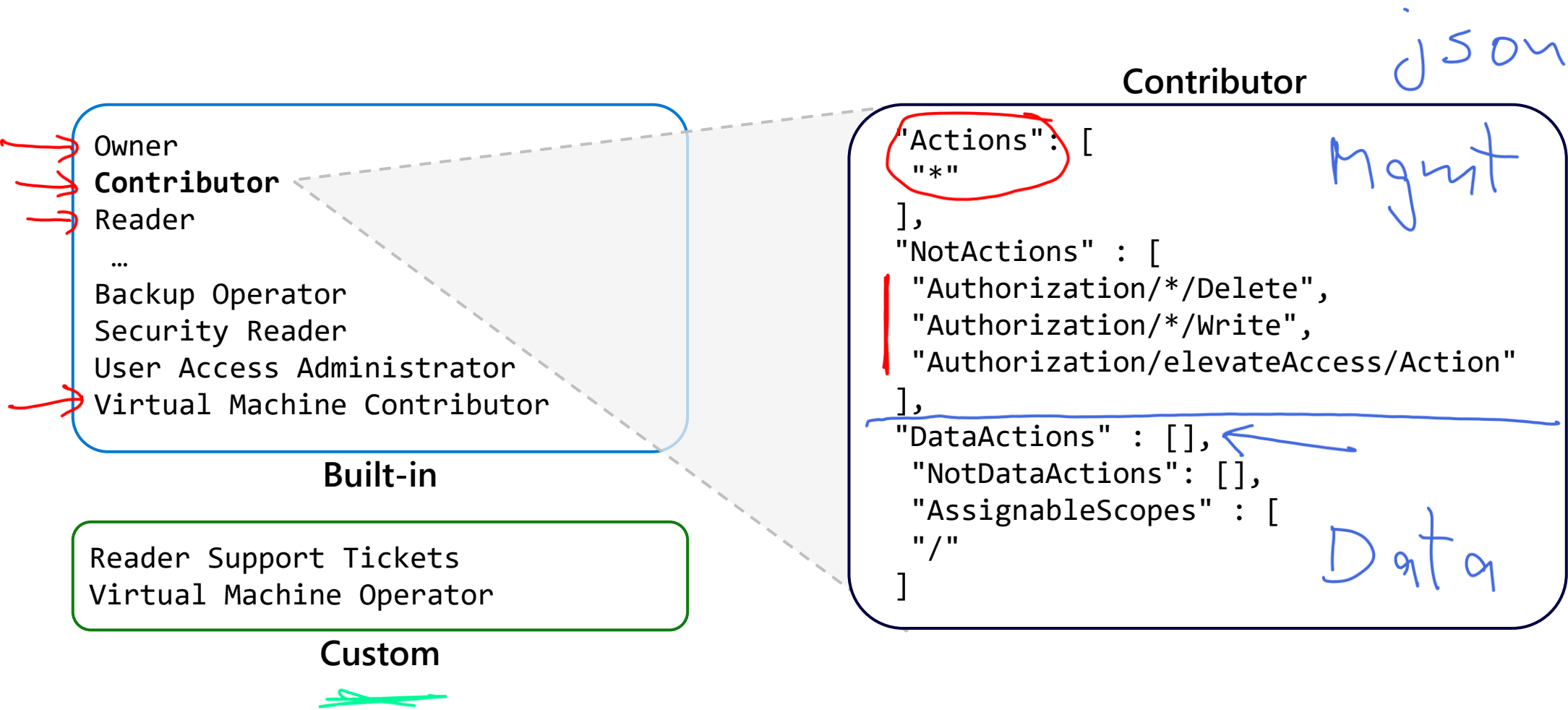
Owner Azure RBAC roles	Global Admin Entra ID roles
Manage access to Azure resources	Manage access to Entra ID objects
Scope can be specified at multiple levels	Scope is at the tenant level
Role information can be accessed in the Azure portal, Azure CLI, Azure PowerShell, Azure Resource Manager templates, 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

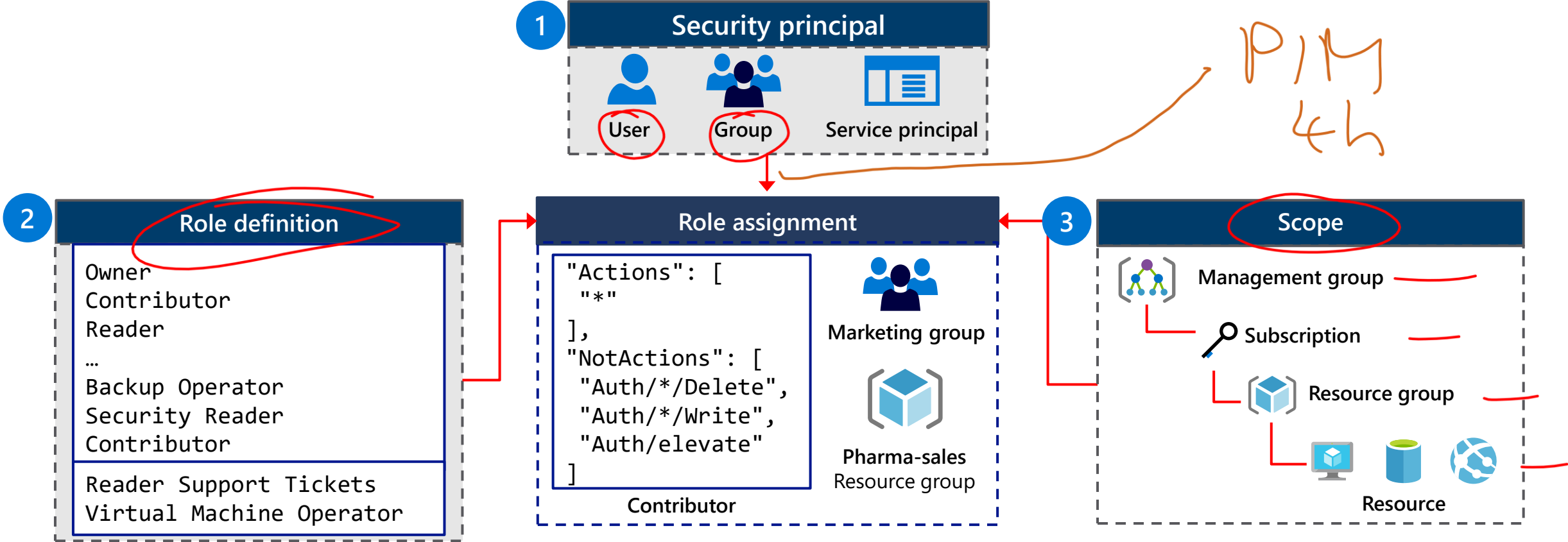
Create a Role Definition

Collection of permissions that lists the operations that can be performed

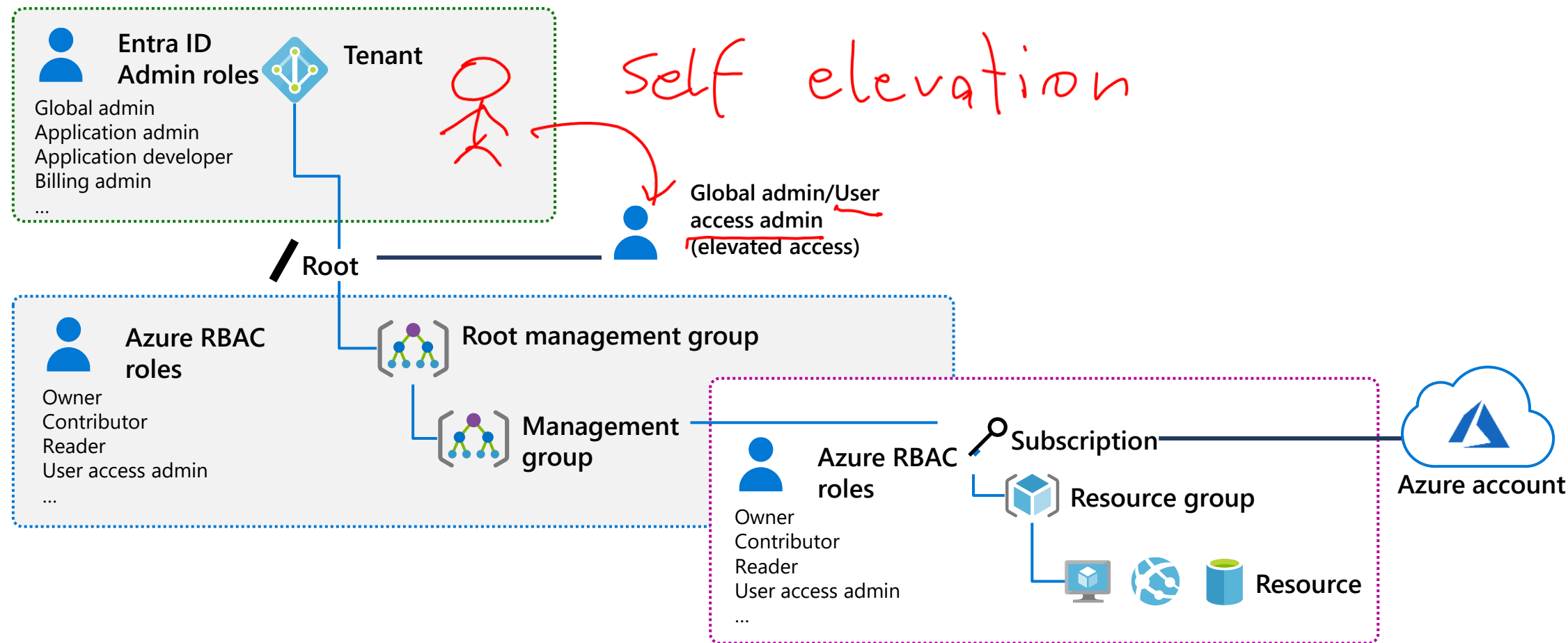


Create a Role Assignment

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



Learning Recap– Configure RBAC



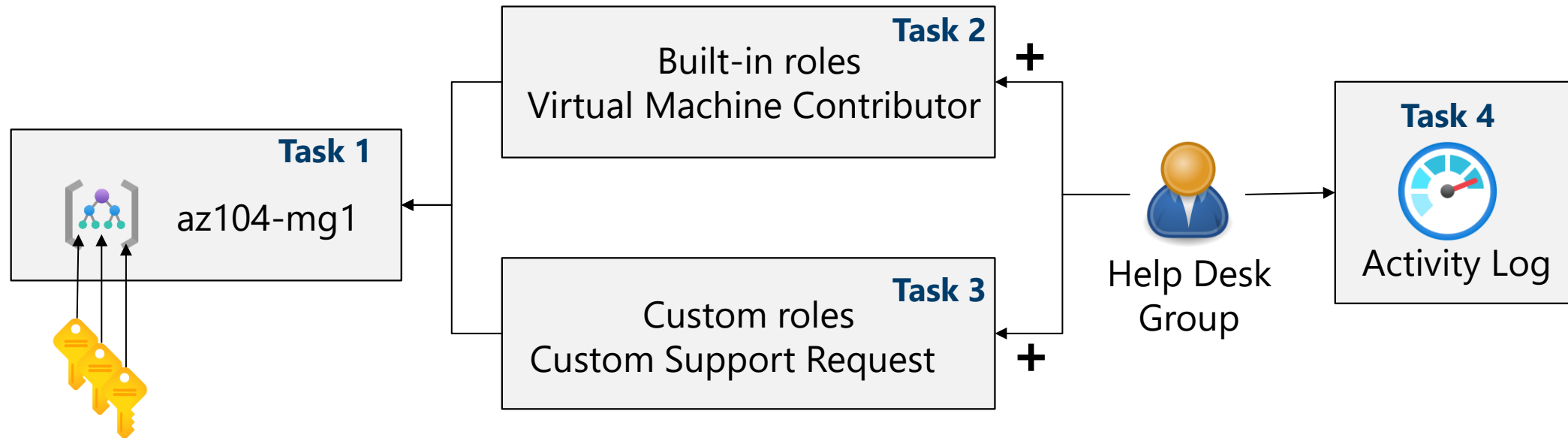
**Check your
knowledge
questions and
additional
study**

- 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

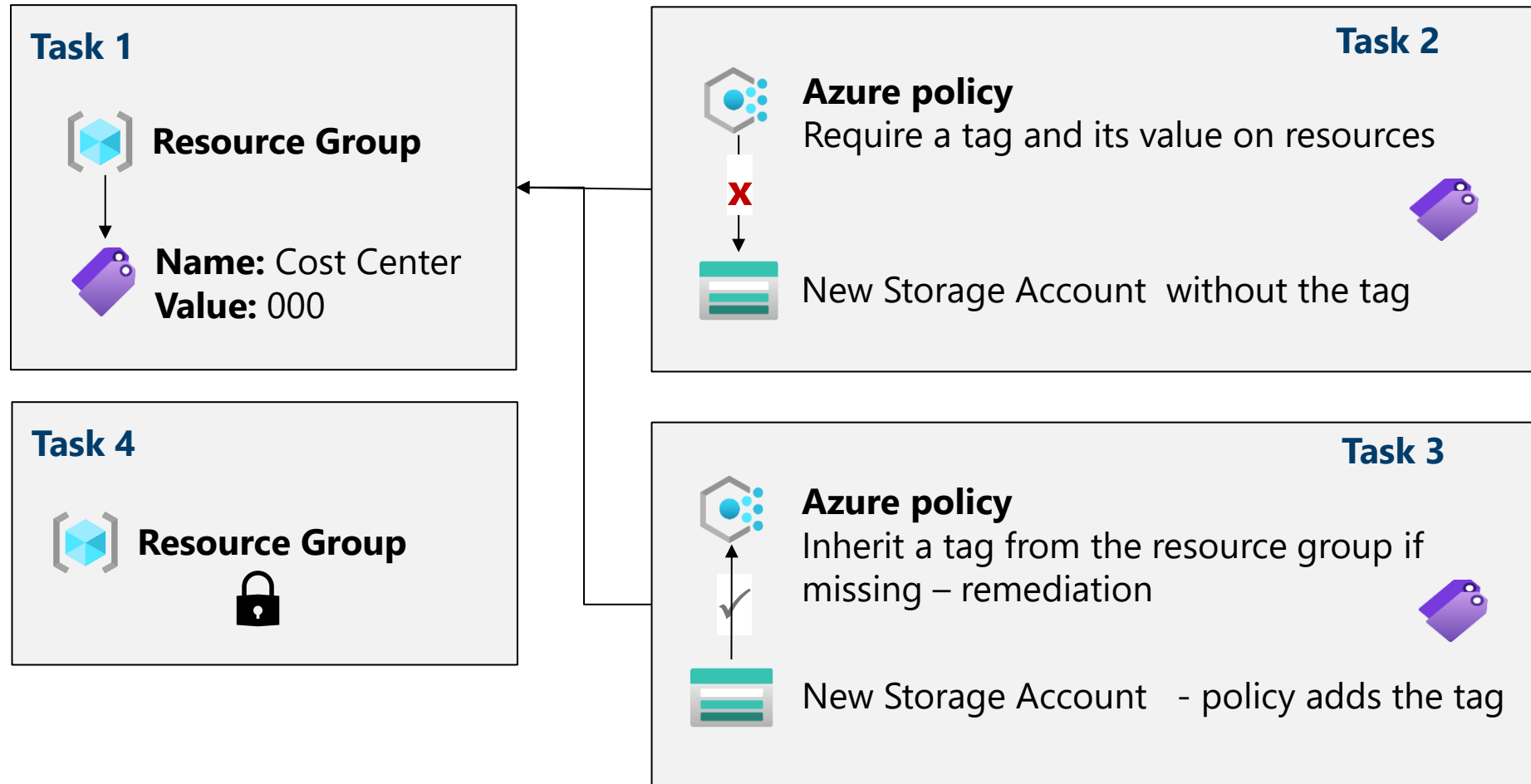
Lab 02a - Manage Subscriptions and RBAC
Lab 02b - Manage Governance via Azure Policy



Lab 02a – Architecture diagram



Lab 02b – Architecture diagram



End of presentation

