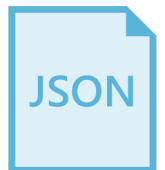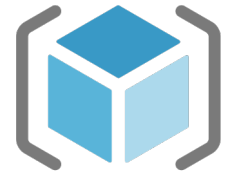# Azure Resource Manager Overview

- Azure Resource Manager is the deployment and management service for Azure; it's a management layer that enables you to create, update and delete resources

Authenticate & Authorize

Azure Resources

Azure Resource Manager

Azure Portal

Azure Powershell

Azure CLI

APIs or SDKs
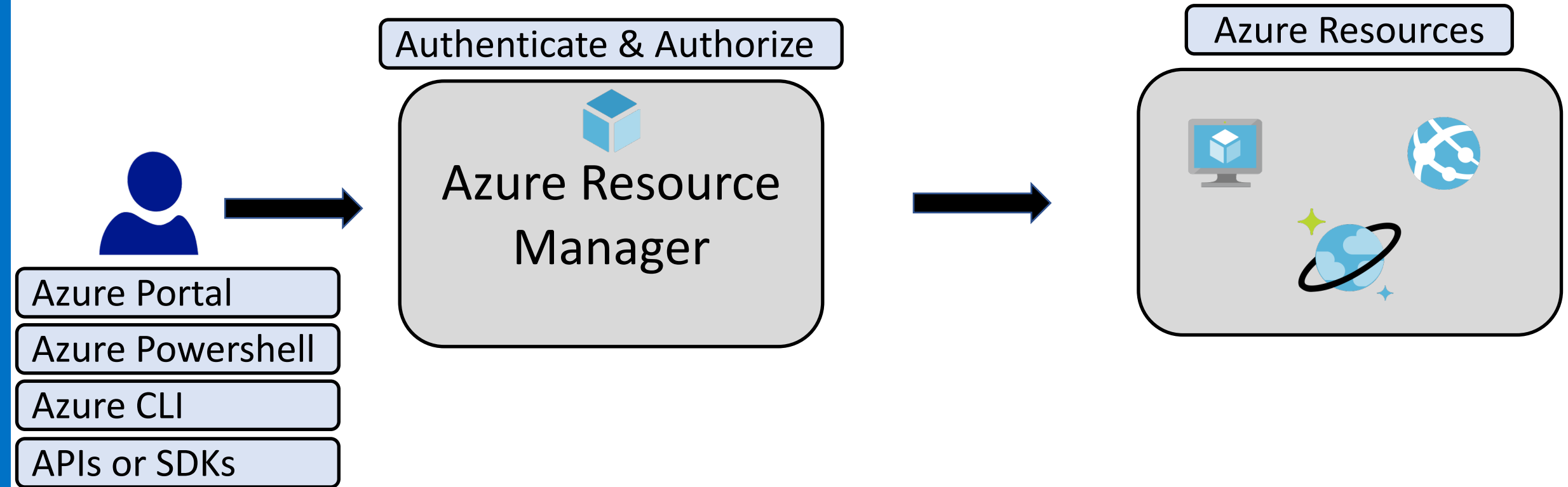
Azure Resource Manager Key Terminology

- ❑ Resource – service available in Azure Cloud
  - ❑ e.g. VMs, databases, storage accounts, etc.

- ❑ Resource groups – container that encompasses multiple related resources

- ❑ Resource provider – family of related Azure resources
  - ❑ e.g. Microsoft.Compute – VMs and VMSS

- ❑ Resource Manager Template – JSON file that defines resources to be deployed

JSON

Azure Resource Manager Benefits

- ❑ Manage your infrastructure through templates – JSON file includes the properties for the infrastructure to deploy

- ❑ Deploy resources in the correct order - dependencies between Azure resources

- ❑ Centrally deploy, manage and monitor all your resources

- ❑ Apply tags to resources to logically organize them

- ❑ Clear billing and costs at the organization level – tags

Management Levels in Azure

☐ Management settings can be applied at any of these levels
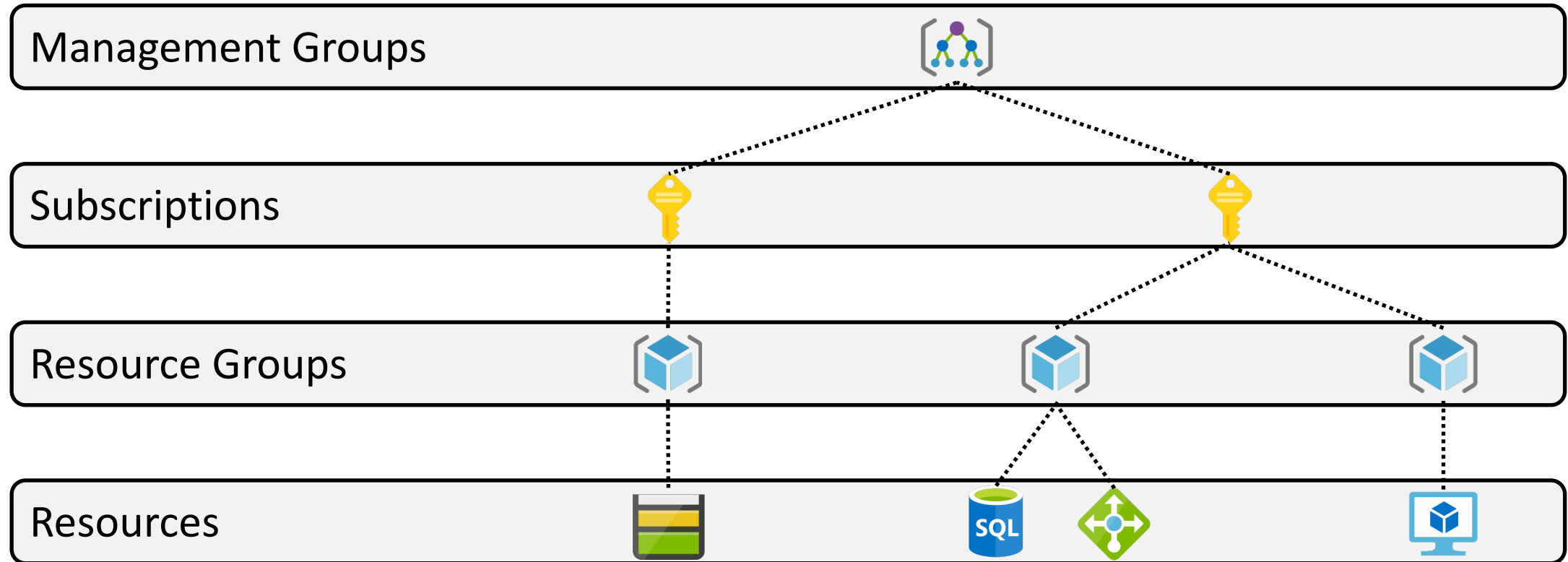
Azure Resource Manager Templates Overview

- ❑ Questions:
    - ❑ Is it possible to make mistakes while manually deploying resources in Azure? (Yes)
    - ❑ Is it time consuming to deploy resources in Azure? (Yes)
    - ❑ Do all your team members have the same knowledge to deploy resources and work in Azure? (No)

- ❑ <u>Solution:</u> Deployments can be automated through infrastructure as code; in the actual code you can define the infrastructure that will be deployed and how it will deployed (order of deployment, resources' properties, etc.)

Infrastructure as Code (IaC) Examples

- ❑ Automate infrastructure deployment through proprietary or 3rd party tools

- ❑ Azure -> Azure Resource Manager

- ❑ AWS -> AWS CloudFormation

- ❑ GCP -> Google Cloud Deployment Manager

- ❑ 3rd vendor agnostic:
  - ❑ Terraform, Chef, Ansible, Puppet

Azure Resource Manager Templates

- ❑ Declarative syntax
  - ❑ Deploy an entire infrastructure (vNET, VMs, storage, etc.)

- ❑ Deployment Orchestration
  - ❑ Orchestrate the deployment of interdependent resources, so that they are deployed in the correct order

- ❑ Template is first validated, then deployed

- ❑ Create any resource in Azure and also supports integration with CI/CD tools

Azure Template - Create a Storage Account

```json
"resources": [
 {
   "type": "Microsoft.Storage/storageAccounts",
   "apiVersion": "2016-01-01",
   "name": "mystorageaccount",
   "location": "westus",
   "sku": {
     "name": "Standard_LRS"
   },
   "kind": "Storage",
   "properties": {}
 }
]
```

Resource provider - Resource

Name

Azure Region

Type of Storage Account - LRS

Resource Type - Storage

Microsoft Azure Fundamentals

Microsoft Azure Fundamentals
Training Bootcamp

Thank you