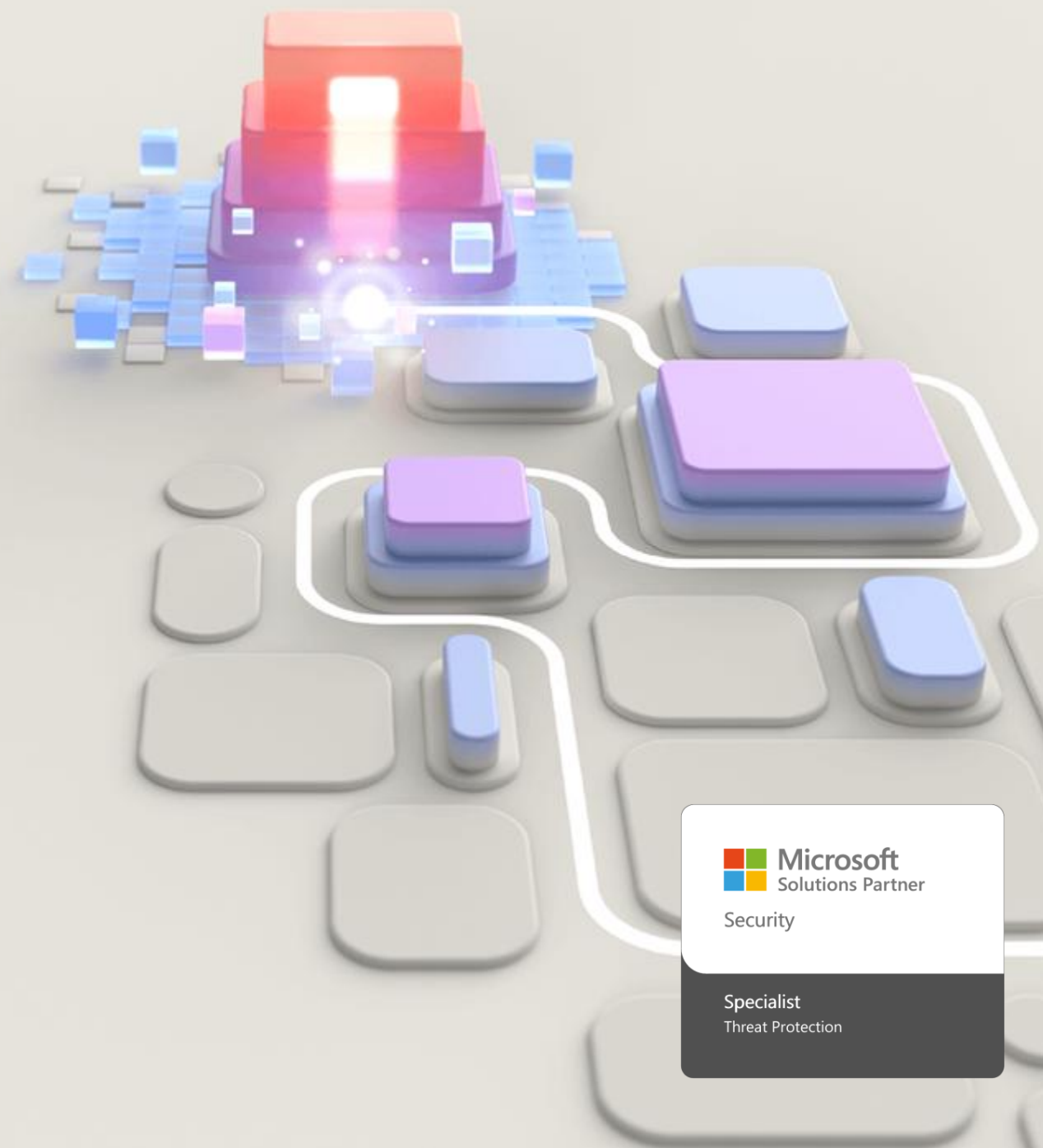




Swiss Post
Cybersecurity



Administer Azure Resources

 **Microsoft**
Solutions Partner

Security

Specialist
Threat Protection



Swiss Post
Cybersecurity

Questions?



Security

Specialist
Threat Protection

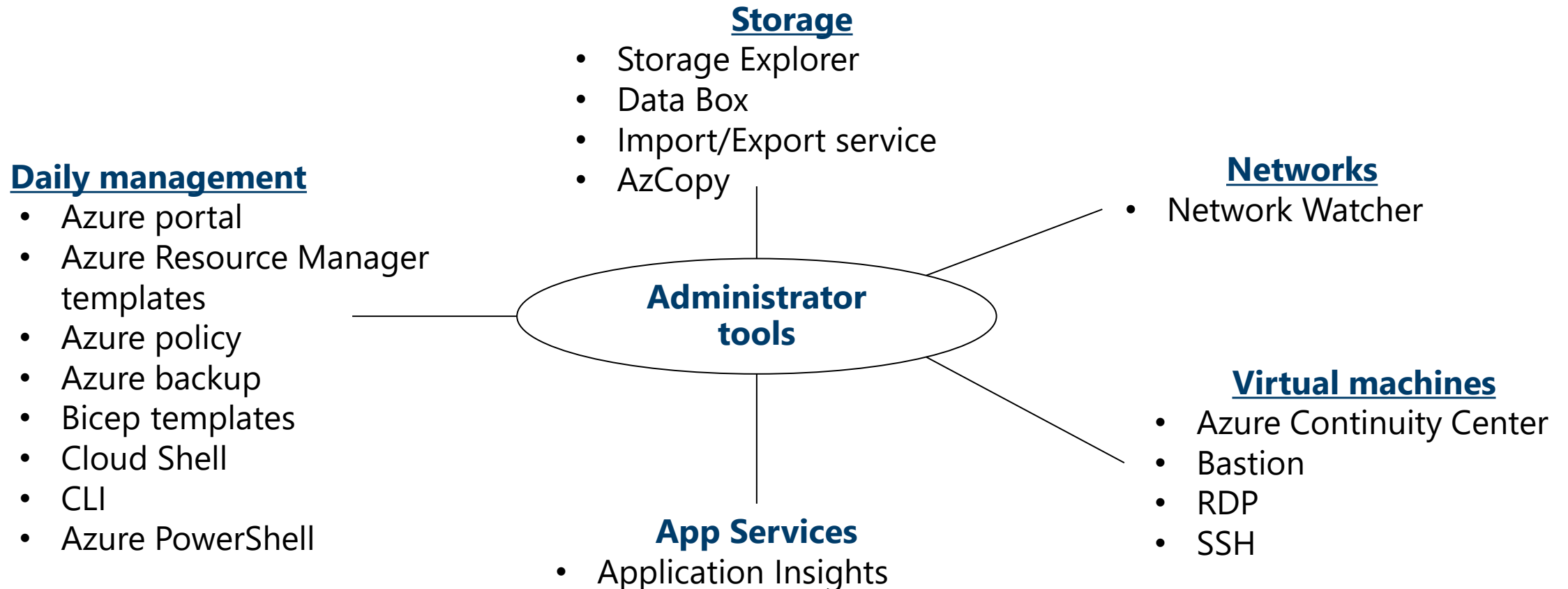


Learning Objectives - Azure Resources

- Configure Azure Resources with Tools
 - Manage services with the Azure portal
 - Introduction to PowerShell
 - Introduction to Bash
- Deploy Azure resources with templates
- Lab 03b - Manage Azure resources by Using ARM Templates

Administrator Resources whiteboard

What administrator tools do you use?



Configure Azure Resources with the Azure Portal, PowerShell, and the CLI



Learning Objectives – Configure Azure Resources with tools

- Compare Administration tools
- Demonstration – Azure Portal
- Demonstration – Azure Cloud Shell
- Learning Recap

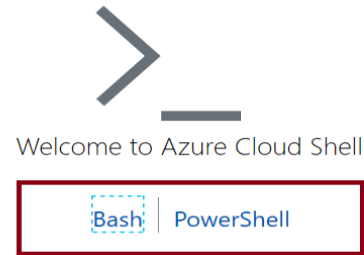
Compare Administrator tools

Azure Portal



- View and manage resources
- Visual interface
- Unified hub – training and documentation
- Personalize your experience
- Mobile app
- Access the Cloud Shell
- One-off creation scenarios

Azure Cloud Shell



- Interactive and browser-accessible with file storage
- Offers Bash or PowerShell
- Authenticates automatically
- Provided on a per-session and per-user basis
- Temporary - times out after 20 minutes

Azure PowerShell and CLI

```
az vm restart -g  
MyResourceGroup -n MyVm
```

- Command line programs
- Interactive and scripting modes
- Cross-platform
- Good for repeatable deployments
- Familiar coding experience

Demonstration – Azure Portal (optional)

- Customize your dashboard
- Search for and locate resources
- Support and help tickets



Demonstration – Cloud Shell (optional)



- Access the Cloud Shell
- Configure storage for the Cloud Shell
- Explore PowerShell or Bash
- Upload or download files to the storage
- Use the Cloud Editor (optional)

Learning Recap – Azure Resources with Tools



Check your
knowledge
questions and
additional
study

Reference modules

- [Manage services with the Azure portal](#)
- [Introduction to Azure Cloud Shell](#)
- [Introduction to PowerShell](#)
- [Introduction to Bash](#)

Deploy Azure resources with templates



Learning Objectives – Deploy Azure resources using templates

- Explore the JSON Template Schema
- Explore the JSON Template Parameters
- Consider Azure Bicep Files
- Demonstration – QuickStart Templates
- Learning Recap

Manage Azure identities and governance (20–25%): Automate deployment of resources by using templates

- Modify an ARM template
- Deploy a template
- Save a deployment as an ARM template

Review ARM Template Advantages

Improves consistency and promotes reuse

Reduce manual, error prone, and repetitive tasks

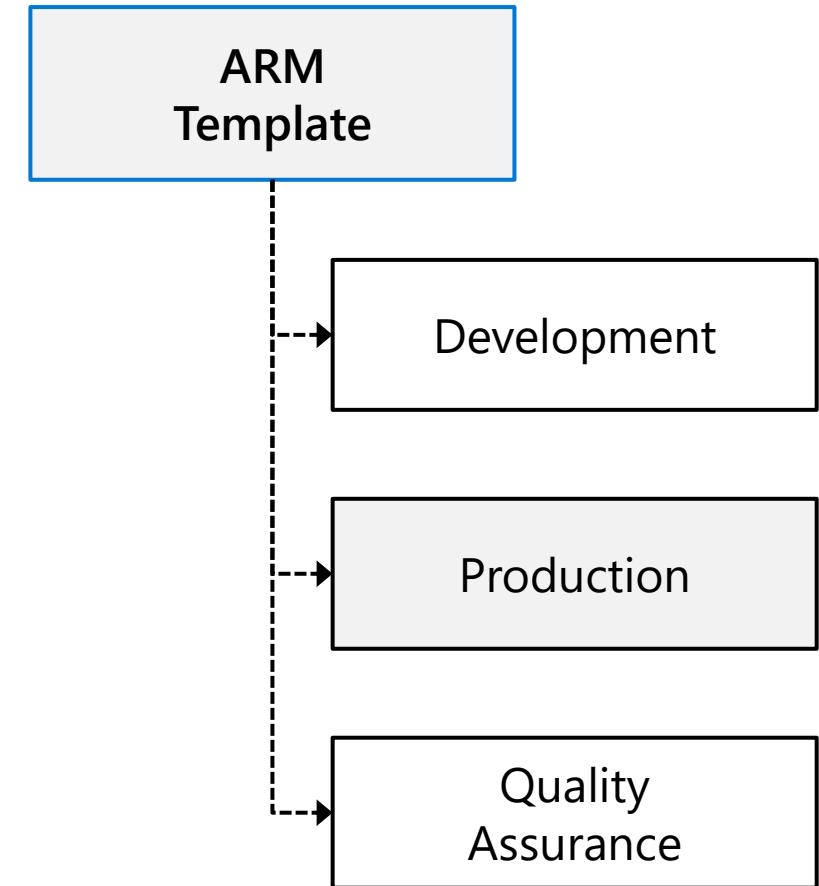
Express complex deployments

Express requirements through code

Provides validation tasks

Modular and can be linked

Simplifies orchestration



Explore the JSON Template Schema

Defines all the Resource manager resources in a deployment

Written in JSON

A collection of key-value pairs

Each key is a string

Each value can be a string, number, Boolean expression, list of values, object

```
{  
  "$schema":  
    "http://schema.management.  
    azure.com/schemas/2019-04-  
    01/deploymentTemplate.json#",  
  "contentVersion": "",  
  "parameters": {},  
  "variables": {},  
  "functions": [],  
  "resources": [],  
  "outputs": {}  
}
```

Explore the JSON Template Parameters

- Specifies which values are configurable when the template runs
- This example has two parameters: one for a VM's username (adminUsername), and one for its password (adminPassword)

```
"parameters": {  
  "adminUsername": {  
    "type": "string",  
    "metadata": {  
      "description": "Username for the VM."  
    }  
  },  
  "adminPassword": {  
    "type": "securestring",  
    "metadata": {  
      "description": "Password for the VM."  
    }  
  }  
}
```

Consider Azure Bicep Files

Simpler syntax for writing templates

Smaller module files you can reference from a main template

Automatically detect dependencies between your resources

Visual Studio Code extension with validation and IntelliSense


Bicep file

```
resource storageAccount
'Microsoft.Storage/storageAccounts@
2021-01-01' = {
  name: storageAccountName
  location: location
  tags: {
    displayName: storageAccountName
  }
  kind: 'StorageV2'
  sku: {
    name: 'Standard_LRS'
  }
}
```



Demonstration - Quickstart templates

- Locate the Azure Quickstart template gallery
- Deploy a JSON or Bicep template



Filter

Clear all

templates

Azure Resource Manager x

Products

☐ Azure
☒ Azure Resource Manager

Programming languages

☐ Bicep
☐ JSON

939 results for "templates"

Create TemplateSpecs from Template Gallery Templates

07/05/2022

This sample contains a script to easily migrate template gallery templates to templateSpec resources. The template provide will deploy all templates that ca...

Azure JSON

+ Add

Create a managed application that deploys linked templates

07/05/2022

This template creates a managed application that deploys linked templates.

Azure JSON

+ Add

Blank Template

07/05/2022

A blank template and empty parameters file.

Azure JSON

+ Add

Integration Service Environment Template

07/05/2022

Template that creates a virtual network, 4 subnets, and then an Integration Service Environment (ISE), including non-native connectors. Use as a base for templates...

Azure JSON

+ Add

Learning Recap – Deploy Azure resources with templates



Check your
knowledge
questions and
additional
study

Reference modules

- [Deploy Azure infrastructure by using JSON ARM templates](#)
- [Create Azure resources using Azure Resource Manager templates](#)
- [Introduction to infrastructure as code using Bicep](#)
- [Build your first Bicep template](#)

Lab - Manage Azure resources by Using ARM Templates



Lab 03 – Manage Azure resources with templates



In this lab, you learn how to define your resource infrastructure using Azure Resource Manager templates.

Templates ensure consistency and let you create multiple resources at one time.

You learn to deploy templates with the Azure portal, Azure PowerShell, or the CLI.

Job Skills

Task 1: Create an Azure Resource Manager template.

Task 2: Edit an Azure Resource Manager template and redeploy the template.

Task 3: Configure the Cloud Shell and deploy a template with Azure PowerShell.

Task 4: Deploy a template with the CLI.

Task 5: Deploy a managed disk by using Azure Bicep.

Next slide for an architecture diagram 

Lab 03 – Architecture diagram

