Microsoft

AZ-801

Configure Windows Server Hybrid Advanced Services

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Agenda AZ-801

1 Security – Windows Server
2 Security – Hybrid

3 Failover Cluster

4 Disaster Recovery – Windows Server
5 Disaster Recovery – Hybrid

6 Upgrade and Migrate – Windows Server
7 Migrate Windows Server to the Cloud ← Lift & Shift Rehosting

8 Monitoring – Windows Server
9 Monitoring – Hybrid

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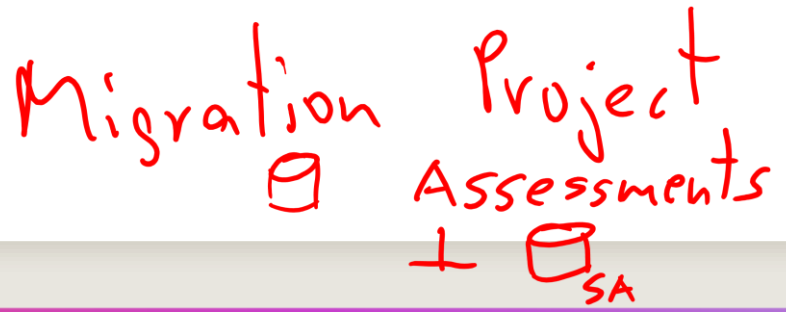
Migrate Servers and Workloads in on-premises and Hybrid Environments *(Implementing migration in hybrid scenarios)*

- Migrate on-premises Windows Server instances to Azure IaaS virtual machines
- Upgrade and migrate Windows Server IaaS virtual machines
- Containerize and migrate ASP.NET applications to Azure App Service
- Lab 07 – Migrating Hyper-V VMs to Azure by using Azure Migrate



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Migrate on-premises Windows Server Instances to Azure IaaS Virtual Machines

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Learning Objectives – Migrate on-premises Windows Server Instances to Azure IaaS Virtual Machines Introduction

- Plan your migration
- Describe Azure Migrate
- Perform server assessment
- Demonstration – Assess physical servers with Azure Migrate
- Migrate Windows Server workloads by using Azure Migrate
- Learning recap

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Plan Your Migration

Preplanning phases involve an assessment of:

- Business model
- Current processing and systems
- How the business process will appear in Azure after the migration

Choose a migration strategy

- Rehost – Enables you to migrate your existing apps to Azure quickly
- Refactor – Requires minimal changes to apps
- Rearchitect – Seeks to optimize the app architecture for cloud scalability
- Rebuild – Rebuilds an app from scratch using Azure cloud technologies

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Plan Your Migration

Migration tools

- Azure Migrate: Server Assessment
- Azure Migrate: Server Migration
- Azure Migrate: Database Assessment
- Azure Migrate: Database Migration
- Azure Migrate: Web App Assessment
- Azure Migrate: Data Box

It's important you understand which tool to use in a given scenario.

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Describe Azure Migrate

What is Azure Migrate?

Azure Migrate is a set of features located in a centralized hub that you can use to assess and migrate different workloads to Azure

- Azure Migrate components include:
  - Unified migration platform.
  - Assessment and migration tools
  - Assessment and migration of different workloads.

How can you use Azure Migrate?

There are six major scenarios where you can use Azure Migrate. These are:

- Windows Server workloads
- SQL Server workloads
- Linux workloads
- ASP.NET-PHP-Java apps
- SAP HANA
- Specialized compute

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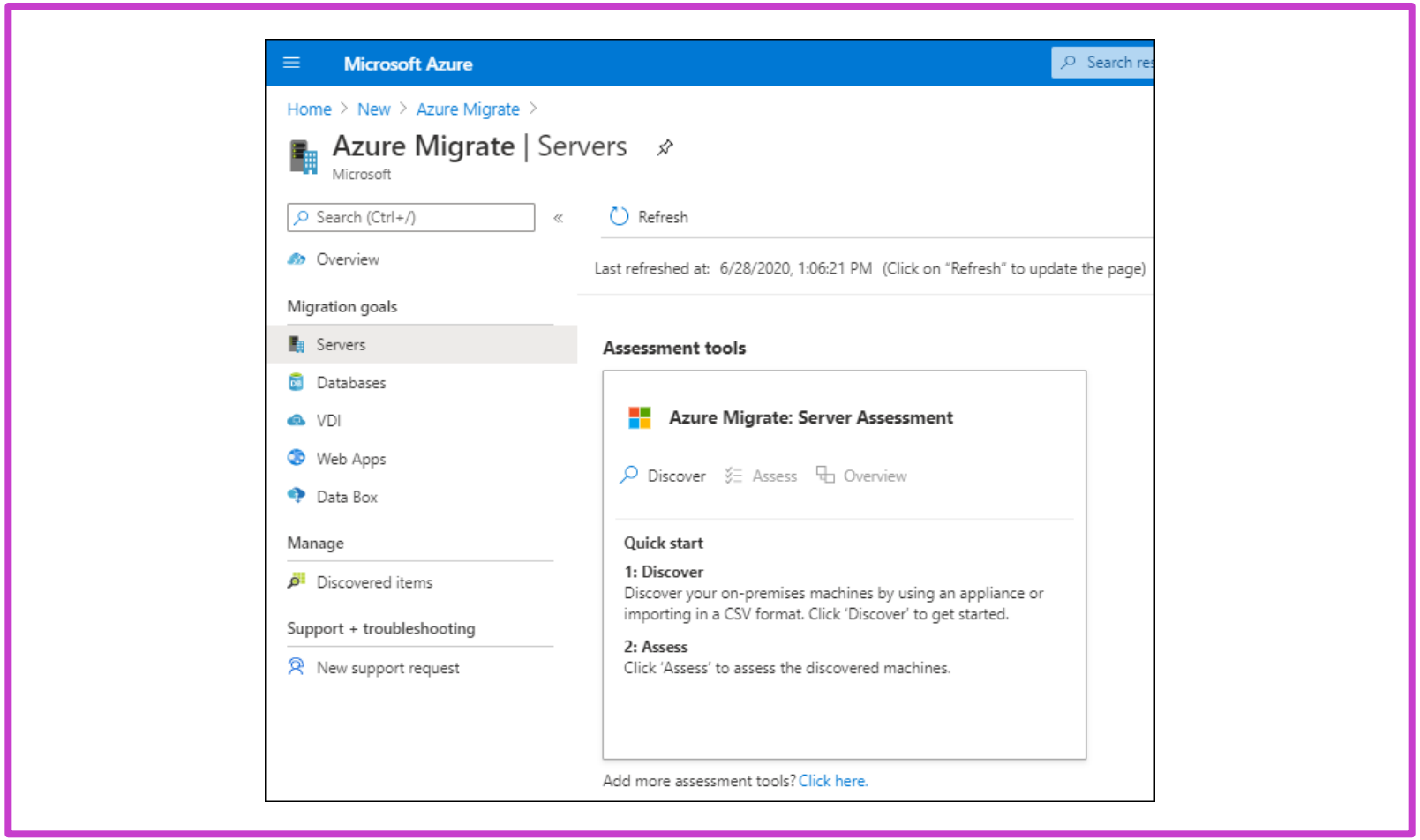
Perform Server Assessment

A server assessment consists of the following steps:

- Discover machines
- Create assessments



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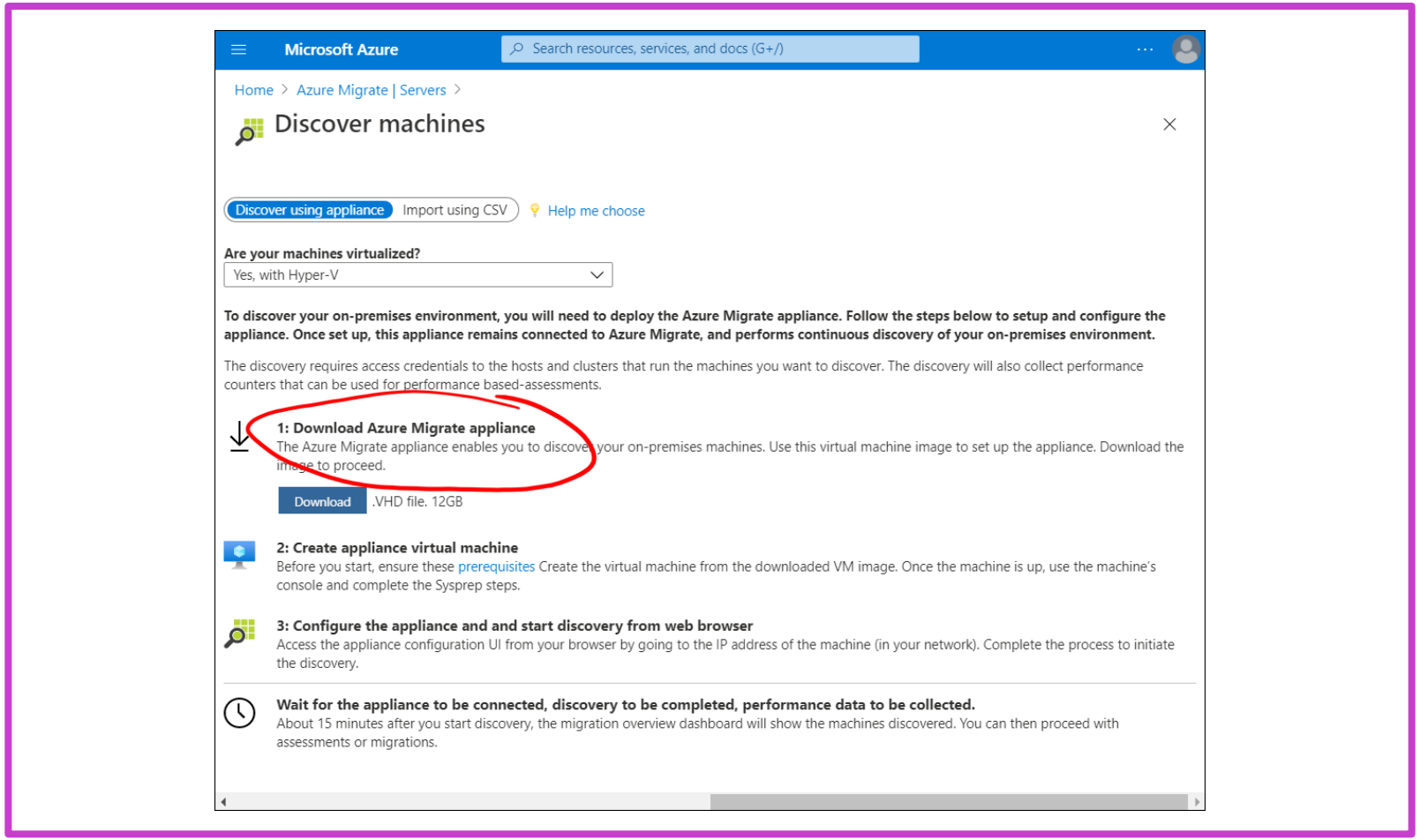
Perform Server Assessment

Discover machines

- To perform an agentless discovery, you use the Azure Migrate: Server Assessment tool
- This tool guides you through downloading a lightweight collector appliance

After you download the appliance:

- Import and start the collector appliance
- Complete its configuration
- Connect it to your Azure Migrate project



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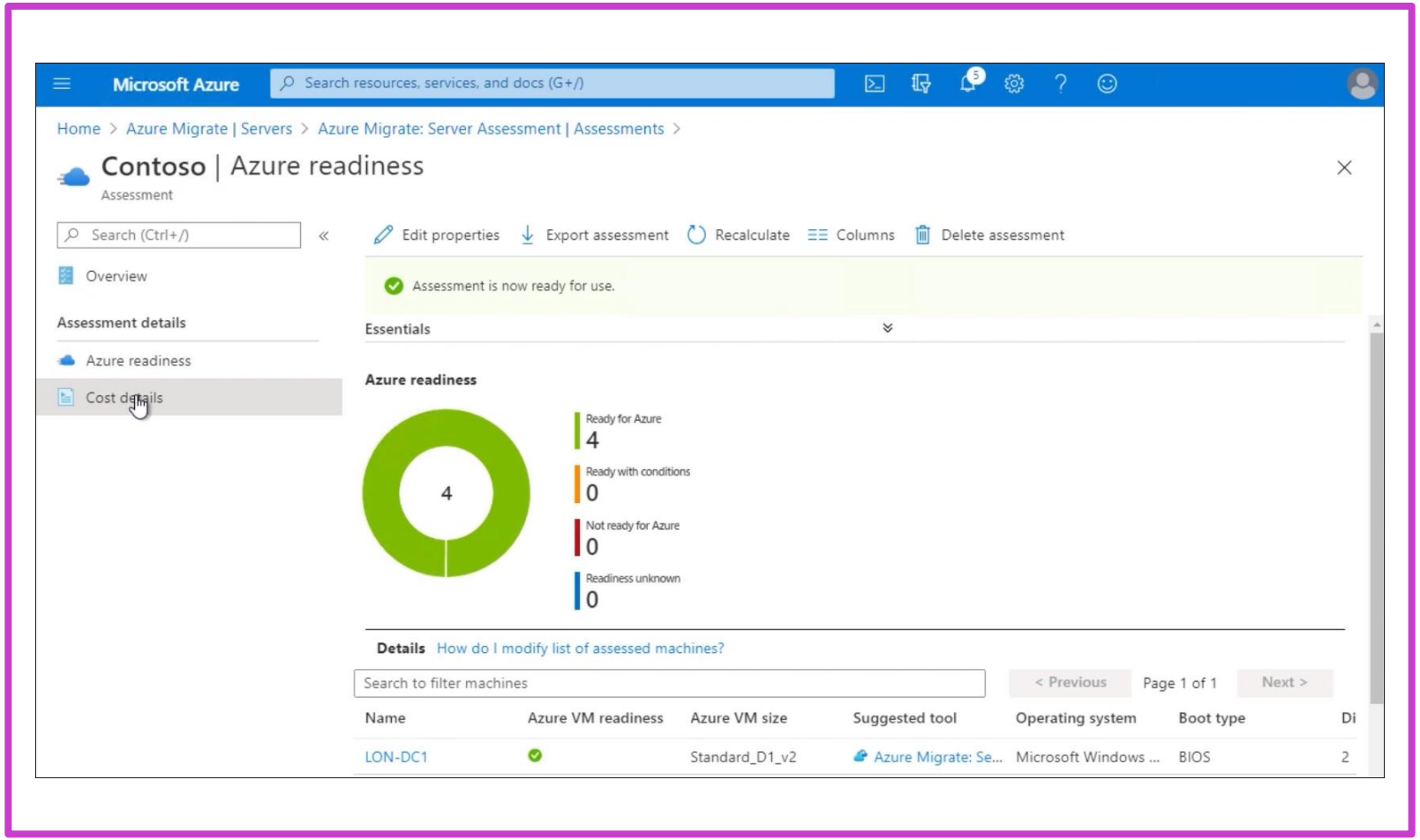
Perform Server Assessment

Create an assessment

After you have completed the discovery and data collection phase:

- Azure Migrate assesses your environment's readiness to be migrated to Azure
- Azure creates an assessment using default settings
- You can change these settings later by editing the assessment's properties



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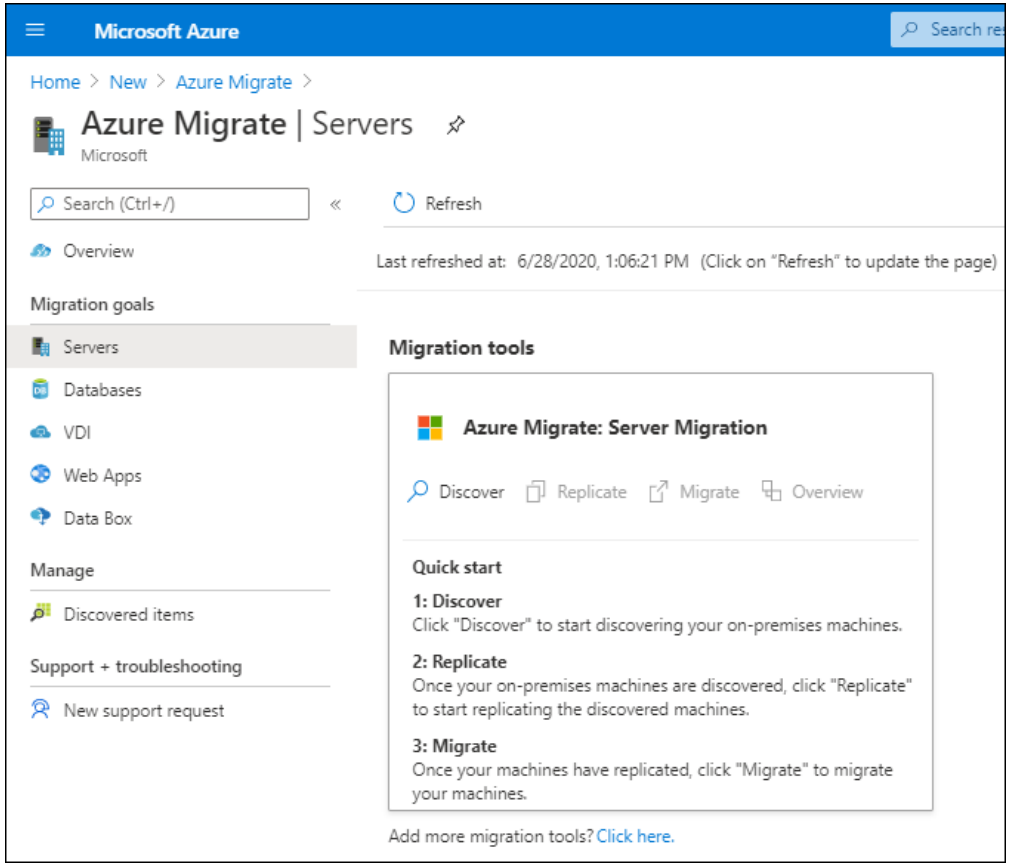
Migrate Windows Server Workloads by Using Azure Migrate

The steps involved in a technical implementation phase:

1. Prepare Azure for the Azure Migrate: Server Migration tool
2. Prepare the on-premises VMs for migration
3. Replicate the on-premises VMs
4. Migrate the VMs



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Learning recap – Migrate on-premises Windows Server Instances to Azure IaaS Virtual Machines

Knowledge Check

Microsoft Learn Modules (learn.microsoft.com/)

Migrate on-premises Windows Server instances to Azure IaaS virtual machines

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Upgrade and migrate Windows Server IaaS virtual machines

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Learning Objectives – Upgrade and migrate Windows Server IaaS Virtual Machines Introduction

- Describe common update methods
- Describe Azure Migrate (optional)
- Migrate Windows Server workloads by using Azure Migrate (optional)
- Describe storage migration
- Migrate file servers by using Storage Migration Service
- Knowledge check and resources

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Describe common upgrade methods

Method	Description	Best For	Key Considerations
In-Place Upgrade	Upgrade directly on the same server, preserving roles, apps, and data.	Minimal disruption; retaining existing setup.	Backup required; not ideal for complex roles; supported via ISO, UI, or SCONFIG.
Clean Installation	Fresh install of Server 2025, followed by manual migration of roles and data.	Starting fresh; resolving legacy issues.	Requires reconfiguration; time-intensive; ensures clean state.
Migration to New Hardware	Move workloads to a new server running Server 2025.	Hardware refresh; physical to virtual (P2V); cloud transitions.	Use tools like Windows Server Migration Tools or Azure Migrate.
Cluster OS Rolling Upgrade	Upgrade cluster nodes one at a time without downtime.	Hyper-V or SOFS clusters needing high availability.	Only supports one version jump at a time; may require intermediate upgrade steps.

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Describe Azure Migrate (Optional)

What is Azure Migrate?

Azure Migrate is a set of features located in a centralized hub that you can use to assess and migrate different workloads to Azure

- Azure Migrate components include:
  - Unified migration platform.
  - Assessment and migration tools
  - Assessment and migration of different workloads.

How can you use Azure Migrate?

There are six major scenarios where you can use Azure Migrate. These are:

- Windows Server workloads
- SQL Server workloads
- Linux workloads
- ASP.NET-PHP-Java apps
- SAP HANA
- Specialized compute

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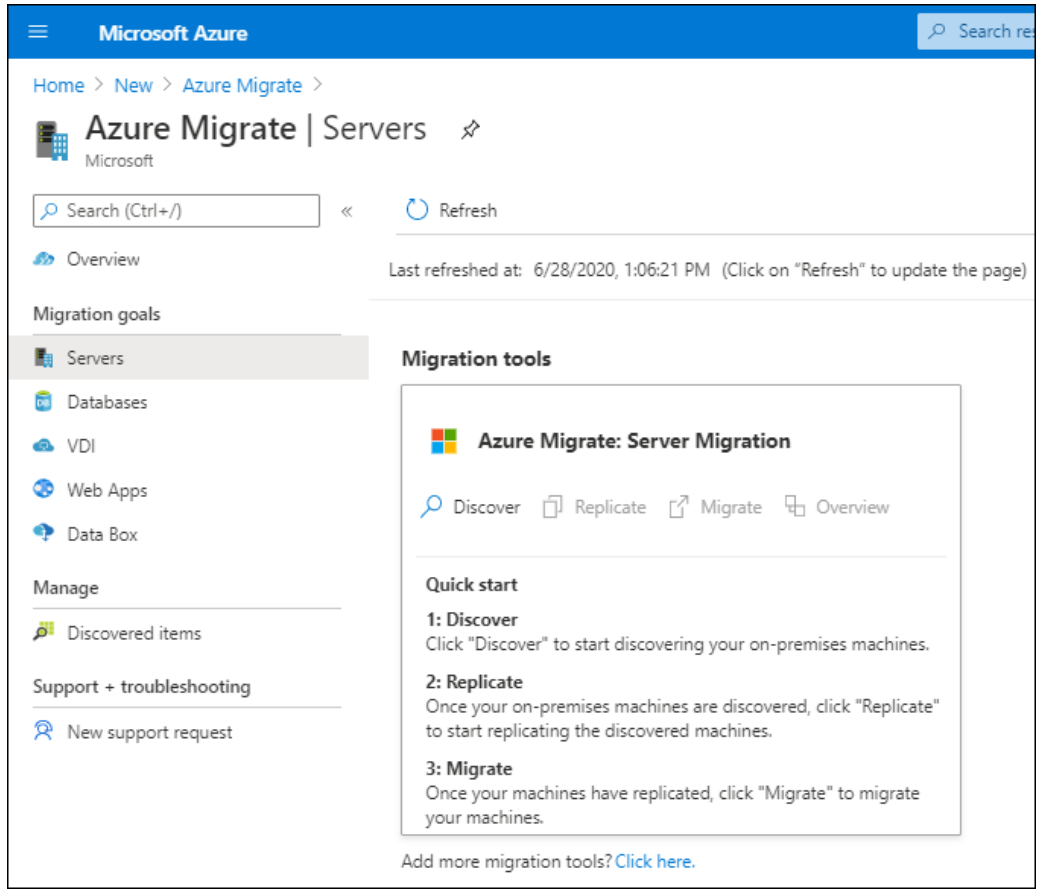
Migrate Windows Server Workloads by Using Azure Migrate (Optional)

The steps involved in a technical implementation phase:

1. Prepare Azure for the Azure Migrate: Server Migration tool
2. Prepare the on-premises VMs for migration
3. Replicate the on-premises VMs
4. Migrate the VMs



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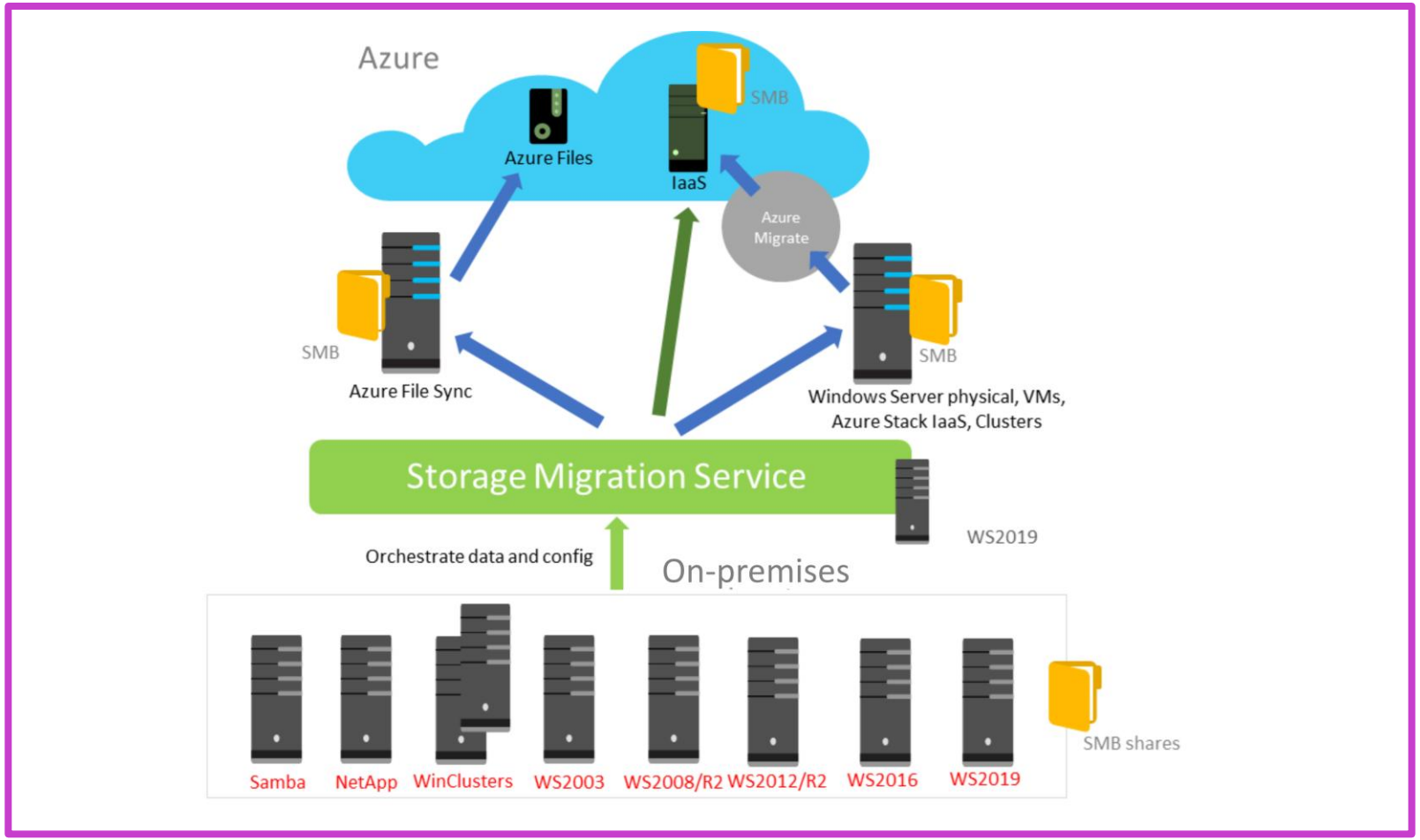
Describe Storage Migration Service

Benefit of Storage Migration Service:

It can assign the identity of the source server to the target server, including the server name and the server IP addresses

The general process for using Storage Migration Service:

- Inventory source servers
- Transfer data
- Cut over identities



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Describe Storage Migration Service

Orchestrator server

- Requirements for an orchestrator server are:
- Running Windows Server 2019 or newer
- Installed with 2 CPU cores and 2 GB of memory

Source servers:

- Can be running Windows Server 2003 or newer versions
- Can also be running Linux (Samba)

Destination servers

- Running Windows Server 2012 R2 or newer
- Installed with 2 CPU cores and 2 GB of memory

Security

On source and destination servers, the following firewall rules must be enabled:

- File and Printer Sharing (SMB-In)
- Netlogon Service (NP-In)
- Windows Management Instrumentation (DCOM-In)
- Windows Management Instrumentation (WMI-In)

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Migrate File Servers by Using Storage Migration Service

After you've installed the service and opened any necessary firewall ports, you must complete the following additional migration steps:

- Inventory your servers
- Transfer data
- Cut over to the new servers

Step 1: Install Storage Migration Service and check firewall ports

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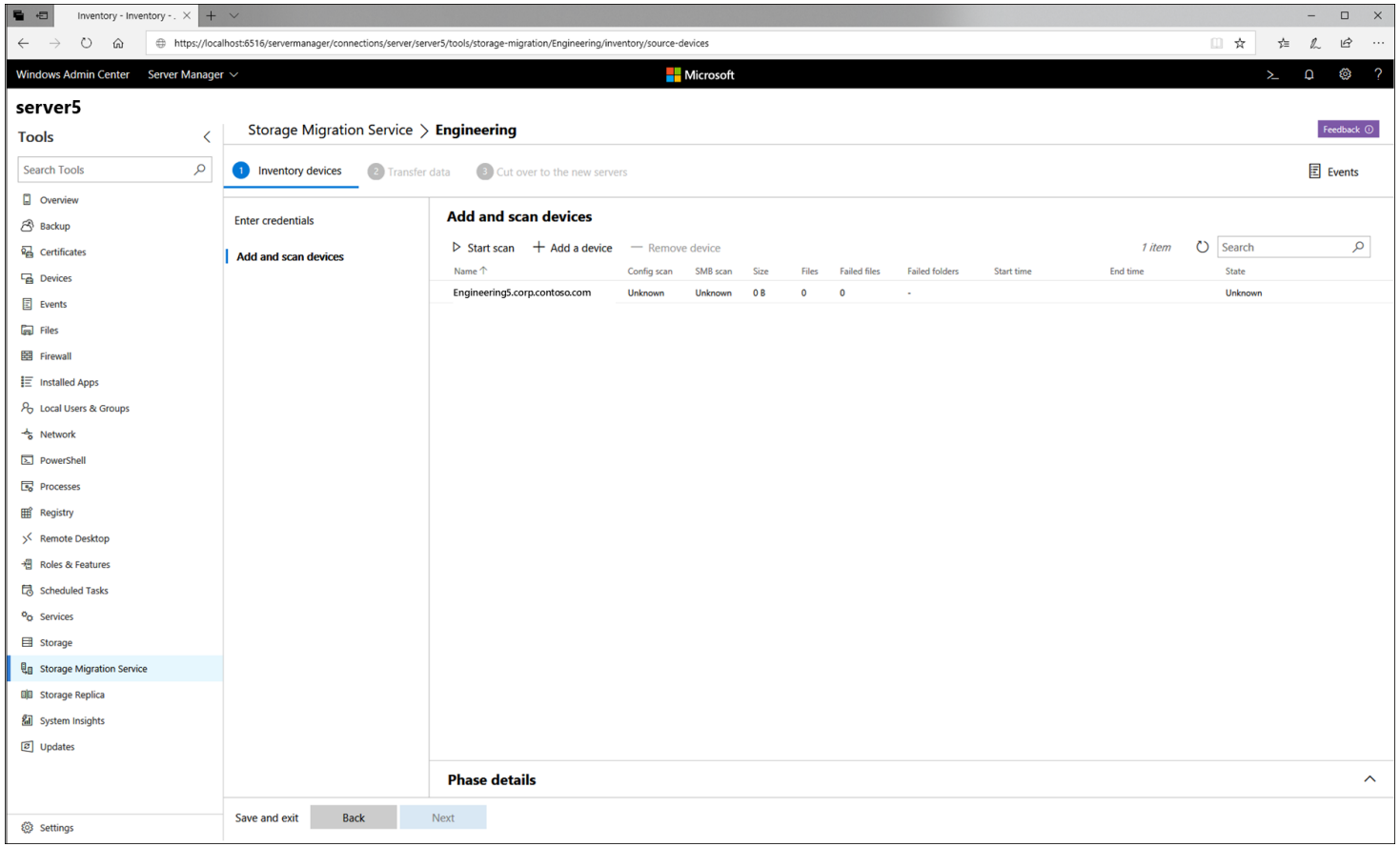
Migrate File Servers by Using Storage Migration Service

Step 2: Create a job and inventory your servers

- Add the servers to be inventoried and start a scan

The scan of the source servers identifies:

- Shares
- Server configuration
- Network adapter configuration
- Volumes



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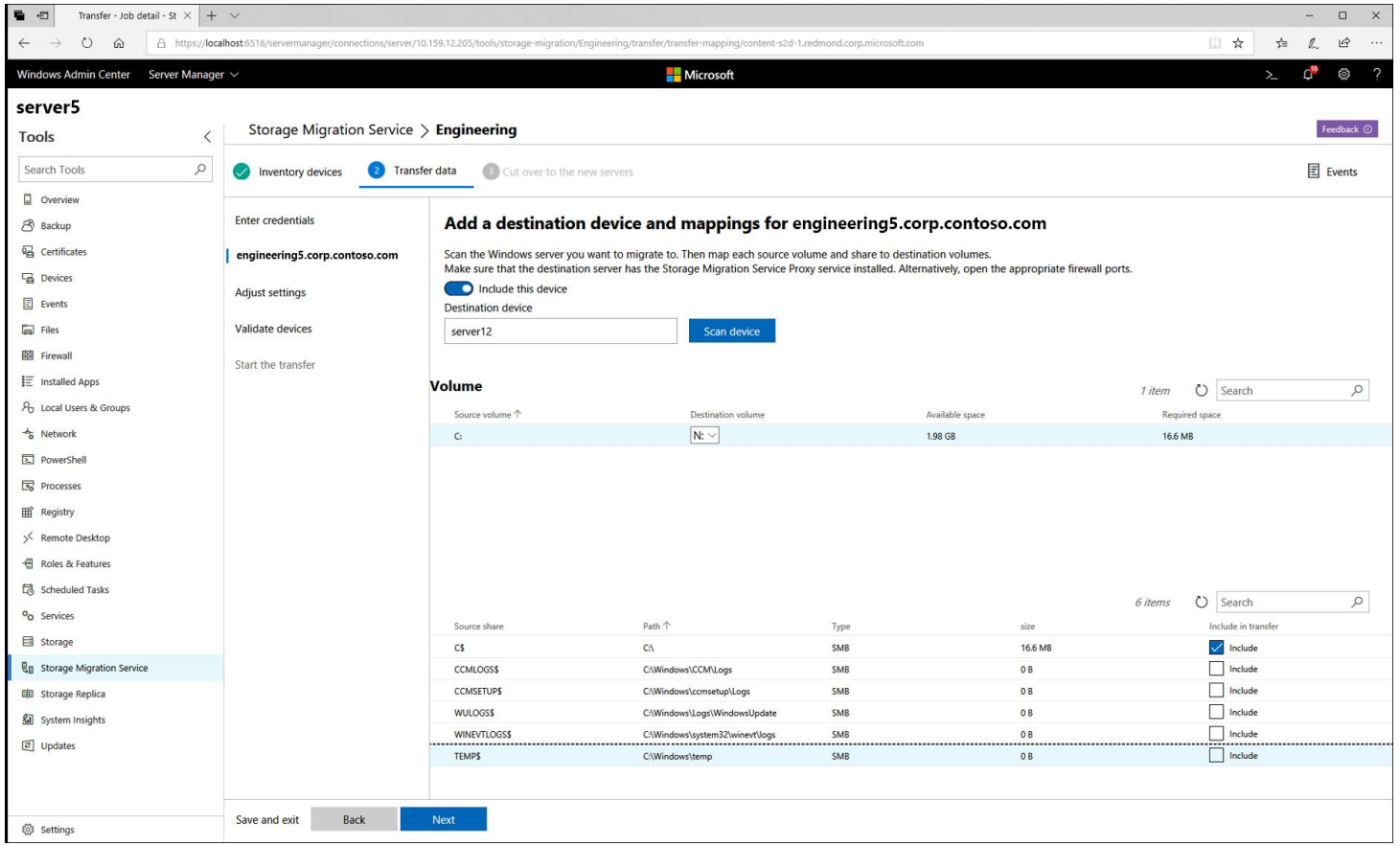
Migrate File Servers by Using Storage Migration Service

Step 3: Transfer data to the destination servers

To transfer data, you must:

- Enter credentials that have administrative permissions on the destination server
- Map source volumes to the volumes on the destination servers
- Identify which shares you want to migrate
- Choose to migrate local users and groups from source servers to the destination server



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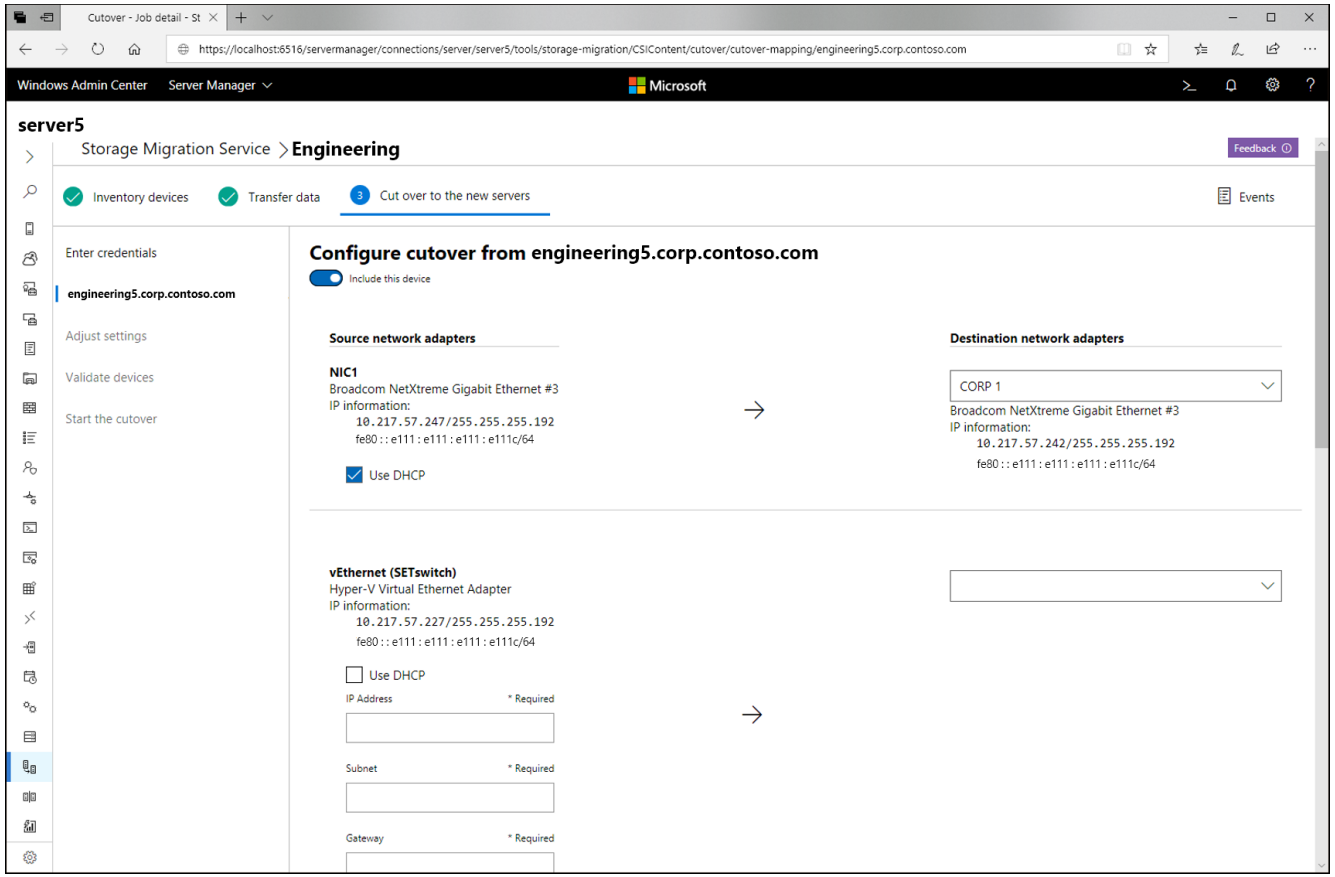
Migrate File Servers by Using Storage Migration Service

Step 4: Cut over to the new servers

Moves the identity information from the source server to the destination server.

When you perform the cutover, you must specify:

- Which adapter on the destination server will be configured with the source IP addresses
- The IP address to assign to the source server
- The name to assign to the source server



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Learning recap – Upgrade and Migrate Windows Server IaaS Virtual Machines

Knowledge Check

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Upgrade and migrate Windows Server IaaS virtual machines

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Containerize and migrate ASP.NET applications to Azure App Service

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Learning Objectives – Containerize and migrate ASP.NET applications to Azure App Service introduction

- Azure Migrate App Containerization overview
- Demonstration – Set up host environment
- Demonstration – Discover your ASP.NET web application
- Demonstration – Build container image for your ASP.NET app
- Demonstration – Deploy app container to App Service
- Learning recap

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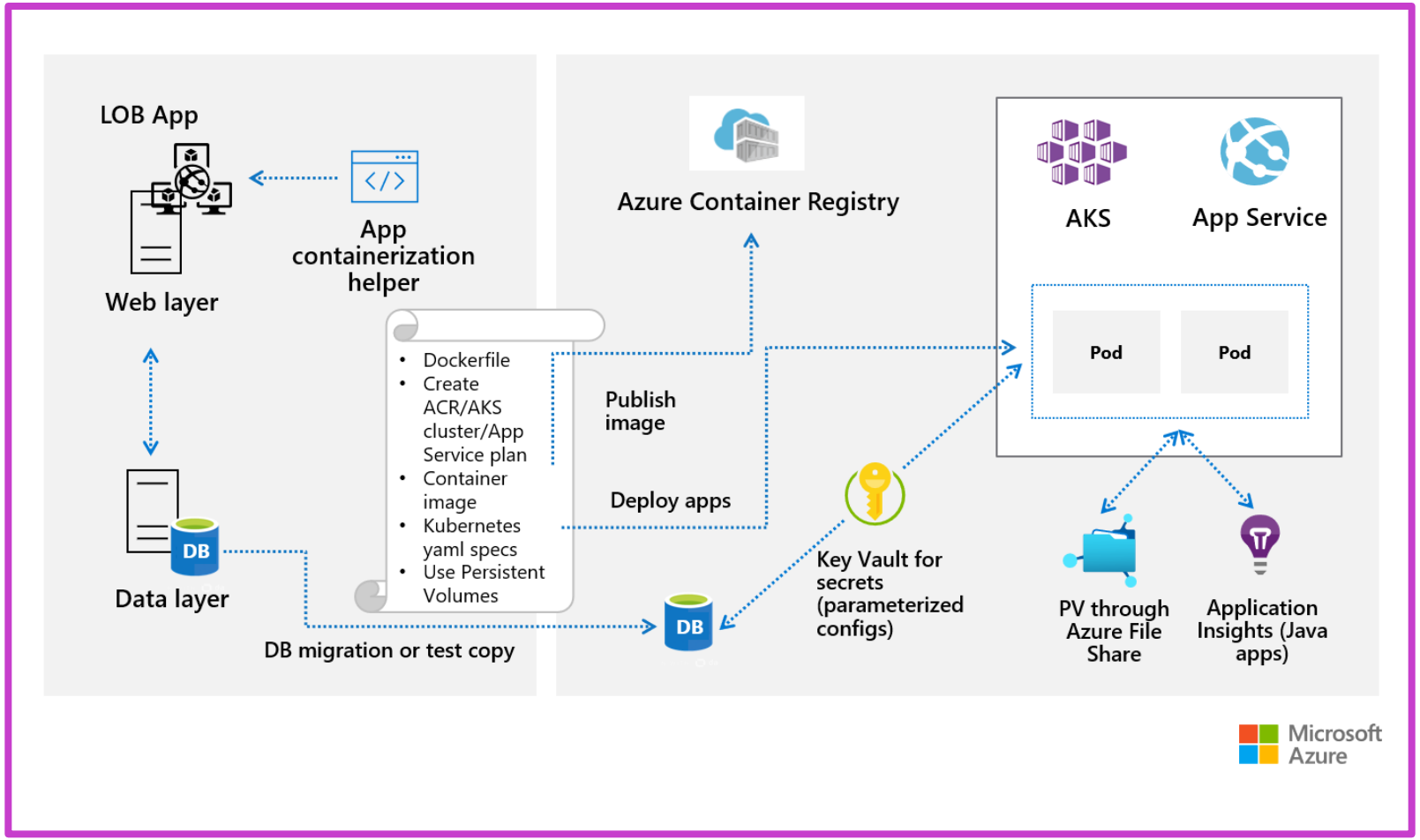
Azure Migrate App Containerization overview

The tool currently supports containerization and migration of following ASP.NET applications:

- ASP.NET applications using Microsoft .NET framework 3.5 or newer
- Application servers running Windows Server 2008 R2 or newer
- Applications running on Internet Information Services (IIS) 7.5 or newer

Azure Migrate: App Containerization helps you to:

1. Discover your application
2. Build the container image
3. Deploy to Azure Kubernetes Service



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Demonstration – Set up host environment

1. Prepare your Azure account
2. Setup Parts Unlimited application
3. Download and install Azure Migrate: App Containerization tool

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Demonstration – Discover your ASP.NET web application

1. Complete tool pre-requisites

2. Discover ASP.NET applications

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Demonstration – Build container image for your ASP.NET app

1. Build container image

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Demonstration – Deploy app container to App Service

1. Create new App Service plan
2. Specify secret store
3. Specify Azure file share
4. Configure and deploy the application

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Learning recap – Containerize and migrate ASP.NET applications to Azure App Service

Knowledge Check

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Containerize and migrate ASP.NET applications to Azure App Service

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Lab 07: Migrating Hyper-V VMs to Azure by using Azure Migrate

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Lab 07 – Migrating Hyper-V VMs to Azure by using Azure Migrate

Lab scenario

Despite its ambitions to modernize its workloads as part of migration to Azure, the Adatum Enterprise Architecture team realizes that, due to aggressive timelines, in many cases, it will be necessary to follow the lift-and-shift approach. To simplify this task, the Adatum Enterprise Architecture team started exploring the capabilities of Azure Migrate. Azure Migrate serves as a centralized hub to assess and migrate to Azure on-premises servers, infrastructure, applications, and data.

While databases, web apps, and virtual desktops are in scope of the next stage of the migration initiative, Adatum Enterprise Architecture team wants to start by evaluating the use of Azure Migrate for migrating their on-premises Hyper-V virtual machines to Azure VM.

Objectives

- Prepare for assessment and migration by using Azure Migrate
- Assess Hyper-V for migration by using Azure Migrate
- Migrate Hyper-V VMs by using Azure Migrate

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End of presentation

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