




AZ-104

Administer Data Protection

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

Learning Objectives - Administer Network Protection

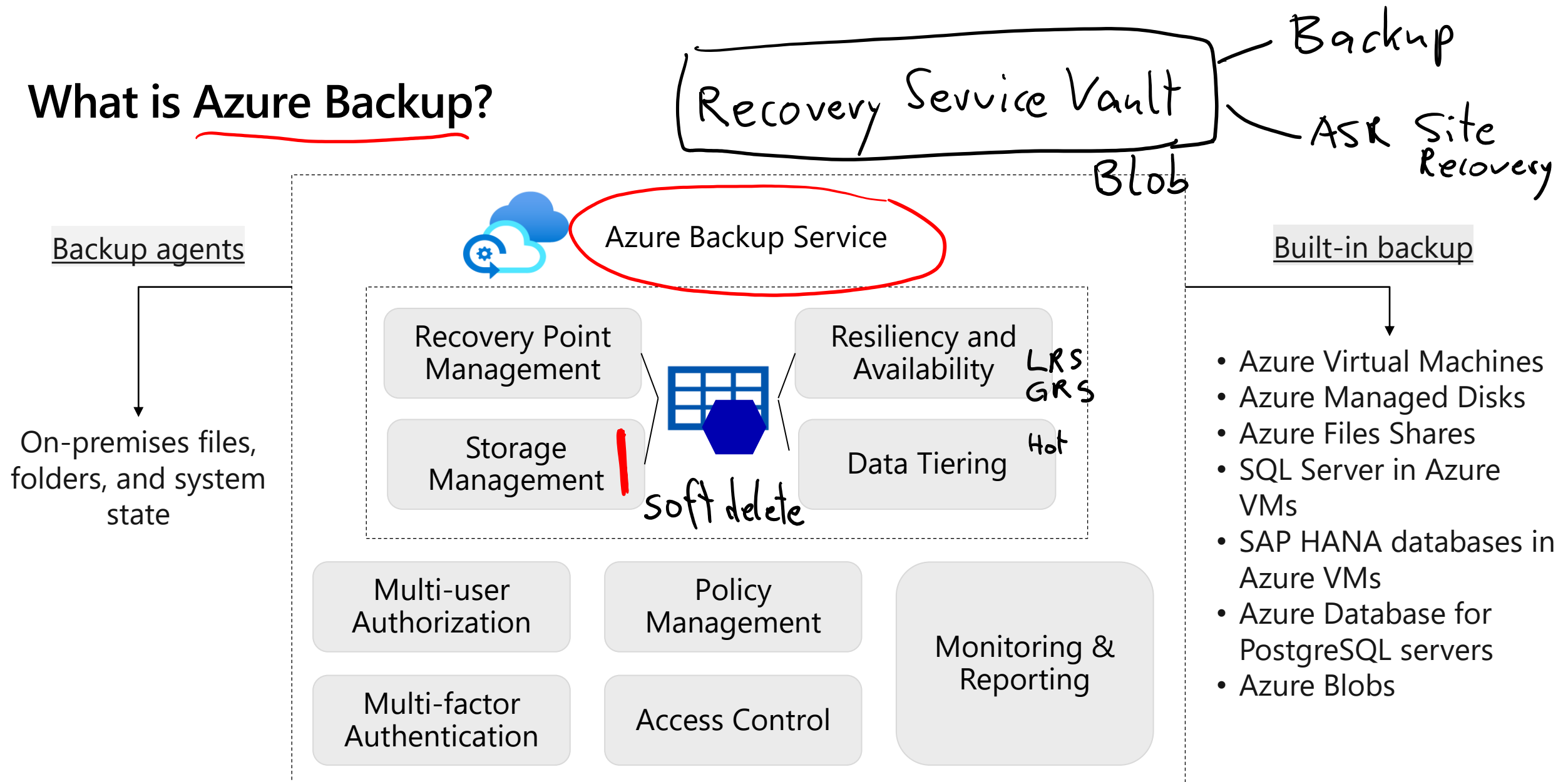
- Introduction to Azure Backup
- Configure Virtual Machine Backups
- Lab 10 – Implement Data Protection

ASR

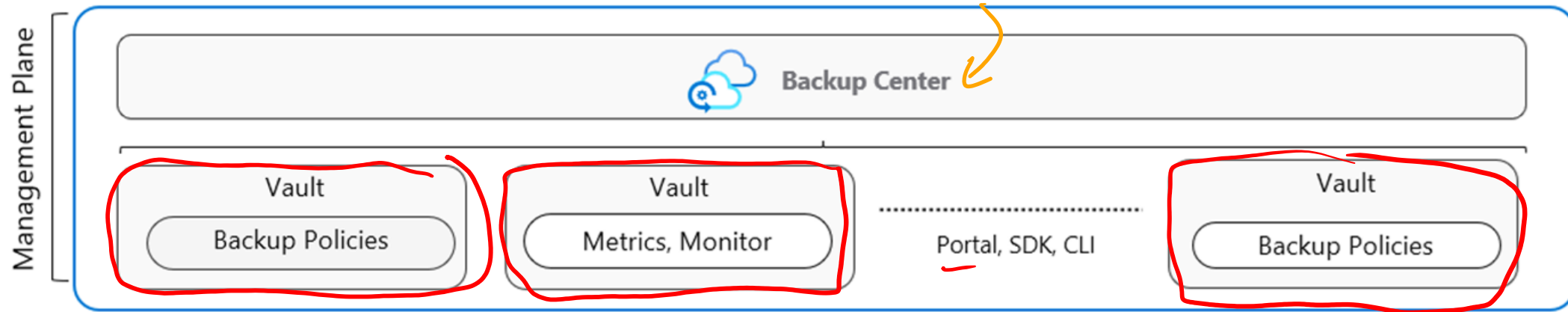
Introduction to Azure Backup



What is Azure Backup?



How Azure Backup works (vaults and policies)



- Vaults store backup copies, recovery points, and backup policies
- Two types of vaults: Backup vault and Recovery Service vault
- Backup Policies define the data source, storage vault, and backup schedule
- The Backup Center provides a single unified management experience (next slide)

Implement Azure Backup Center

Single pane of glass to manage backups across a large and distributed Azure environment

Datasource-centric management focused on what you are backing up

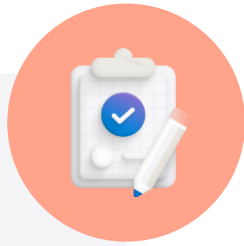
Connected experiences with native integrations that enables management at scale

The screenshot shows the Azure Backup Center 'Overview' page. The left sidebar contains a navigation menu with sections: Overview (selected), Getting started, Community, Manage (with sub-items: Backup instances, Backup policies, Vaults), Monitoring + reporting (with sub-items: Backup jobs, Backup reports), Policy and compliance (with sub-items: Backup compliance, Azure policies for backup, Protectable datasources), and Support + troubleshooting (with sub-item: New support request). The main content area has a top bar with a search box and buttons for Backup, Restore, Policy, Vault, and Refresh. Below this, the 'Datasource type: Azure Virtual machines' is specified, followed by an 'Overview of Jobs and Backup instances' section. This section includes a 'Jobs (last 24 Hours)' table and a 'Backup instances' table.

Operation	Failed	In progress	Completed
Scheduled backup	0	0	2
On-demand backup	0	0	0
Restore	0	0	0

Azure Virtual machines		
2	Protection configured	2
	Protection stopped	0
	Soft deleted	0
0 out of 2	Backup instances with the underlying datasource not found	

Learning Recap – Introduction to Azure Backup



Check your
knowledge
questions and
additional
study

- Introduction to Azure Backup

Configure Virtual Machine Backups



Explore options to protect virtual machine data

VSS

Snapshots

Managed snapshots provide a quick and simple option for backing up VMs that use Managed Disks

Azure Backup



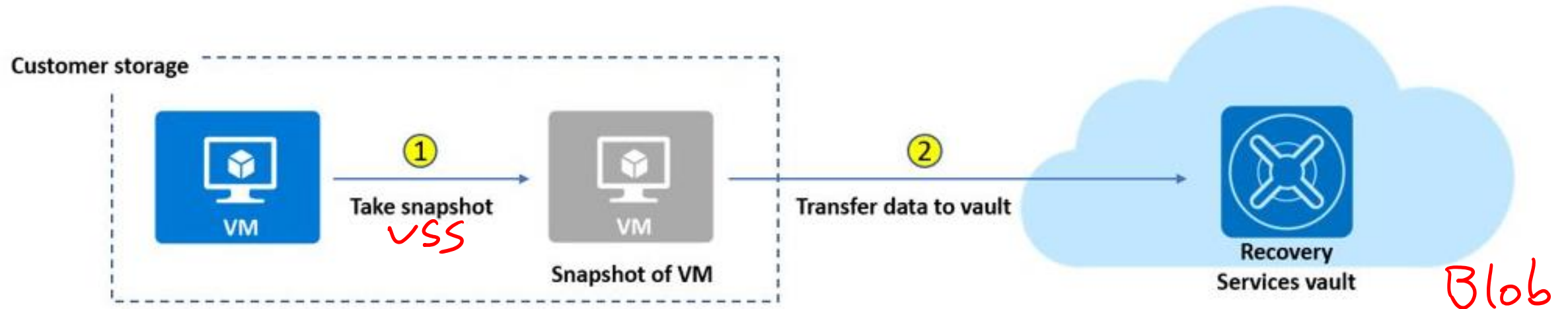
Azure Backup supports application-consistent backups for both Windows and Linux VMs

Azure Site Recovery



Azure Site Recovery protects your VMs from a major disaster scenario when a whole region experiences an outage

Create virtual machine snapshots in Azure Backup



Use snapshots taken as part of a backup job


Reduces recovery wait times – don't wait for data transfer to the vault to finish

Configure Instant Restore retention (standard or enhanced)

Set up Azure Recovery Services vault backup options

Multiple servers can be protected using the same Recovery Services vault


Azure Workloads


 **vault135 | Backup** ☆
Recovery Services vault


Where is your workload running?


Azure ▾


What do you want to backup?

 Virtual machine ▾


 Virtual machine

 Azure file share

 SQL Server in Azure VM

 SAP HANA in Azure VM

On-Premises Workloads

 **vmbackuptest - Backup**
Recovery Services vault

Where is your workload running?

On-Premises ▾

What do you want to backup?

4 selected ▴

☐ Files and folders

☒ Hyper-V Virtual Machines

☒ VMware Virtual Machines

☐ Microsoft SQL Server

☐ Microsoft SharePoint

☐ Microsoft Exchange

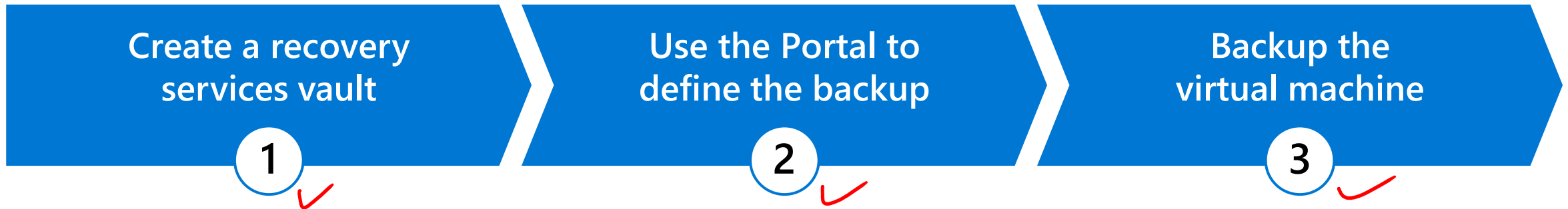
☒ System State

☒ Bare Metal Recovery

Step: Prepare Infrastructure

Prepare Infrastructure

Backup Virtual Machines



Use a Recovery Services Vault in the region where you are performing your Virtual Machine backups and choose a replication strategy for Vault

Take snapshots (recovery points) of your data at defined intervals. These snapshots are stored in recovery services vaults

For the Backup extension to work, the Azure VM Agent must be installed on the Azure virtual machine

Restore Virtual Machines

Once you trigger the restore operation, the Backup service creates a job for tracking the restore operation

The Backup service also creates and temporarily displays notifications, so you monitor how the backup is proceeding

robocopy E: ps script
vhd(x) download

The screenshot shows the Azure Backup console for a backup item named 'ContosoWebFE1'. The 'File Recovery' option is highlighted with a red circle. Below the navigation bar, there are sections for 'Alerts and Jobs', 'Backup status', and 'Restore points (30)'.

Backup Item: ContosoWebFE1

Actions: Backup now, Restore VM, File Recovery (circled), Stop backup, Resume backup

Alerts and Jobs:

- [View all Alerts](#) (last 24 hours)
- [View all Jobs](#) (last 24 hours)

Backup status:

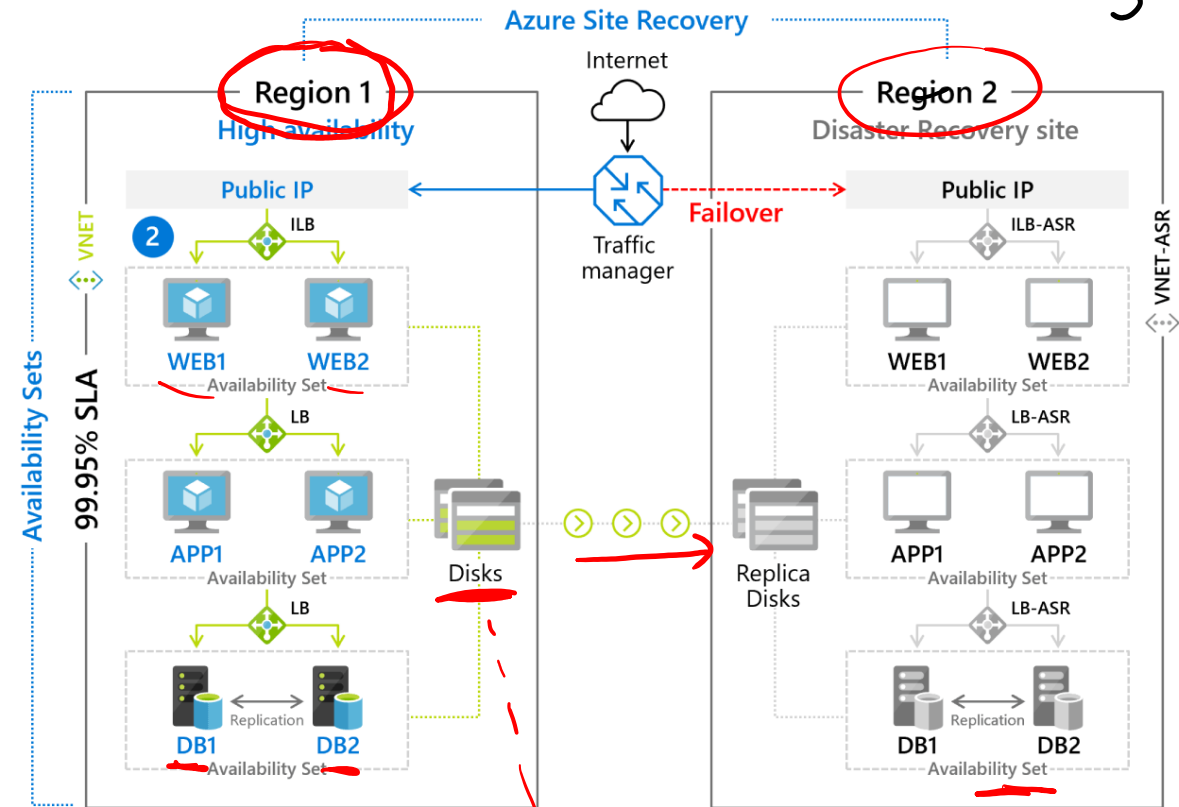
- Backup Pre-Check: ✔ Passed
- Last backup status: ✔ Success 3/12/2020, 12:20:38 AM

Restore points (30)

Time	Consistency
3/12/2020, 12:20:42 AM	Crash Consistent
3/11/2020, 12:20:59 AM	Crash Consistent

Implement Azure Site Recovery

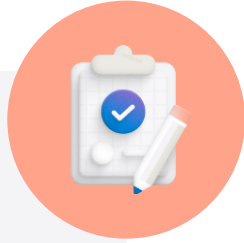
- Manages the orchestration of disaster recovery
- Replicates workloads continuously from a primary location or region to a secondary location
- Failover to shift to the secondary location; failback to return to the primary location



Recovery Service Vault
Region ~~1~~
2 ✓
3 ✓

Volume Shadow Copy
VSS
→ App Consistent

Learning Recap – Configure Virtual Machine Backups



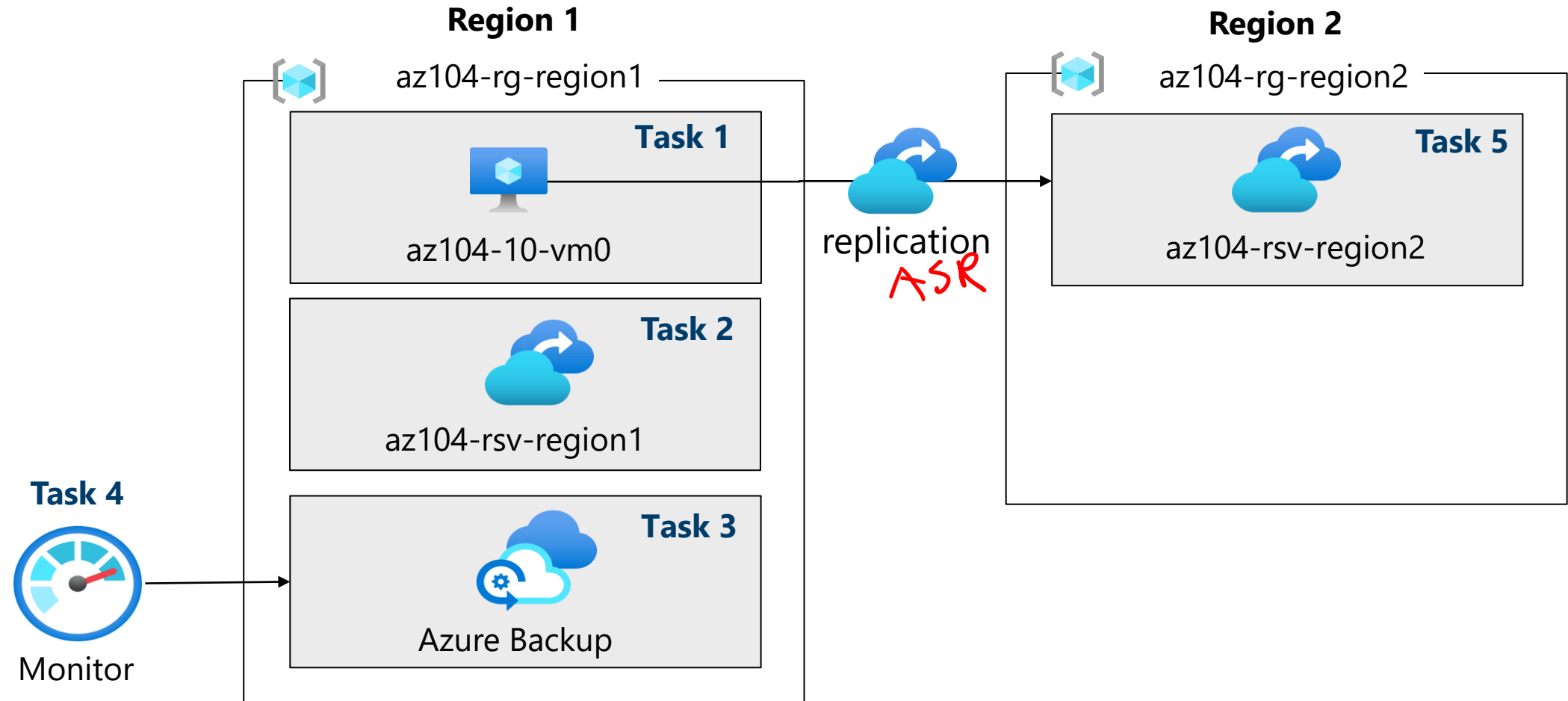
**Check your
knowledge
questions and
additional
study**

- Introduction to Azure Backup
- Protect your virtual machines by using Azure Backup
- Implement hybrid backup and recovery with Windows Server IaaS
- Protect your Azure infrastructure with Azure Site Recovery

Lab – Implement Data Protection



Lab 10 – Architecture diagram



End of presentation

