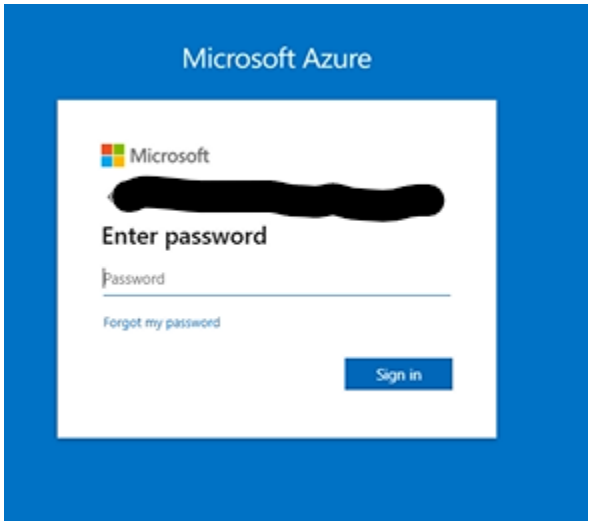
Implement Azure Backup for Azure Virtual Machines

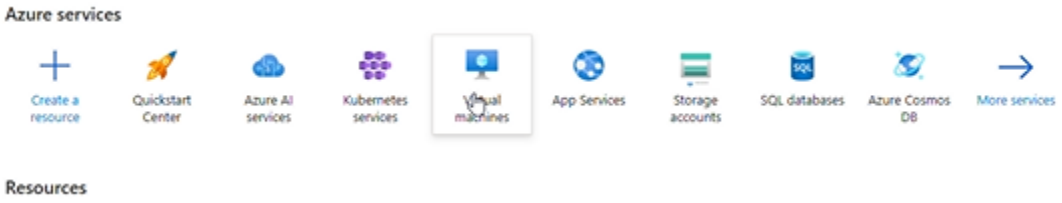
Backup an Azure virtual machine by using the Azure portal

Sign in to Admin

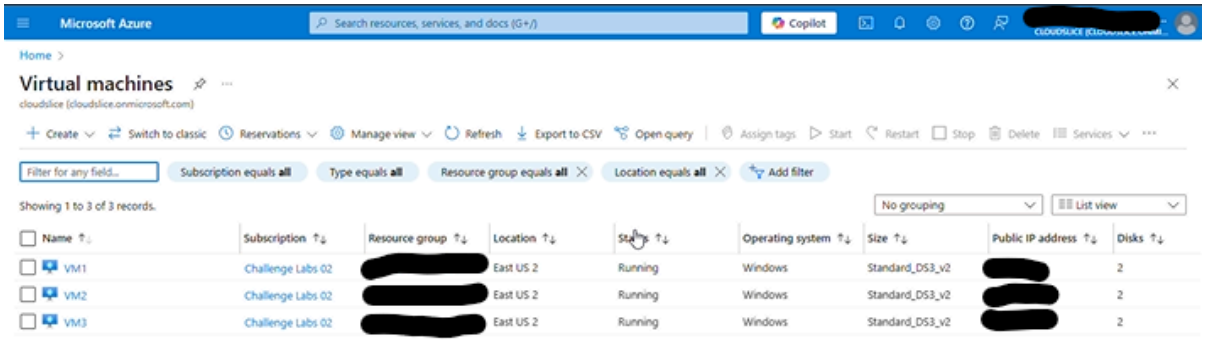


To enable backups on the wanted virtual machine by using an Azure recovery services follow the following steps:

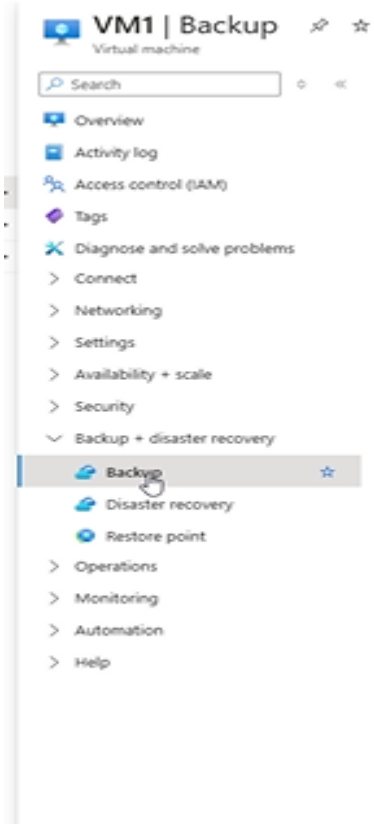
1. **Sign in to the Azure Portal** and navigate to **"Virtual Machines"**



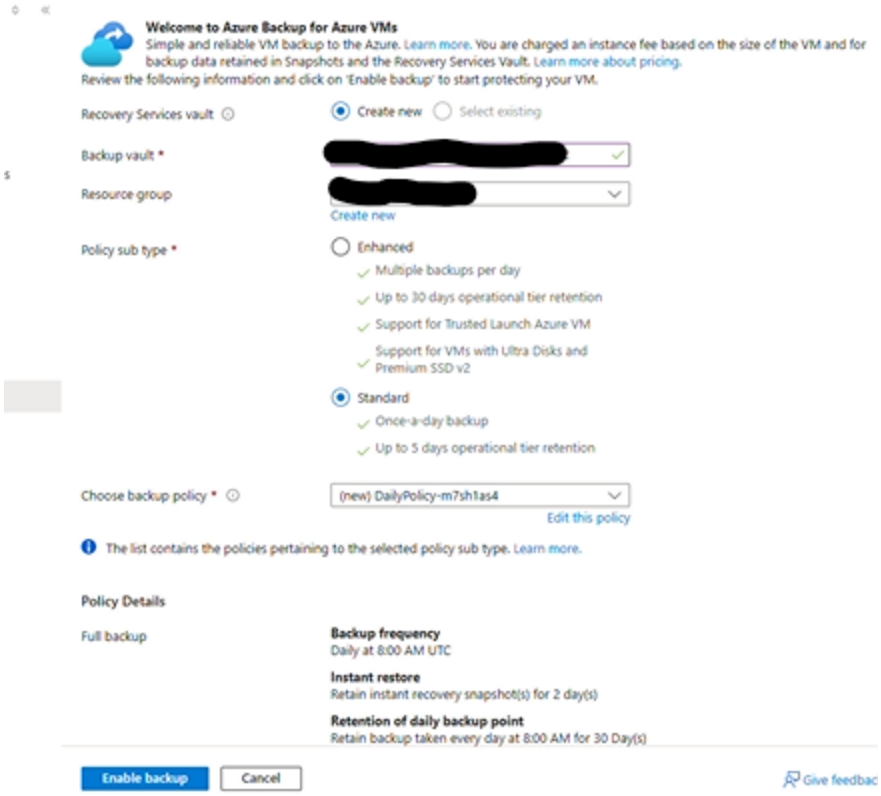
2. Select the virtual machine you want to back up



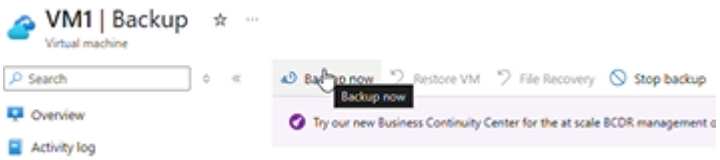
3. In the virtual machine menu, go to **"Backup + Disaster Recovery"** and select **"Backup"**



4. On the backup page, click **"Create New"**, enter the required details, and choose **Standard** as the policy subtype. Click **"Enable Backup"**



5. To initiate the backup, return to the **Azure Portal**, navigate to **"Backup"**, and click **"Backup Now."** Confirm by selecting **OK**
6. Ensure the selected **retention period** aligns with your organization's backup policy.



Note: Select the retainment date that goes with your policy and organization

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Azure Backup is a cloud-native solution that streamlines VM data protection without requiring complex on-premises infrastructure. It leverages **Recovery Services Vaults** for centralized backup management, with **Geo-Redundant Storage (GRS)** as the default option, replicating data to a secondary region for disaster recovery. Organizations can opt for **Locally Redundant**

Storage (LRS) for cost efficiency or **Zone-Redundant Storage (ZRS)** for increased regional resilience.

Backup policies define **scheduling and retention**, with the default setting performing **daily backups** and retaining data for **30 days**. The **first backup is full**, while subsequent ones are **incremental**, reducing storage costs and backup duration. **Application-consistent backups** ensure database integrity by capturing active transactions, preventing corruption.

Azure supports **four backup methods**:

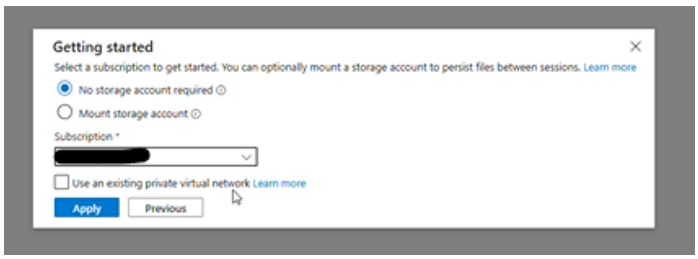
1. **Azure Portal** – GUI-based management for ease of use.
2. **Azure PowerShell** – Automates backups via scripting.
3. **Azure CLI 2.0** – Enables command-line-based backup operations.
4. **ARM Templates** – Infrastructure-as-Code (IaC) approach for scalable deployment.

Security features include **Soft Delete**, which retains deleted backups for **14 days**, and **RBAC with Multi-User Authentication (MUA)** to prevent unauthorized access. **Flexible recovery options** allow restoring **entire VMs, disks, or files** to the original location or a new VM, ensuring minimal downtime.

Azure Monitor and Backup Reports provide real-time tracking, while **Azure Policy** enforces compliance. By automating backups, optimizing storage, and ensuring security, Azure Backup supports business continuity and disaster recovery while aligning with cloud security best practices.

Enable backups on an Azure virtual machine by using Azure Powershell

1. Open an Azure Cloud Shell Powershell session without mounting a storage account



2. Set the Recovery Services Vault context:

- *Get-AzRecoveryServicesVault -Name "<Your-RecoveryServicesVault-Name>" | Set-AzRecoveryServicesVaultContext*
- This command retrieves the specified vault and sets it as the active context for subsequent backup and recovery operations

```
MOTD: Azure Cloud Shell now includes Predictive IntelliSense! Learn more: https://aka.ms/CloudShell/IntelliSense

VERBOSE: Authenticating to Azure ...
VERBOSE: Building your Azure drive ...
PS /home[redacted]> Get-AzRecoveryServicesVault -Name "[redacted]" | Set-AzRecoveryServicesVaultContext
PS /home[redacted]>
```

3. Create a variable named `$policy` to store the default backup policy:
- *$policy = Get-AzRecoveryServicesBackupProtectionPolicy -Name "DefaultPolicy"*
- This policy defines backup schedules, retention periods, and settings for Azure VM backups

```
PS /home[redacted]> $policy = Get-AzRecoveryServicesBackupProtectionPolicy -Name "DefaultPolicy"
PS /home[redacted]>
```

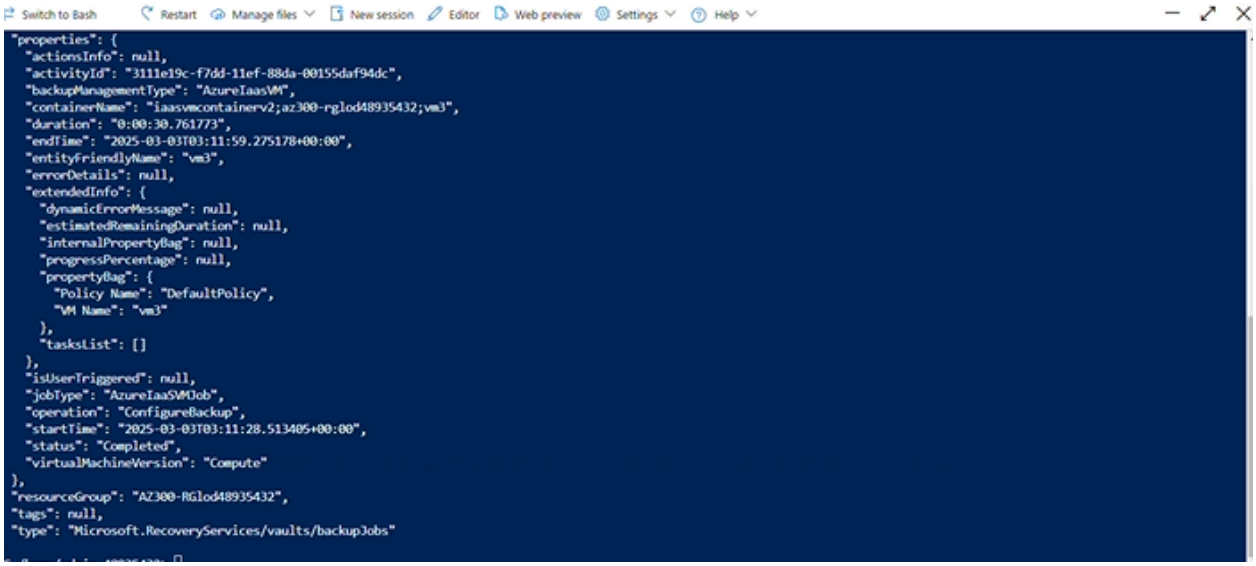
4. Enable VM backup using the retrieved policy
- *Enable-AzRecoveryServicesBackupProtection -ResourceGroupName "<Your-ResourceGroup-Name>" -Name "<Your-VM-Name>" -Policy $policy*
- This command ensures that the specified VM is included in Azure Backup according to the selected backup policy

```
VERBOSE: Authenticating to Azure ...
VERBOSE: Building your Azure drive ...
PS /home[redacted]> Get-AzRecoveryServicesVault -Name "[redacted]" | Set-AzRecoveryServicesVaultContext
PS /home[redacted]> $policy = Get-AzRecoveryServicesBackupProtectionPolicy -Name "DefaultPolicy"
PS /home[redacted]> Enable-AzRecoveryServicesBackupProtection -ResourceGroupName "[redacted]" -Name "VM2" -Policy $policy
WARNING: Ignite (November) 2023 onwards Virtual Machine deployments using PS and CLI will default to Trusted Launch configuration. You need to ensure Policy Name used with th
s command is of type Enhanced Policy for Trusted Launch VMs. Non-Trusted Launch Virtual Machines will not be impacted by this change. To know more about default change and Tr
sted Launch, please visit https://aka.ms/TLaD.

WorkloadName   Operation        Status      StartTime            EndTime              JobID
------------   ---------        ------      ---------            -------              -----
vm2            ConfigureBackup  Completed   3/3/2025 3:08:39 AM  3/3/2025 3:09:10 AM  23dfe489-5890-4136-9d8a-4ada656231ed

PS /home/admin-48935432> Get-AzRecoveryServicesVault -Name "[redacted]" | Set-AzRecoveryServicesVaultContext
```

Enable backups on an Azure virtual machine by using Azure CLI 2.0

1. Open a command-line interface with Azure CLI installed.
2. Run the following command to enable backup protection for the virtual machine:

- *az backup protection enable-for-vm --resource-group "<Your-ResourceGroup-Name>" --vault-name "<Your-RecoveryServicesVault-Name>" --vm "<Your-VM-Name>" --policy-name "<Your-Backup-Policy-Name>"*
- This command applies the specified backup policy to the virtual machine, ensuring scheduled backups are performed automatically




```
"properties": {
  "actionsInfo": null,
  "activityId": "3111e19c-f7dd-11ef-88da-00155daf94dc",
  "backupManagementType": "AzureIaasVM",
  "containerName": "iaasvmcontainerv2;az300-rglod48935432;vm3",
  "duration": "0:00:30.761773",
  "endTime": "2025-03-03T03:11:59.275178+00:00",
  "entityFriendlyName": "vm3",
  "errorDetails": null,
  "extendedInfo": {
    "dynamicErrorMessage": null,
    "estimatedRemainingDuration": null,
    "internalPropertyBag": null,
    "progressPercentage": null,
    "propertyBag": {
      "Policy Name": "DefaultPolicy",
      "VM Name": "vm3"
    },
    "tasksList": []
  },
  "isUserTriggered": null,
  "jobType": "AzureIaaSVMJob",
  "operation": "ConfigureBackup",
  "startTime": "2025-03-03T03:11:28.513405+00:00",
  "status": "Completed",
  "virtualMachineVersion": "Compute"
},
"resourceGroup": "AZ300-RGlod48935432",
"tags": null,
"type": "Microsoft.RecoveryServices/vaults/backupJobs"
```