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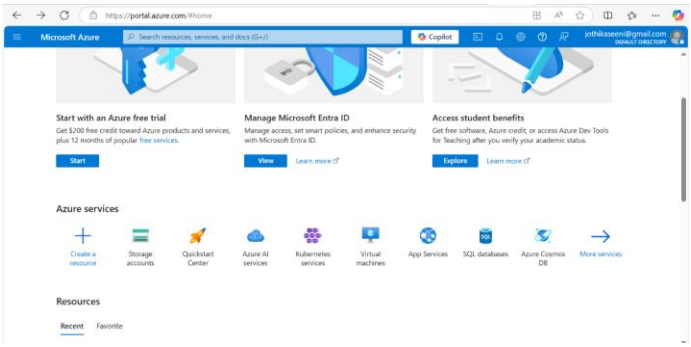
Domain: Testing

AZURE TASK

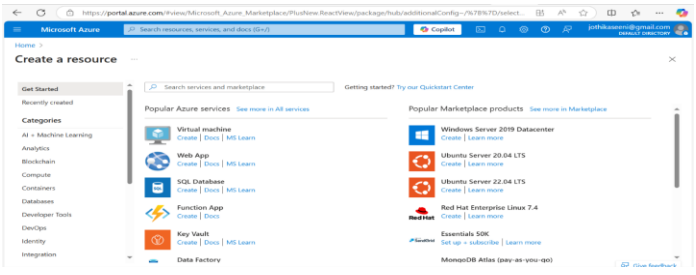
Scenario 1: Your team needs to deploy a virtual machine in azure portal to test a new software application. Here, the team has requested both windows and Linux virtual machine.

Q1: How could you setup these virtual machines? and what consideration need for prizing and OS licensing?

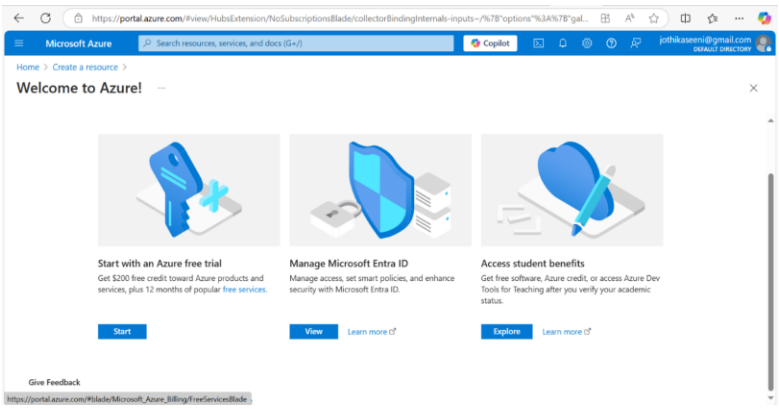
Ans:
Step1: Login to the Azure portal.
Step 2: click “create resource” in Azure services.



Step 3: Select “virtual Machine” in the resource.



Step 4: select **Start with an Azure free trial**



Step 5: Setup basic configuration for windows Virtual Machine – Create a Resource Group, Virtual Machine name, Region, Image - Choose a **Windows Server** version / choose Linux distribution, Size, Choose the Authentication Type as SSH public key or Password.
Step 6: Review and create.
Step 7: Review all the setup we configure and click create.

Pricing and OS licensing:
Windows VMs: Higher cost due to included OS licensing; you can use Azure Hybrid Benefit to reduce costs if you have existing licenses.
Linux VMs: Generally cheaper because most distributions are free; paid Linux distributions like RHEL and SUSE may have additional charges for premium support.

Scenario 2: The IT security team has requested that sensitive data has stored in Azure storage account be encrypted to meet compliance requirement.

Question: How could you ensure the data stored in Azure storage is encrypted, and what encryption types are available?

Option 1: **Microsoft-managed keys**

By default, SSE automatically encrypts data at rest using Microsoft-managed keys without any configuration needed on all Azure Storage accounts.

Option 2: **Use Customer-managed keys**

- Go to the **Azure Portal** and navigate to your **Storage Account**.
- In the Storage Account settings, select **Encryption**.
- Choose **Customer-managed keys** and select the encryption key from **Azure Key Vault** that you created.
- Save the changes.

At last check in Storage Account, under **Encryption** settings, ensure that encryption is enabled either with Microsoft-managed keys or Customer-managed keys.
Check Azure Security Center or Azure Monitor to keep track of encryption status and get alerts on any issues.

Available types of encryptions in azure:

- SSE with Microsoft-managed keys
- SSE with Customer-managed keys
- Encryption in transit (TLS/SSL).

Scenario 3: You are responsible for setting up a DevOps pipeline in Azure DevOps for your application. The pipeline must deploy code to an Azure app service and notify the team if the deployment fails.

Question: How could you configure this pipeline to meet this requirement?

Step 1: Go to Azure DevOps and sign in
Step 2: Click New Project and name it
Step 3: Select Private/Public repo, Version Control and Work Item.
Step 4: Click Create.
Step 5: Navigate to your project, Import the repo and push the code
Step 6: Go to Pipelines and Click New Pipeline.
Step 7: Select the repository
Step 8: Choose “Starter Pipeline”
Step 9: Navigate to Azure DevOps and select Project Settings.
Step 10: Click on New Service Connection and Select Azure Resource Manager.
Step 11: Choose Service Principle.
Step 12: Select your Subscription and App Service
Step 13: Click Save
Step 14: Again, go to Project Settings and navigate to Notifications
Step 15: Click New Subscription
Step 16: Select Build Completed

Step 17: Set the condition to trigger only on failures
Step 18: Add team’s email addresses
Step 19: Click Save
Step 20: Go to Pipelines and select the pipeline

Step 21: Click Run & Check logs
Step 22: If a failure occurs, email notification will be sent.

Scenario 4: Your organization is moving its on premises SQL database to azure. The database must remain accessible during migration with minimal downtime.

Q1: Which azure would you use, how could you perform the migration?

Answer:
Set up an Azure SQL Database or Azure SQL Managed Instance in the Azure portal. Ensure your on-premises SQL Server is up-to-date.

Set up Azure Database Migration Service (DMS) in the Azure portal. Install the DMS migration agent on your on-premises SQL Server.

In DMS, start migrating your data from the on-premises SQL Server to Azure. The database remains accessible during this step.

Set up continuous data sync between the on-premises SQL Server and Azure SQL to keep both databases in sync.

When the data is fully synced, pause the on-premises database to ensure no new changes. Complete the migration by switching to the Azure database.

Update your applications to connect to the new Azure SQL database.