Lab 9  
CST8912\_011  
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Submitted to :   
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# **Lab Report Format**

**Title**

Managing Data Encryption in Azure for Compliance

**Introduction or Purpose**

Microsoft Azure offers tools to protect data and ensure compliance. Encryption at Rest is a key security feature that allows organizations to encrypt stored data without the need for custom key management. Azure can fully manage this process or provide options for more control over encryption and keys.

Encryption uses symmetric keys to quickly secure and decrypt data. Data can be partitioned with separate keys, and encryption keys are stored securely with access control and audit policies.

Encryption at Rest protects data from physical attacks and is often required by regulations like HIPAA, PCI, and FedRAMP to ensure compliance and safeguard data.

**Steps covered in the lab**

### Task 1: Deploy an Azure SQL Database

**Method 1:**

1. In Azure, create an Azure SQL database in the Canada Central region under resource group CST8912-demo, with the database name db8912.
2. Create a new server with a unique name (e.g., db8912demo) and use SQL authentication.
3. Set up the firewall rules to allow access from Azure services and your current IP.
4. Choose "Sample" for the database and proceed to review and create the database.

**Method 2:**

1. Search for "Deploy a custom template" in the Azure portal.
2. Load the azuredeploy.json file from the provided link.
3. Set subscription, resource group, and location to Canada Central, then review and create the database.

### Task 2: Configure Advanced Data Protection

1. In the SQL server settings, enable Microsoft Defender for SQL.
2. Review pricing and settings for vulnerability assessment and threat protection.
3. Check recommendations and security alerts.

### Task 3: Configure Data Classification

1. In the SQL server settings, go to Data Discovery & Classification.
2. Review columns with classification recommendations and select "Accept Selected Recommendations."
3. Save the changes.

### Task 4: Configure Auditing

1. In the SQL Server settings, enable auditing and select "Create new storage account" if needed.
2. Set retention to 5 days and save.
3. On the SQL database settings, enable database-level auditing and check audit logs for activities like logins and queries.

### Task 5: Clean up Resources

1. Delete all resources created during this lab and document the steps with screenshots for the lab report.

**Results**

Task 1 - Deploy an Azure SQL Database

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Task 2 - Configure Advanced Data Protection

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Task 3 - Configure Data Classification

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Task 4 - Configure Auditing

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Task 5 - Clean resources created during lab

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