Hybrid and Multi-Cloud Data Replication Strategy – Student Template

Instructions:

In your group, complete the sections below to design a data replication strategy for your assigned hybrid or multi-cloud scenario. Be prepared to present your solution to the class in 5 minutes.

# Group Members:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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# Scenario Summary:

Example: Replicating transactional data from AWS RDS to Azure Synapse for compliance and analytics.

# Replication Strategy Design

## 1. Data Types and Sensitivity

Structured (PostgreSQL), sensitive financial data.

## 2. Replication Requirements

One-way, near real-time replication. RPO: 15 minutes, RTO: 30 minutes.

## 3. Tools and Services

AWS DMS → Amazon S3 → Azure Data Factory → Azure Synapse.

## 4. Architecture Overview

Data flows from AWS RDS to S3 using DMS, transferred securely to Azure, then processed into Synapse via Data Factory.

Architecture: RDS → DMS → S3 → Azure Data Factory → Synapse

## 5. Operational Considerations

Monitoring via CloudWatch and Azure Monitor. Failures logged and alerted. Daily data reconciliation process for validation.

## Presentation Notes (Optional)

Key points: Real-time sync, sensitive data handling, cross-cloud tools, and failure response.