Disaster Recovery With IBM Cloud Virtual Servers

Phase 5

Disaster Recovery Plan Documentation

Objective

The objective of this disaster recovery project is to develop a comprehensive plan for protecting and recovering IBM Cloud Virtual Servers from unforeseen events. The plan aims to minimize downtime, ensure data integrity, and maintain business continuity in the face of disruptions such as natural disasters, power outages, hardware failures, and cyberattacks.

Design Thinking Process

The design thinking process for this disaster recovery project involved the following steps:

1. **Empathize:** Understand the business requirements and potential disaster scenarios.

2. **Define:** Identify the critical assets, acceptable downtime, and desired recovery time objectives (RTOs) and recovery point objectives (RPOs).

3. **Ideate:** Explore various disaster recovery strategies, including replication, backups, and failover procedures.

4. **Prototype:** Develop a prototype disaster recovery plan and conduct simulations to test its effectiveness.

5. **Test and Refine:** Evaluate the prototype plan, identify areas for improvement, and refine the plan accordingly.

Development Phases

The development of the disaster recovery plan involved several phases:

Phase 1: Planning and Assessment

- Identify critical assets, dependencies, and potential disaster scenarios.

- Determine acceptable downtime, RTOs, and RPOs.

- Evaluate existing backup and replication solutions.

Phase 2: Design and Implementation

- Choose a disaster recovery strategy based on the assessment.

- Implement replication for critical VMs using IBM Spectrum Protect Plus or a third-party tool.

- Configure regular backups of data and virtual machine images.

- Establish failover procedures for switching to IBM Cloud Virtual Servers in case of a disaster.

Phase 3: Testing and Refinement

- Conduct recovery tests to simulate disaster scenarios and practice recovery procedures.

- Evaluate the effectiveness of the disaster recovery plan and identify areas for improvement.

- Refine the plan based on test results and feedback.

Phase 4: Documentation and Deployment

- Document the disaster recovery plan in detail, including recovery procedures, testing guidelines, and contact information.

- Deploy the disaster recovery plan by training relevant personnel and ensuring access to necessary documentation and tools.

Disaster Recovery Strategy

The disaster recovery strategy for this project involves replicating critical VMs to IBM Cloud Virtual Servers and maintaining regular backups of data and virtual machine images. This strategy enables rapid failover to secondary VMs in case of a disaster, minimizing downtime and ensuring business continuity.

Backup Configuration

Regular backups of data and virtual machine images are essential for disaster recovery. Backups should be performed frequently enough to meet the RPO requirements. IBM Spectrum Protect Plus or third-party tools can be used to automate the backup process.

Replication Setup

Replication of critical VMs to IBM Cloud Virtual Servers ensures that a copy of the VMs is always available for recovery. IBM Spectrum Protect Plus or third-party tools can be used to configure replication. Replication should be scheduled to minimize disruption to production systems.

Recovery Testing Procedures

Regular recovery tests are crucial for validating the effectiveness of the disaster recovery plan. Recovery tests should simulate disaster scenarios and practice failover procedures. Test results should be evaluated and used to refine the plan as needed.

Business Continuity Assurance

The disaster recovery plan guarantees business continuity in unforeseen events by:

- Minimizing downtime through rapid failover to secondary VMs on IBM Cloud Virtual Servers.

- Preserving data integrity using regular backups and data replication.

- Establishing clear recovery procedures and assigning roles and responsibilities.

- Conducting regular testing to ensure the plan's effectiveness.

Submission Guidelines

Please refer to the GitHub repository link for the project's code and files. The repository includes the disaster recovery plan documentation, scripts for backup and replication, and instructions for setting up and deploying the plan.

README File

The README file provides detailed instructions on navigating the website, updating content, and managing dependencies. It also explains the project structure and the purpose of each component.