**1. Backup Process**

**1.1 Full Database Backup (MySQL Example)**

sql

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mysqldump -u root -p --databases codtech > codtech\_backup.sql

* -u root: Specifies the user.
* -p: Prompts for the password.
* --databases codtech: Backs up the entire codtech database.
* > codtech\_backup.sql: Saves the backup to a file.

**1.2 Table-Specific Backup**

sql

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mysqldump -u root -p codtech employee > employee\_backup.sql

* Only backs up the employee table.

**1.3 Compressed Backup**

bash

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mysqldump -u root -p codtech | gzip > codtech\_backup.sql.gz

* Compresses the backup to save space.

**1.4 Scheduled Backup (Linux Cron Job Example)**

Edit the crontab file:

bash

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crontab -e

Add a scheduled task to run daily at 2 AM:

bash

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0 2 \* \* \* mysqldump -u root -p[password] codtech > /backup/codtech\_$(date +\%F).sql

* Automatically creates backups with date stamps.

**2. Recovery Process**

**2.1 Restoring a Full Database**

sql

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mysql -u root -p codtech < codtech\_backup.sql

**2.2 Restoring a Specific Table**

sql

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mysql -u root -p codtech < employee\_backup.sql

**2.3 Restoring from Compressed Backup**

bash

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gunzip < codtech\_backup.sql.gz | mysql -u root -p codtech

**2.4 Restoring with Existing Data (DROP & Restore)**

sql

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DROP DATABASE codtech;

CREATE DATABASE codtech;

mysql -u root -p codtech < codtech\_backup.sql

**3. Documentation and Best Practices**

1. **Automate Backups:** Use cron jobs or scripts to schedule regular backups.
2. **Verify Backups:** Test recovery on a separate system to ensure backups are usable.
3. **Store Backups Securely:** Keep copies in cloud storage (e.g., AWS S3, Google Drive).
4. **Monitor Backup Logs:** Check for errors and failures regularly.