Document [ID]:	Title: *Database Backup*	Print Date:
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Purpose and Scope:

- To maintain a copy of database for backups and updating them timely.

Responsibilities:

- Designated IT staff and Data coordinators

Accountability:

- Manager, Quality Control department

Definition:

Database

It is an organized storage of data, or information which can be retrieved and accessed during backup restoration. It stores the copy of organization data, or information.

Database Backup

The process of backing up the architecture, operational state, and stored data of database software. The database backup creates a duplicate copy of database which is useful while recovering the data.

Procedure:

- The backup of database is done to protect data and to restore in case of any issue. It is important to meet organization's compliance with government regulations.
- There might be a chance when organization face some system failures. Hence, backing up the database data is an important task.

- As per the current system:
  - A cron job is configured for backup procedure. The cron job runs daily in night for backing up the data.
  - Two days data backup is maintained. On third day system deletes day 1 data and backup day 3 data. Basically, this depends on the storage capacity. As per the requirement it can be modified.
- The backup process can also be done by database management software or by RDBMS (Relational Database Management System). Relational Database is a kind of database in which data is stored using rows and columns in a structured form.
- Some of the common database backup tools are:

Product	Vendor	Database Type
LiteSpeed for SQL Server	Quest	MS SQL Server
NetApp Storage Solutions for Microsoft SQL Server	Netapp	MS SQL Server
Zmanda Recovery Manager for MySQL	Zmanda	MySQL
Auto Backup for MySQL	SwordSky	
SQL Backup Pro	Red-Gate	MS SQL Server
SQL safe backup	Idera	MS SQL Server
Percona XtraBackup	Percona	MySQL
HandyBackup for MS SQL	Novosoft	MS SQL Server

- So, backing up data from database and database server both are important. It is ultimately a method to safeguard the data.
- Database Administrator (DBA) use the backup copy for restoration.
- The backup files are either stored locally or on the server.
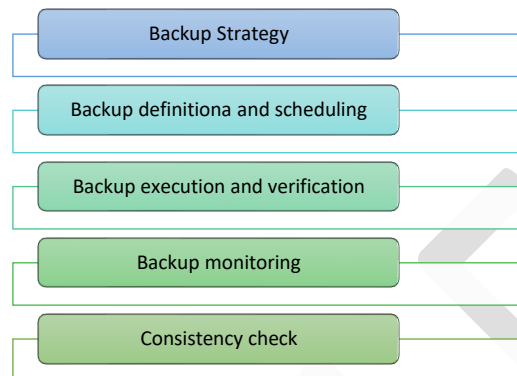- The type of database backups are as follows:

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Type	Data	Backup Time	Restoration Time	Storage Space
Normal or Full	All data	Slowest	Fast	High
Incremental	Only modified/new data	Fast	Moderate	Lowest

Differential	All data since last full backup	Moderate	Fast	Moderate
Mirror	Only modified/new data	Fastest	Fastest	Highest

- The workflow of Database Backup is

Backup Strategy

Backup definitiona and scheduling

Backup execution and verification

Backup monitoring

Consistency check

- Depending on the organization and data set the frequency of backup can be as follows:

Data Sets	Backup Frequency
Small	Daily Full Backup
Large	Weekly full backup followed by daily incremental or differential backups
*Weekly full backups with daily differential backups is most recommended way for the organizations.	