

Task: Exploring SQL Server Backup Types

backups are essential for protecting data and ensuring recoverability in case of failure. There are several types of backups, each serving different purposes.

types of backup

	use	includes	Pros	cons	Real-world scenario (
Full Backup	daily /weekly	Entire database(data files,table..)	<ul style="list-style-type: none">• Simplifies restore process.• Complete snapshot of the database.	<ul style="list-style-type: none">• Time-consuming and storage-intensive.	banking system performs a full backup every night to ensure all customer transactions and account data are preserved.
Differential Backup	Between full backups to reduce backup time and size	All changes since the last full backup.	<ul style="list-style-type: none">• Faster and smaller than full backups.• Reduces storage requirements.	<ul style="list-style-type: none">• Requires the last full backup for restoration.• Grows in size over time until the next full backup.	e-learning platform takes differential backups every 6 hours to capture new course uploads and student progress.
Transaction Log Backup	Frequently (every 15 minutes) in Full or Bulk-Logged recovery models.	All transaction log records since the last log backup.	<ul style="list-style-type: none">• Enables point-in-time recovery.• Minimizes data loss.	<ul style="list-style-type: none">• Requires full and possibly differential backups for restoration.• Can grow large if not backed up regularly.	Real-world scenario: A ticketing system uses transaction log backups every 5 minutes to ensure no ticket sales are lost in case of failure.
Copy-Only Backup	For ad-hoc or one-time backups without affecting the backup chain.	Same data as a full or log backup, but doesn't interfere with differential or log backup sequences.	<ul style="list-style-type: none">• Safe for testing or development.• Doesn't disrupt regular backup strategy.	<ul style="list-style-type: none">• Cannot be used as a base for differential backups.	software development team takes a copy-only backup before applying a major patch to a production database for rollback purposes.
File/Filegroup Backup	For very large databases with multiple filegroups.	Specific files or filegroups within the database.	<ul style="list-style-type: none">• Efficient for large databases.• Allows partial restores.	<ul style="list-style-type: none">• More complex restore process.	video streaming service stores media files in separate filegroups and backs them up independently to optimize storage and performance.