Elevate Retail – Database Backup Plan

# 1. Purpose

This document outlines the backup plan for the Elevate Retail database, which is designed to ensure data durability, minimize loss in the event of system failure, and support the recovery of mission-critical e-commerce operations.

# 2. Backup Objectives

* Safeguard customer, order, and product data.
* Ensure recoverability in case of data corruption, loss, or infrastructure failure.
* Support regular development and testing workflows with access to current data.

# 3. Backup Strategy Overview

* Backup Type: Full backups of the Elevate Retail database.
* Frequency:
* Full Backup: Weekly (Manual for now; Automated in future production)
* Schema Backup: After each schema change
* Script Backup: All scripts are backed up after any changes/updates made to them (they’ve been backed up locally as well in case of loss in virtual environment)

# 4. Backup Storage Locations

* Development Pod: Used during schema creation and testing phases.
* Production Pod: Shared environment where the live database instance will hopefully be stored if DBAs and the NetLab person can make it happen!
* External Storage:
* SQL Backup Files (BAK) saved locally and to a production drive. (It should always be in development pod as well)

# 5. Backup Tools and Methods

* SQL Server Management Studio (SSMS) for full database backups.
* T-SQL Scripts to generate and restore `.bak` files. (This is beneficial, but we haven’t been able to implement it in the NetLab environment yet).
* Manual file transfers between development and production pods.

# 6. Backup Validation

* Periodic test restores to validate integrity of backups. (We’ve had to do this 3 times now due to issues in NetLab, and each one has been successful)
* Confirmation of schema and data integrity post-restore.
* Checksum option can be used during backups when applicable to detect any data corruption.

# 7. Issues Encountered and Solutions

* Database files and scripts were lost multiple times due to NetLab environment issues/resets.
* This reinforced the importance of external backups and off-pod storage to prevent data loss.
* We’ve also communicated with IT instructors and the NetLab implementer to explore solutions.

# 8. Lessons Learned and Recommendations

* Always store backups outside of virtual environments.
* Maintain version-controlled scripts for all schema and data updates.
* Schedule automated backups when the environment allows.
* Implement logging of backup success/failure in future environments.

# 9. Next Steps

* Finalize automated backup scripts.
* Designate a backup administrator.
* Schedule regular backup and restore validation sessions (may or may not be implemented given time constraint)

Prepared by DBA Students – Elevate Retail Project, 2025