

HPE NonStop SQL/MX Database Management U8617S

HPE course number	U8617S
Course length	5 days
Delivery mode	ILT, VILT
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This course introduces tasks used by database administrators or system managers to manage and protect a NonStop SQL/MX database and applications that access the database.

Audience

- Database administrators
- System managers
- Personnel responsible for the availability of NonStop SQL/MX databases and applications.

Prerequisites

- NonStop SQL/MX Basics (U4184S)
- NonStop SQL/MX Quick Start (U4185S)

Course Objectives

- Describe HP NonStop SQL/MX architecture
- Install SQL/MX and upgrade SQL/MX metadata to current release
- Create, alter, and drop SQL/MX database objects (catalogs, schemas, tables, constraints, indexes, views, and triggers)
- Grant and revoke access privileges to

SQL/MX database objects

- Import data into SQL/MX non-partitioned and range and hash partitioned tables
- Protect and recover SQL/MX database objects with HP NonStop Transaction Management Facility
- Use the MODIFY utility to add, split, merge, and drop SQL/MX range and hash partitioned tables
- Describe and use the SQL/MX utilities (DUP, import, migrate, MODIFY, mxtool, mxexportddl, MXGNAMES, POPULATE INDEX, and PURGEDATA)
- Describe the SQL/MX distributed database architecture

Benefits to you

- Become familiar with the SQL/MX architecture using SQL/MX native tables
- Create and manage SQL/MX database objects

Detailed course outline

Module 1: Overview of SQL/MX Architecture	<ul style="list-style-type: none"> SQL/MX logical structure, catalogs, schemas, and objects SQL/MX physical structure: SMD volumes, schema subvolumes, data forks and resource forks SQL/MX processes and utilities Lab exercise: Overview of SQL/MX Architecture 	<ul style="list-style-type: none"> Identify the system catalog, schemas, and objects Identify user catalogs, schemas, and objects Locate the underlying files for SQL/MX objects Metadata basics
Module 2: SQL/MX Installation	<ul style="list-style-type: none"> Hardware and software requirements for installing SQL/MX Installing SQL/MX with the InstallSqlmx utility Verifying the SQL/MX Installation 	<ul style="list-style-type: none"> Create the SQL/MX sample database Lab exercise: Perform a post-installation check for SQL/MX.
Module 3: Metadata Migration to SQL/MX R3.0	<ul style="list-style-type: none"> Migrating considerations Post upgrade scenarios 	<ul style="list-style-type: none"> FIXRCB operation UPGRADE utility
Module 4: Creating SQL/MX Objects	<ul style="list-style-type: none"> Creating catalogs, schemas, tables, constraints, indexes, and views Viewing object metadata 	<ul style="list-style-type: none"> Lab exercise: Creating SQL/MX Objects with mxci or NSM/web
Module 5: Referential Integrity Constraints	<ul style="list-style-type: none"> Referential Integrity Creating referential integrity constraints as column or table constraints 	<ul style="list-style-type: none"> Lab exercise: Creating Referential Integrity constraints with mxci or NSM/web
Module 6: Creating SQL/MX Partitioned Tables and Indexes	<ul style="list-style-type: none"> Range and hash partitioned tables Creating range and hash partitioned tables and indexes Advantages and Disadvantages of each type of partitioning. 	<ul style="list-style-type: none"> Decoupled keys, co-partitioned tables, and co-located partitions Lab exercise: Creating range and hash partitioned tables with mxci or NSM/web
Module 7: Creating SQL/MX Triggers	<ul style="list-style-type: none"> Trigger terminology Creating BEFORE and AFTER triggers 	<ul style="list-style-type: none"> Cascading and conflicting triggers Lab exercise: Creating SQL/MX Triggers
Module 8: SQL/MX Security	<ul style="list-style-type: none"> Object ownership and security rules Object Privileges Use of Security Administrator's Group 	<ul style="list-style-type: none"> Change object ownership SQL/MX GRANT and REVOKE commands Lab exercise: Granting and Revoking Privileges with mxci or NSM/web
Module 9: Import and Populate Index Utilities	<ul style="list-style-type: none"> Importing fixed and delimited data with the import utility Importing data in parallel 	<ul style="list-style-type: none"> Populating (loading) indexes Lab exercise: Importing Data into Range and Hash Partitioned Tables and Indexes
Module 10: Reorganizing SQL/MX Tables and Indexes	<ul style="list-style-type: none"> Reorganizing data Determining file fragmentation 	<ul style="list-style-type: none"> FUP RELOAD and INFO commands Lab exercise: Reorganizing Data
Module 11: Updating Statistics	<ul style="list-style-type: none"> Histogram Statistics and histogram metadata tables Generating single column and multicolumn statistics 	<ul style="list-style-type: none"> Using sampling with the update statistics utility Lab exercise: Updating and Viewing Statistics
Module 12: Database Protection and Recovery with TMF	<ul style="list-style-type: none"> TMF Protection and Recovery Strategies MXGNAMES Utility Performing Online Dumps 	<ul style="list-style-type: none"> Recovering dropped SQL/MX Objects Lab exercise: SQL/MX Protection and Recovery Using TMF
Module 13: Compiling SQL/MX Programs in the OSS Environment	<ul style="list-style-type: none"> Compiling SQL/MX Programs!Preprocessing source files for SQL/MX Language compiling SQL/MX annotated source files SQL/MX compiling module definition files 	<ul style="list-style-type: none"> Global or local module files Defining search paths for module files Lab exercise: Compiling Embedded SQL/MX C or COBOL Programs in the OSS environment
Module 14: PURGEDATA Command and MODIFY Utility	<ul style="list-style-type: none"> Purging data from range and hash partitioned tables Adding, splitting, merging, and dropping range partitions 	<ul style="list-style-type: none"> Adding and dropping hash partitions Lab exercise: PURGEDATA Command and MODIFY Utility
Module 15: SQL/MX Utilities	<ul style="list-style-type: none"> DUP tables, indexes, and constraints RECOVER utility 	<ul style="list-style-type: none"> mxtool (INFO, VERIFY, FIXUP, and GOAWAY) utility Lab exercise: SQL/MX Utilities
Module 16: NonStop MXDM	<ul style="list-style-type: none"> Features and requirements of MXDM Installing and uninstalling 	<ul style="list-style-type: none"> Example screens

Module 17: Managing SQL/MX Applications	<ul style="list-style-type: none"> Name references in programs Compile time and late name resolution Similarity checking 	<ul style="list-style-type: none"> Automatic recompilation Methods for moving SQL/MX applications Lab exercise: Managing Embedded SQL/MX Programs
Module 18: SQL/MX Distributed Databases	<ul style="list-style-type: none"> Distributed databases Transparency, visibility, and availability ANSI name translation for local and remote objects 	<ul style="list-style-type: none"> REGISTER and UNREGISTER CATALOG commands Lab exercise: SQL/MX Distributed Database Demonstration
Module 19: Adding, Altering, and Dropping SQL/MX Objects	<ul style="list-style-type: none"> Authorization for adding, altering, and dropping SQL/MX objects Adding SQL/MX objects Altering SQL/MX objects 	<ul style="list-style-type: none"> Dropping SQL/MX objects Lab exercise: Altering and dropping SQL/MX objects
Module 20: Open Source Tools	<ul style="list-style-type: none"> Overview of open source tools available for SQL/MX usage Describe usage of Eclipse to access SQL.MX 	<ul style="list-style-type: none"> Overview of use of DBVisualizer to access SQL/MX

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