Pathway application programming I (COBOL)

Course description

This course covers COBOL language application programming in the Pathway environment through classroom discussion and hands on programming exercises with an HP NonStop™ server. You will have the choice of performing lab exercises using either the Enscribe or the NonStop SQL/MP database.

Who should attend

Application programmers who will be developing applications using the Pathway product.

Prerequisites

· Concepts and Facilities course
· Six months of COBOL programming experience
Recommended:
· Knowledge of ANSI-standard SQL, if you plan to perform the NonStop SQL labs
For complete prerequisites and requirements to achieve any of the related certifications or upgrade paths, see the certification description on the HP ExpertOne website.

Course ID	00071760
HP product number	U4190S
Course format	ILT
Typical Course length	5 days
Skill level	Foundational
Delivery languages	English
Related certifications	• Master ASE - HP NonStop Systems Support [2007] • Master ASE - HP NonStop Solution Architect [2007] • ASE - HP NonStop Systems • CSE - HP NonStop Kernel
In preparation for these exams	Selected items from this course are included in these exams: • HP0-787: NonStop Advanced Application Development • HP0-A13: NonStop Pathway TS and TS/MP

Register for this course.
Find this course in the Training calendar and click the "Register" link in the last column to begin your registration.

Topics

- Pathway introduction
  - Online transaction processing (OLTP) in the NonStop server environment
  - Requester server approach to online transaction processing
  - Pathway application and its role in online transaction processing
  - Components of a Pathway environment
  - Starting PATHMON and PATHCOM
  - Client/server options available in the Pathway environment

- Pathway configuration and operation
  - Starting PATHMON and PATHCOM
  - Difference between global and object specific configuration parameters
  - Configuring global and object specific parameters
  - Cold starting and cool starting a Pathway system
  - Starting the Pathway objects individually
  - Monitoring and maintaining a Pathway system
  - Shutting down a Pathway system
  - Capturing the configuration specifications for the current Pathway environment
  - Lab Exercise (30 minutes):
    o Establish your individual lab environment and practice starting and shutting down a Pathway application environment
  - Lab Exercise (1 hour):
    o Create, start, and exit from a Pathway application environment
    o Configure Pathway TCP, TERM, PROGRAM, and SERVER objects
    o Display Pathway object attributes and information
    o Shut down a Pathway application environment
  - Lab Exercise (1 hour):
    o Manage and monitor a Pathway application environment
    o Capture the current Pathway configuration parameters

- SCREEN COBOL requesters
  - Steps a programmer performs to develop a SCREEN COBOL requester
  - Several functions of SCREEN COBOL
  - Similarities and differences between SCREEN COBOL and COBOL
  - Components of a basic SCREEN COBOL program

- Writing basic SCREEN COBOL statements to display and accept data
- Writing basic SCREEN COBOL statements to communicate with other requester programs
- Using the SCREEN COBOL Utility
- Program (SCUP) to maintain pseudo-object libraries
- Lab Exercise (1 hour):
  o Lay out and use a SCREEN COBOL screen
  o Define fields and attributes that make up a SCREEN COBOL screen

- Additional SCREEN COBOL topics
  - Writing basic SCREEN COBOL statements to communicate with server programs
  - Coding SCREEN COBOL verbs to enhance screen displays
  - Basic functions of TM/MP (Transaction Monitoring Facility, TMF) software
  - Writing SCREEN COBOL statements for a requester to operate in a TM/MP environment
  - Defining and using overlay screens in SCREEN COBO
  - Lab Exercise (1.5 hours):
    o Code SCREEN COBOL requester programs
    o Code ACCEPT, PERFORM ONE, and CALL statements

- Inspect debugging
  - Basic syntax and use of common Inspect commands used to debug programs
  - Necessary steps to debug a stand-alone process
  - Necessary steps to debug a SCREEN COBOL requester
  - Necessary steps to debug a Pathway server
  - Lab Exercise (2 hours):
    o Gain experience in enabling a database to be protected by the TM/MP facility
    o Demonstrate the difference between audited and nonaudited databases
  - Lab Exercise (2 hours):
    o Code overlay screens

- Server fundamentals
  - Basic function of a server
  - Function of $RECEIVE in interprocess communication
  - Steps that make up the basic structure of a server program
  - Coding the COBOL
  - 85 server program to use $RECEIVE properly
  - How server programs can utilize the enhanced capabilities of the D.xx versions of the NonStop Kernel operating system
  - Why servers should be context free
  - Problems that can occur when servers have concurrent access to a database
  - Lab Exercise (1 hour):
    o Code a Pathway server to use $RECEIVE
  - Lab Exercise (1 hour):
    o Establish an Inspect session in a Pathway application environment
    o Use Inspect to examine the message passed between a requester and server in the Pathway application environment

- Server programs: Enscribe database access
  - Coding SELECT statements to associate logical file names to physical file names
  - Coding statements to open the database files in the correct mode for server access
  - Using the NonStop server extension to solve positioning problems
  - Coding file access statements to read, update, and delete database records
  - Locking implications when accessing Enscribe files
  - Establishing a Declaratives Section in a server to handle I/O errors
  - Compiling a server program that accesses Enscribe files

- Server programs: NonStop SQL/MP database access
  - Identifying and defining a host variable
  - Coding an SQL/MP SELECT statement that accesses a single row of a NonStop SQL table
  - Writing a variety of Data Manipulation Language (D
  - ML) statements to insert, update, and delete records in an SQL/MP database
  - Operation of a cursor
  - Constructing a series of statements that use a cursor
  - Writing statements to report SQL/MP run time errors
  - Process used to compile a COBOL85 program with embedded SQL/MP statements
  - Writing statements to compile a COBOL85 server program that accesses a NonStop SQL/MP database
  - Lab Exercise (1.5 hours):
    o Code simple server programs to access an Enscribe or SQL/MP database
    o Code a variety of statements and then compile and test your server program

- Lab Exercise (2 hours):
  o Code slightly more advanced statements to access an Enscribe or NonStop SQL/MP database to include the insertion of new information based on screen input
- Lab Exercise (5 hours) - Optional:
  o Put into practice some of the advanced concepts learned about SCREEN COBOL
- Lab Exercise (3 hours) - Optional:
  o Gain a complete picture of a Pathway requester server pair
  o Design and build copy libraries, the DDL source, and a simple database

Objectives

After completing this course, you should be able to do the following:

- Understand how Pathway applications utilize the features of the system architecture and operating system.
- Apply in COBOL language what you have learned to your own application programs.

How to register

Click on this link to register for this course: Register for this course.

Policies, fees and cancellations

Course fees may vary and are established and collected by the training center delivering the course. Cancellation fees may apply. Contact your HP Authorized Training Partner for their respective policies.

For more information

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