Enterprise Computing Solutions - Education Services

OFERTA FORMATIVA

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Developing Applications Using IBM Informix ESQL/C

CÓDIGO:	DURACIÓN:	Precio:
IX150G	32 Hours (4 días)	€1,900.00

Description

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In this course, you will use IBM Informix ESQL/C tools to write applications that contain embedded SQL commands and queries. You will write applications to perform queries that return single and multiple rows; insert, update, and delete rows; create and use forms to display one or more rows of data; manage cursors, and handle various types of data, including large objects.
This course replaces US Course *Developing Applications Using IBM Informix ESQL/C (L1112)*.

Objetivos

- Include SQL statements in a C program to add, retrieve, and alter data in an Informix database
- Set up a cursor structure for manipulating a set of rows
- Work with all SQL data types
- Set up and execute dynamically defined SQL statements
- Write effective, efficient SQL-based applications in C

Público

This intermediate course is designed for application developers.

Requisitos Previos

You should have:

- IBM Informix Structured Query Language **or** equivalent knowledge
- ANSI C programming **or** C programming experience

Programa

Introduction to IBM Informix ESQL/C

- Identify the components of ESQL/C
- Install ESQL/C as part of Client SDK
- Set environment variables and execute the ESQL/C preprocessor

The Demonstration Database

- The tables in the stores_demo demonstration database
- The relationships between these tables
- Installing a copy of this database

Embedding SQL Statements

- Embed SQL statements in C
- Identify C variables for use in accessing SQL databases

- Describe the structure of an ESQL/C program

Using CONNECT TO

- Use the CONNECT TO, DISCONNECT, and SET CONNECTION SQL statements
- Describe when optional syntax is appropriate
- Describe how the syntax works with pre-6.0 version syntax and functionality

Compiling an ESQL/C Program

- Incorporate other files into your source code
- Conditionally preprocess SQL statements
- Compile a program by using IBM Informix ESQL/C
- Explain the basic use of the make utility

ESQL/C Data Types

- Determine which C data type to use as a host variable
- Explain problems in converting between data types
- Use functions to convert variables of different types

Character and String Data Types

- Declare host variables for CHAR, CHAR *, VARCHAR, and LVARCHAR data types
- Explain the storage needs of character and string data
- Interface with LVARCHAR data through library functions

Numeric Data Types

- Recognize the storage needs for numeric data
- Declare host variables for INT8, SERIAL8, BOOLEAN, and DECIMAL data types
- Describe the structure for the DECIMAL data type
- Use ESQL/C library functions to access data

Inserting Rows

- Code an appropriate embedded SQL statement that inserts a row into a database

The SQL Communications Area

- Explain the need for and the structure of the SQL Communication Area
- Effectively use information contained in this structure

SQL Exception Testing

- Describe the kinds of exceptions that might occur during execution of an SQL statement
- Simplify exception testing after every SQL statement

Using GET DIAGNOSTICS

- Describe the preferred error detection methods
- Describe how to obtain warning and error information

Singleton Queries and Lookups

- Use the SELECT statement to retrieve a row from your database
- Determine whether SQL NULLs were fetched or character data was truncated
- Ensure referential integrity using application logic

An Overview of Cursors

- Name the three types of cursors
- Use the appropriate cursor for a given task

Using Scroll Cursors

- Use SQL statements to set up a scrolling cursor
- Use a scrolling cursor to browse the selected rows
- Change the size of FETCH and INSERT buffers
- Automatically free a cursor
- Use the OPTOFC feature to reduce network messaging

Using Scroll Cursors Effectively

- Use a scrolling cursor to select a primary key
- Solve the stale data problem by using the primary key to select the current row
- Declare a cursor from a prepared statement
- Defer execution of a PREPAREd statement

Using an Update Cursor

- Use an update cursor to lock rows that might be updated

Using a Insert Cursor

- Determine if an INSERT cursor is needed for adding rows to a database
- Use an INSERT cursor to insert rows into a database

Time Data Types

- Declare host variables for SQL DATE, DATETIME and INTERVAL data types
- Explain how data is converted as it is stored
- Use pre-defined DATETIME and INTERVAL macros

Simple Large Objects

- Declare host variables for BYTE and TEXT data types
- Describe the locator structure
- INSERT and SELECT simple large objects from a file or from memory

Dynamic SQL

- Use dynamic SQL and the associated data structures and commands

Dynamic SQL: Constructing INSERT Statements

- Use dynamic SQL to construct insert statements at runtime

Working with the Database Server

- Explain how to control the database server process with these functions:
  - sqlexit
  - sqldetach
  - sqlbreak
- Work with multiplexed connections

Agenda
Day 1

- Welcome
- Unit 1: Introduction to IBM Informix ESQL/C
- Exercise 1
- Unit 2: The Demonstration Database
- Exercise 2
- Unit 3: Embedding SQL Statements
- Exercise 3
- Unit 4: Using CONNECT TO
- Exercise 4
- Unit 5: Compiling an ESQL/C Program
- Exercise 5
- Unit 6: ESQL/C Data Types
- Unit 7: Character and String Data Types
- Exercise 6
- Unit 8: Numeric Data Types
- Exercise 7

Day 2

- Unit 9: Inserting Rows
- Exercise 8
- Unit 10: The SQL Communications Area
- Exercise 9
- Unit 11: SQL Exception Testing

- Exercise 10
- Unit 12: Using GET DIAGNOSTICS
- Exercise 11
- Unit 13: Singleton Queries and Lookups
- Exercise 12

Day 3

- Unit 14: An Overview of Cursors
- Exercise 13
- Unit 15: Using Scroll Cursors
- Exercise 14
- Unit 16: Using Scroll Cursors Effectively
- Unit 17: Using an Update Cursor
- Exercise 15
- Unit 18: Using an Insert Cursor
- Unit 19: Time Data Types
- Exercise 16

Day 4

- Unit 20: Simple Large Objects
- Exercise 17
- Unit 21: Dynamic SQL
- Exercise 18
- Unit 22: Dynamic SQL: Constructing INSERT Statements
- Unit 23: Working with the Database Server
- Exercise 19

Fechas Programadas

A petición. Gracias por contactarnos.

Información Adicional

Esta formación también está disponible en modalidad presencial. Por favor contáctenos para más información.