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Developing Applications Using Informix 4GL Information

Length: 5.0 Days
__Ref: IX101G-X 
Delivery method: Classroom
Price: EUR

Overview

Get an introduction to the powerful features of Informix 4GL, a complete fourth-generation application development language. Using Informix 4GL, build an integrated application that features easy-to-use menus, data entry screens, reports, and online help, all with significantly less code than conventional programming languages require.

Course Materials

The course materials address Informix 4GL 7.50.xC3.

Hands-On Labs

Twenty-six labs are included to provide practice in developing applications with I-4GL 7.50.xC3.

Training Path

This course is part of an IBM Training Path. Taking this course in the recommended sequence allows you to maximize the benefits from your education.

If you are enrolling in a Self Paced Virtual Classroom or Web Based Training course, before you enroll, please review the **Self-Paced Virtual Classes and Web-Based Training Classes** on our Terms and Conditions page, as well as the system requirements, to ensure that your system meets the minimum requirements for this course.

- <http://www.ibm.com/training/terms>

Public

This is an intermediate course for application developers, database and system administrators, project leaders, and technical support individuals.

Prerequisites

You should have:

- Previous programming experience
- Experience in using Structured Query Language (SQL)
- Experience using UNIX or Linux is recommended

Objective

- Develop custom applications using IBM Informix 4GL
- Create custom menus
- Create custom data entry forms
- Effectively use SQL statements in your application
- Incorporate error handling routines into your application
- Integrate on-line help facilities into your application
- Use transactions in your application
- Produce custom reports
- Use screen arrays
- Insert multiple rows using arrays
- Execute dynamic SQL statements
- Lock database rows during updates
- Deploy 4GL functions as Web services

Topics

IBM Informix 4GL and the IBM Informix Toolset

- Explain to others how IBM Informix 4GL fits into the client/server architecture of IBM Informix products
- Tell the difference between the compiled IBM Informix 4GL C Compiler Version and IBM Informix 4GL Rapid Development System.

Basic Components of IBM Informix 4GL

- Define the terms: PROGRAM, MODULE, FUNCTION, and FORM
- Understand how these components make up an IBM Informix 4GL program

IBM Informix 4GL The Programmer's Environment

- Navigate through the IBM Informix 4GL Programmer's Environment menu
- Choose the appropriate menu option for a given task
- Use the alternative command-line options to create programs

Procedural Logic

- Use IBM Informix 4GL syntax for decision logic, including IF statements and CASE statements
- Follow IBM Informix 4GL syntax for logic loops, including WHILE loops and FOR loops

Screen Interaction Statements

- Describe the features of the following IBM Informix 4GL statements: ERROR, MESSAGE, DISPLAY, and PROMPT
- Modify default display characteristics for these statements using the OPTIONS statement

The MENU Statement

- Use the MENU statement to create an IBM Informix 4GL ring menu
- Suggest a menu path to a user
- Create hidden menu options
- Hide or display specific menu options

Creating a Help File: The mkmessage Utility

- Use the mkmessage utility to compile a customized Help file for your application
- Understand the menu used when your Help file is invoked
- Change the default Help key
- Include a Help option in a 4GL statement

Forms in IBM Informix 4GL

- Create a default form
- Select a table for a form
- Modify a default form
- Specify attributes for a form
- Compile a form

Displaying Forms and Windows

- Display a form to the screen
- Open a window on the screen
- Use the statements associated with clearing windows
- Use the statements needed to release the memory used by forms and windows

Data Types in IBM Informix 4GL

- Use the different data types in IBM Informix 4GL

Defining Program Variables

- Define the appropriate variables for your program
- Understand the scope of program variables
- Know which data types can be used to define a variable in your program

The Input Statement

- Use the INPUT statement to enter information into program variables
- Change the default options for accepting data entry from end users

Using Clauses with the INPUT Statement

- Controlling the movement of the cursor through a form based on user input
- Using the value entered in one field to calculate a value for another field
- Invoking field level help through the use of special built-in functions

The Insert Statement

- Take the values entered by a user and insert them into a database table

The SQLCA Record

- Recognize the variables that make up the SQLCA record
- Understand how SQLCA record can be used

Trapping Errors with the WHENEVER Statement

- Tell the program that you will test for errors in your IBM Informix 4GL program
- Recover from errors in your IBM Informix 4GL program
- Use a compile switch to change the condition of error handling

Trapping User Entered Interrupts: The DEFER INTERRUPT Statement

- Trap the interrupt signal during data entry

A Review of the SELECT Statement

- Use a simple SELECT statement to return one row from the database
- Understand the syntax for more complex SELECT statements

Verifying Data in IBM Informix 4GL

- Make code reusable
- Call a function within an expression
- Verify that data being entered by an end user exists in one table before allowing it to be added to

another table

- Use the SQLCA.SQLCODE variable to see whether a row was returned by a SELECT statement

An Overview of Cursors

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

Transactions in IBM Informix 4GL

- Define a transaction
- Use the BEGIN WORK, COMMIT WORK, and ROLLBACK WORK statements in a transaction

Using Scroll Cursors

- Use a SCROLL cursor to retrieve rows from the database
- Use the features of a SCROLL cursor to browse through the selected rows
- DECLARE a cursor WITH HOLD when using transactions

Query by Example: The CONSTRUCT Statement

- Use a CONSTRUCT statement so that end users can query-by-example

Row Locking: FOR UPDATE Cursor

- Use a cursor declared FOR UPDATE to lock a row while it is being changed or deleted

Deleting Rows in IBM Informix 4GL

- Implement the code necessary to delete a row from a table
- Verify that a row can be deleted
- Prompt the user for assurance of a delete

Database Updates in IBM Informix 4GL

- Let the user access a form to change information
- Update a row in a database

The PREPARE Statement for Optimization

- Use a PREPARE statement to increase the speed of execution for a DELETE statement
- Use a PREPARE statement to increase the speed of execution for an UPDATE statement
- Use a PREPARE statement to increase the speed of execution for an INSERT statement

Scroll Cursors and Stale Data

- Use a SCROLL cursor to SELECT a primary key
- Use the primary key from a SCROLL cursor as an index for a nonscrolling cursor

Forms that Use Arrays

- Create a form that uses an array
- Define a screen array for a form that uses an array
- Open and display a form with an array

The INPUT ARRAY Statement

- Define a program array of records
- Use the INPUT ARRAY statement to allow the user to enter data
- Use the INSERT statement to transfer the program array record values into a database table

Clauses Using INPUT ARRAY

- Control the movement of the cursor through the elements of an array based on user input
- Use the value entered in one field to calculate a value for another field
- Use library functions to verify information during the input

Displaying Arrays and Pop-up Windows

- Select data from the database into a program array
- Use the DISPLAY ARRAY statement to allow the user to scroll through the set of data
- Populate a program array to be used in a pop-up window
- Implement a pop-up window to display a list of valid values for a field on a form

Reports in IBM Informix 4GL: Creating a Report Driver

- Create a report driver using the statements: START REPORT, OUTPUT TO REPORT, and FINISH REPORT
- Create a default report using the REPORT function

The REPORT Function

- Use the REPORT function to format the rows received by the report driver
- Use the seven control blocks of a report to achieve the desired appearance of a report

Advanced Report Concept: Two Reports from One SELECT

- Use one SELECT statement in two reports
- FORMAT the same information in two different reports

Advanced Report Concept: Using Variables to Name Output Files

- Use a variable to name an output file
- Use information supplied by the user to create the sort key for a report

Informix 4GL Applications as Web Services

- Define Web Service and Service-Oriented Architecture
- Describe the process of deploying a 4GL application to a Web service
- Configure the 4GL development environment for Web services
- Use the 4GL tools to manage components, compile, and deploy functions as Web services