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Informix 11.7 Database Administration - SPVC

CODE: **DURÉE:** **PRIX H.T.:**

2X222G 32 Hours €1,200.00

Description

This course will teach the student the basic concepts of data management within IDS. It discusses how to determine correct data types; how to create, manage and maintain tables and indexes; how the IDS optimizer works; how to manage data; and how to utilize the SET EXPLAIN feature to determine query effectiveness.

The course is updated for version 11.50 of Informix, but is suitable for those still running previous versions of IDS. This course is the Self Paced Virtual version of classroom-delivered course *Informix Dynamic Server 11 Performance Tuning (IX221)* and Instructor Led OnLine course *Informix Database Administration: Managing and Optimizing Data - SPVC (3X221)*.

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>

Objectifs

- Select the IBM IDS data types appropriate for storing your data
- Create and maintain databases, tables, and indexes
- Estimate size and extent requirements for tables and indexes
- Create index strategies to improve performance
- Create and maintain table and index partitioning (fragmentation)
- Implement referential and entity integrity
- Manage database and table modes
- Manage violations logging
- Describe how the optimizer builds an optimal query plan
- Use the SET EXPLAIN feature to capture optimizer query plans
- Use directives and environment variables to influence the optimizer
- Optimize the query plan through the use of UPDATE STATISTICS
- Manage end-user concurrency
- Use permissions and roles to manage data security
- Create and use views
- Manage smart large objects
- Create and manage triggers

Audience

This basic course is designed for Informix System Administrators, Database Administrators, and Applications Developers. It is appropriate for students using Informix Growth Edition, Informix Ultimate Edition, Informix Innovator-C Edition, or Informix Ultimate-C Edition.

Prérequis

You should have a working knowledge of Structured Query Language (SQL).

Programme

Introduction to IDS Terminology

- Define basic Informix Dynamic Server terms

- Query the sysmaster database for information about the server

IDS Data Types

- Identify the Informix data types
- Choose the appropriate data type for a data column

Creating Databases and Tables

- Create databases and tables
- Determine database logging and storage requirements
- Locate where the database server stores a table on disk
- Create temporary tables
- Locate where the database server stores temporary tables
- Use the system catalog tables to gather information
- Use the dbschema utility

Altering and Deleting Databases and Tables

- Drop a database
- Drop a table
- Alter a table
- Convert a simple large object to a smart large object

Create, Alter, and Drop Indexes

- Build an index
- Alter, drop, and rename an index
- Identify the four index characteristics

Managing and Maintaining Indexes

- Explain the benefits of indexing
- Evaluate the costs involved when indexing
- Explain the maintenance necessary with indexes
- Describe effective management of indexes
- Enable or disable indexes

Table and Index Partitioning

- List the ways to fragment a table
- Create a fragmented table
- Create a detached fragmented index
- Describe temporary fragmented table and index usage

Maintaining Table and Index Partitioning

- Alter a fragmented table
- Alter a fragmented index
- Explain how to skip inaccessible fragments

Cost-Based Query Optimizer

- Write queries that produce the following index scans:
 - Sequential with a temporary table
 - Sequential scan with filter
 - Key-only index scan
 - Index Scan: lower and upper index filters
 - Dynamic Hash Join
 - Key-first index scans

Updating Statistics and Data Distributions

- Execute the UPDATE STATISTICS statement and explain the results
- Use the system catalogs to monitor data distributions

Managing the Optimizer

- Describe the effect on the engine of the different values of OPTCOMPIND
- Describe the effects of setting the OPT_GOAL parameter
- Write optimizer directives to improve performance

Referential and Entity Integrity

- Explain the benefits of referential and entity integrity
- Specify default values, check constraints, and referential constraints
- Determine when constraint checking occurs

Managing Constraints

- Determine when constraint checking occurs
- Drop a constraint
- Delete and update a parent row
- Insert and update a child row

Modes and Violation Detection

- Enable and disable constraints and indexes
- Use the filtering mode for constraints and the indexes
- Reconcile the violations recorded in the database

Concurrency Control

- Use the different concurrency controls
- Monitor the concurrency controls for lock usage
- Use the Retain Update Lock feature

Data Security

- Use the database, table, and column level privileges
- Use the GRANT and REVOKE statements
- Use role-based authorization

Views

- Create views
- Use views to present derived and aggregate data
- Use views to hide joins from users

Introduction to Stored Procedures

- Explain the purpose of stored procedures
- Explain advantages of using stored procedures

Triggers

- Create and execute a trigger
- Drop a trigger
- Use the system catalogs to access trigger information

Agenda

- Welcome
- Unit 1 - Introduction to IDS Terminology
- Exercise 1
- Unit 2 - IDS Data Types
- Exercise 2
- Unit 3 - Creating Databases and Tables
- Exercise 3
- Unit 4 - Altering and Deleting Databases and Tables
- Exercise 4
- Unit 5 - Create, Alter, and Drop Indexes
- Exercise 5
- Unit 6 - Managing and Maintaining Indexes
- Exercise 6
- Unit 7 - Table and Index Partitioning
- Exercise 7
- Unit 8 - Maintaining Table and Index Partitioning
- Exercise 8
- Unit 9 - Cost-Based Query Optimizer
- Exercise 9
- Unit 10 - Update Statistics and Data Distributions
- Exercise 10

- Unit 11 - Managing the Optimizer
- Exercise 11
- Unit 12 - Referential and Entity Integrity
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- Exercise 19

Dates de session

Sur demande. [Merci de nous contacter](#)

Informations Complémentaires

Cette formation est également disponible sous forme de formation sur site. Veuillez nous contacter pour en savoir plus.