Sample Training Prospectus

Scope

The SQL Training engagement provides your organization training and assistance to build a basic understanding of the data access language on the iSeries/System i. This engagement consists of of on-site assistance from a Centerfield Technology trainer covering:

- Classroom lecture and hands-on exercises designed to introduce the concepts surrounding the use of SQL and tuning query activity.

- Recommendations on how to migrate from the customer's current application base to use SQL.

The amount of training completed during the engagement will vary depending upon client requirements.

Assumptions & Dependencies

- Your company will provide the required facilities and equipment to conduct on-site training.

- Your company will provide the Centerfield Technology consultant access to the proper passwords and accounts on the IBM System i for the purpose of training.

Audience

This course has been developed for anyone with prior IBM System i DB2/400 - i5/OS administration experience.

The course content minimizes "behind the scenes" technology and presents information from an administrator's perspective.

Duration

(2) Two days

Prerequisites

Experience with IBM System i DB2/400 - i5/OS and Microsoft Windows 95/98/2000/XP/NT administration is required.

Course Agenda

Introduction to SQL

An overview of SQL with background information on DB2/400 and i5/OS performance issues as they relate to query activity.

The (2) two day training and implementation is designed to provide detailed information that can be used to being using SQL and be able to and tune your database and query activity. The training will allow your users to effectively use SQL to implement new applications, modify existing code, use SQL objects and migrate to SQL in a mixed environment. Each topic has varying levels of depth and consists of both classroom and hands-on activities. The training is offered in a form that is customizable for your environment.

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Classroom Requirements

Classroom discussions will require:

- A data projection device

- A connection to an IBM System i that has HomeRun installed and operational. At a minimum, this will include the availability of an IBM System i connected to a Windows 95/98/2000/XP/NT using TCP/IP.

- PC for each attendee

- All applicable software installed on each PC

- User IDs/passwords set up for IBM System i connection

- software installed and configured on a test IBM System i machine used for class

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Hands-on Requirements

The hands-on activities will require an IBM System i that can be used for education/testing and a personal computer for each student. Many of the training exercises may have an impact on IBM System i production workloads. It is not recommended to perform the training on an IBM System i that is being used for mission critical production work.

The personal computers that are used for training should be configured to allow access to the IBM System i via a 5250-emulation package and a personal computer with iSeries Navigator installed. The DB2 Query Mgr and SQL Dev. Kit for OS/400 licensed program product are also required.

Sessions Overview

The session is tailored to meet the needs of the students given their previous training and experience. The engagement will involve some content from all sessions with emphasis on the sessions that the customer feels are most important to them to include but not limited to:

SQL Introduction

- Overview of basic SQL statements
- Compare/contrast traditional DDS and RPG with SQL methods

SQL Statements

- Creating SQL objects and how they relate to each other
  - Tables
    - Data types
    - Creation options
  - Indices
  - Views
  - Differences between SQL objects and DDS files
    - Data validation
    - Internal structures
    - Functional advantages & disadvantages
    - Performance
- Select statement
  - Column lists
  - WHERE clause
  - Joins
  - Grouping
  - Having

- Changing data
  - Insert
  - Update
  - Delete

Sample Training Prospectus

SQL Statements (continued)

- Data integrity protections

  - o Basic data validation
  - o Referential integrity
  - o Unique constraints
  - o Data constraints

SQL flavors

- Static

- Dynamic

- Extended Dynamic

SQL built-in functions

- Standard functions

- Date/Time/Timestamp

- String handling

- Data handling/conversion

Understanding indices and indexing strategy

- Discuss different type of indices and how to create them

- Discuss the theory of when an index should or should not be used

- Introduce the factors that influence index usage

Analyzing SQL and query activity

- Discuss the general analysis approach

- Discuss the measurements used to quantify and qualify activity

- Discuss benefits and disadvantages of different data access methods used by the Query Optimizer

Tune SQL and query activity

- Understanding the controls that influence the Query Optimizer

- Understanding how to interpret the Visual Explain constructs within the picture

- Understanding the benefits and disadvantages of different plan constructs

- Techniques for changing the Query Optimizer's query or statement implementation