

Course Code: CMW30G

Course Title: IMS Database Performance and Tuning

## Description:

Learn how to tune Information Management System (IMS) databases.

Explore the IMS database features that affect performance, such as data set considerations and buffers for Virtual Storage Access Method (VSAM) and Overflow Sequential Access Method (OSAM). Also, practice a method for estimating performance before implementation. Plus, reinforce the skills you have learned with seven machine labs.

This course is taught in a Web conference medium with live instructor audio, and Internet Web conferenced materials. You have chat type Questions and Answers (Q and A) ability, plus live audio. The course is taught 10:00 a.m. to 12 noon and 1:00 p.m. to 3:00 p.m. Central time for ten work days over a two-week period. Since the class is taught live using Web conferencing methods, you can attend from your home or work. Class durations are approximately one-half day so you can still accommodate daily work responsibilities.

You will be contacted prior to class start to receive connection information, hardcopy materials, and other relevant information.

## Objectives:

- Analyze performance data about the IMS database environment
- Choose IMS access methods that provide the best database performance
- Improve performance by selecting database buffer pools and buffer pool options and with the correct data set access method and storage attributes
- Implement the optimum performance options for VSAM data sets at define and execute time
- Evaluate the need for secondary indexes and select implementation options to improve their performance
- Choose physical database implementation options to improve performance
- Select Hierarchical Direct Access Method (HDAM) randomizing parameters that can improve the key randomization process

## Prerequisites:

You should complete:

- *Physical Organization of Databases (CM220)*
- **or** *IMS Physical Organization of Databases Workshop - Web (CMW22)*

**and** have the six to twelve months experience with the IMS database system needed to understand IMS Database design choices.

Prerequisite knowledge includes being able to:

- Describe the physical storage and processing characteristics of Hierarchical Indexed Sequential Access Method (HISAM), Hierarchical Indexed Direct Access Method (HIDAM), and Hierarchical Direct Access Method (HDAM) access methods.

- Code the Data Base Definitions (DBD) and Program Specification Blocks (PSB) macros to implement secondary indexing, HISAM, HIDAM, and HDAM physical databases.
- Describe the physical storage characteristics of secondary indexes.
- Describe the PSB and programming requirements and processing characteristics when using a secondary index.
- Use the IMS utilities to load and reorganize logically related databases with secondary indexes.
- Use Virtual Storage Access Method (VSAM)'s access method services to delete and define the Key-Sequenced Data Set (KSDS) and Entry-Sequenced Data Set (ESDS) data sets needed to support the database environment.
- Use reports created by the database tool's program, DBD/PSB/ACB Mapper
- Specify buffers for VSAM data set supported databases

## **Duration:**

40 Hrs

## **Topics:**

- Introduction to IMS database tuning
- Introduction to the lab project
- Review of the IMS access methods
- Measuring IMS database performance
- Tuning VSAM buffers
- Tuning VSAM data sets
- Additional performance issues
- Tuning secondary indexes
- Tuning HDAM
- Tuning OSAM data sets and buffers
- Other tuning considerations
- Database tuning summary

## **Audience:**

This is an advanced course for IMS system programmers, Data Base Administrators (DBA) and technical support individuals who are responsible for the performance of IMS Databases.