



Institute for Capacity Development (ICD)

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Database Management Techniques

Workshop Objectives

Upon completion of this workshop, participants should be able to:

- Design and set up a traditional database system
- Understand techniques and advances in data management
- Know how data management techniques are branching out from traditional database systems
- Read and understand many papers in data management conferences
- Critique current approaches to data management problems
- Propose the application of existing techniques to new data sources
- Design and evaluate new data management techniques
- Set up and management the database for the institution

Target Groups

- Records management officers
- Information officers
- Records managers
- Data clerks
- Registry officers
- Administration officers
- Systems administrators
- Departmental Heads

Workshop Outline

- General management techniques and principles
- Introduction to Databases
- History of DBMS. Database Models.
- Systems Development (SDLC) and Database Development
- Entity Relationship Modeling (ER Modeling)
ER model constructs. Lab Session - Using MS Access
- Relationships, super and subtype entities
- The Relational Model - Converting E-R to Relations Normalization
- Relational Algebra
- SQL Server
- Structured Query Language (SQL) - Data Definition Lang.
- SQL Continued - Data Manipulation Lang.

- Using MS Access (Creating and running SQL queries)
- Implementation: Data Structures (ordered, unordered and indexed files)
- Database Security and System Administration
- Transaction Processing, Concurrency Control, Recovery
- DB Architectures: Client/Server
- DB Architectures: Distributed Databases
- ER Model and Normalization
- Security, Backup and Recovery
- Popular Databases and differences
- Web Access to Databases
- Object Oriented Databases
- Data Management Applications (Data Integration, Peer-to-Peer, OLAP, Data Warehousing, Data Mining, Metadata management)
- Alternate data models (XML, object Oriented/Object Relational, Temporal/Time , series data, Spatial data, Image data, Text data)
- Action planning.

Dates: 07th – 18th October 2019

Cost: US\$3450/delegate

Duration: 2 weeks

Venue: Pretoria, RSA