# Db2 for z/OS: Using RACF Training

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Duration: **1 Day**

Db2 for z/OS security has historically been performed using an external security product such as RACF to secure the system, while access to Db2 objects and data was controlled using Db2 internal security.<br>However now more and more organisations are using RACF to control all aspects of Db2 security - both at the system and data levels.<br>This intensive, one-day course shows exactly how this may be achieved.<br><br>This course is also available for one-company, on-site presentations and for live presentation over the Internet, via the Virtual Classroom Environment service.

## Prerequisites

A working knowledge of RACF and an understanding of Db2 for z/OS at a conceptual & terminological level.

## What You Will Learn

- describe Db2 security
- understand terminology used with Db2 security
- use and structure Db2 security tables
- use primary, secondary, and CURRENT SQLID authorisation IDs used by Db2
- use SQL to control security using the GRANT and REVOKE statements
- describe the meaning of explicit, implicit, composite and grouped privileges
- explain ownership considerations with regard to Db2 objects
- control Db2 address space and data set authorisation using RACF
- use RACF to control access to Db2 objects
- describe the new RACF classes for Db2 objects
- create RACF profiles for Db2 objects
- understand the additional considerations when using Db2 in a distributed environment.

## Training Outline

**Introduction to Db2 Security**

Security overview; Sign-on security; Connection security; Db2 internal security; Other options; Security strategy (Transaction Manager or Db2); Security strategy (centralised or decentralised); Using remote applications.

**Internal Db2 Security**

Db2 security; Db2 security mechanism; Db2 security tables; Security terms; Authorisation ID; Privilege; Resource; Primary and Secondary Authorisation IDs; Maintaining security; Data Control Language; Grouped privileges; Explicit & implicit privileges; Ownership considerations; Static and Dynamic SQL; Static SQL considerations; Dynamic SQL considerations; Db2 security disadvantages.

**Data Control Language & Privileges**

SQL GRANT and REVOKE statements; Cascading REVOKE; Package, plan & collection privileges; Database, table, & view privileges; Other object privileges; System privileges; DCL examples: application

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development, Bind, program execution; Insufficient authority.

**Db2 Security Reporting and Auditing**

Db2 catalog security tables; Common table columns; Security tables 1 - 4; Auditing tables; Audit trace.

**RACF Security Overview**

What is RACF?; Identifying and verifying users; Checking authorisations; Recording and reporting; Terminology - users and groups; Terminology - resources and classes; Terminology - profiles; User profile; Resource Profile; Discrete and generic profiles; Creating Generic Profiles; Maintaining RACF Security.

**Defining the Db2 Subsystem to RACF**

Address space authorisation; Protected access profiles; RACF router table; Db2 address spaces; Permitting RACF access; Protecting Db2 datasets - create profiles; Protecting Db2 datasets - permitting access.

**Defining Db2 Objects to RACF**

Native DB2 security; DB2 with RACF; RACF / DB2 external security module; Installation; Mapping DB2 authorisation checks; Scope of RACF classes; Multi-subsystem scope classes; Single subsystem scope classes; Customisation; DB2 objects and RACF classes; Profiles; Privileges - buffer pools, storage groups & tablespaces; Privileges - DB2 system; Privileges - database and schema; Privileges - tables, views, indexes and user-defined functions; Privileges - collection, plan and package; Privileges - distinct types, sequences and stored procedures; Privileges - administrative authorities; Insufficient authority; Migration tools.

**Further Db2 Security Techniques**

Multi-level security overview; Security labels; Row level granularity; Multi-level security and SELECT; Multi-level security and INSERT; Multi-level security and UPDATE; Multi-level security and DELETE; Multi-level security and utilities; Row and column access control; row permissions; column masks.

**Distributed Data Considerations**

Distributed Data overview; DDF components; Communications tables; Security actions (client); Security actions (server with SNA client); Security actions (server with TCP/IP client).