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Product Implementation Training (PIT)

IBM FileNet Content Manager 5.2

Shared Data Sources and Database Connection Objects

Introduction

- Course Overview
 - Database Connection Management Improvements
 - Shared Data Sources
 - Database Connection Objects
 - Demonstration and Test Results
 - Best Practices and Documentation
- Target Audience
 - Customer Support and Field Technical Resources
- Prerequisites
 - Familiarity with Content Platform Engine and Database Software
- Release Date March 2013

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Course Objectives



After this course you will be able to:

- Understand Shared Data Sources
- Create and Use Database Connection Objects
- Know Best Practices

Course Roadmap



- ➔ DB Connection Management
 - Shared Data Sources
 - Database Connection Objects
- Demonstration
- Test Results
- Best Practices
- Documentation

Shared Data Sources



- *Use Case 1*
 - Customers such as AT&T need improved scalability
 - Multiple data source connection pools consume a lot of database resources due to many idle connections
- *Use Case 2*
 - P8 Administrators need a configuration model that enables easy configuration of object stores or isolated regions

Shared Data Sources (cont'd)

- *Benefit 1 - Reduced usage of database connections*
 - A single data source connection pool can service multiple stores
 - Allowed when object stores reside in the same database
- *Benefit 2 - Reduced administrative overhead*
 - The DBA can have fewer databases to create and maintain
 - The App Server administrator can create fewer data sources
 - The P8 Administrator can create new stores w/o DBA and App Server administrator assistance
 - Easier to implement a unified backup restore strategy for logically coupled object stores

Shared Data Sources (cont'd)

- *Implementation*

- Object stores sharing a data source will reside in a different schema in the shared database
- Requires that a schema name be supplied at object store creation (a default is assigned if a schema name is not given)
- CPE database access now qualifies object names with a schema name prefix (select .. from mySchema.DocVersion)
- Upgraded databases are accessed using the default schema name associated with the connecting user ID
- For Oracle, additional permissions are needed
 - See Documentation links at end for details
- GCD database is not allowed to share its data source

Database Connection Objects

- *Use Case:*
 - P8 Administrators need a configuration model that enables easy configuration of object stores that share a data source
 - P8 Administrators need a common administrative model for CPE connections

Database Connection Objects (cont'd)

- *New P8 Domain Configuration Object: DatabaseConnection*
 - Consists of JDBC Data Sources (XA and non-XA) and Site for locality
 - Replaces Object Store JDBC Data Source and Site properties
 - OS Site and DS pair now pulled from Database Connection
 - Enables connection object sharing
 - Multiple object stores can reference same connection object
 - Must use different schema names
 - Reduces CPE and DB resources
 - DB Connection instances can also be referenced by:
 - Multiple PE Isolated Regions
 - Event Export Stores (new for Case Analytics)
 - Objects with a DatabaseConnection property will always have a matching DatabaseSchemaName property to facilitate sharing

Database Connection Objects (cont'd)

- Content Engine Upgrade to 5.2.0
 - A new DatabaseConnection object is created for each object store
 - CE auto-upgrade mechanism does this automatically
 - Data source and Site properties are populated
 - DatabaseSchemaName object store property is also populated
 - The value is set to the default schema name for that connection
 - Pre-5.2.0 systems had to use the default schema name

Course Roadmap

- DB Connection Management
 - Shared Data Sources
 - Database Connection Objects
- ➔ Demonstration
- Test Results
- Best Practices
- Documentation

Test Results – Oracle

- Multiple data sources versus a Shared data source
 - Testing performed for 10 object stores
 - Mixed workload: 400 virtual users generating 400CTPM
 - A shared data source will have fewer average DB connections
- Run `COUNT(*) FROM V$SESSION` on database server
 - Returns info about current sessions (connections to the database)
 - Both active and idle connections from the app server connx pool
 - Also includes background Oracle tasks
- 40% reduction in database sessions: “Your mileage will vary”

Test Results – Oracle (cont'd)



Best Practices

- When feasible, consolidate object stores into one database
 - Use a shared data source
- On Oracle, to allow the P8 Admin to create object stores
 - The DBA can pre-create the users, grant quota and set the default storage locations for data and temporary tablespaces
 - This allows the Data/Index/LOB tbspace to be specified
 - Otherwise, grant “create user” permission to the initial user and all data will be put into the default tablespaces for the DB

Documentation



- Administering Content Platform Engine – “Sharing Data Sources” & “Creating a Database Connection” topics
 - Internal Information Center (available now):
 - <http://cmfogbert.usca.ibm.com:7777/p8ic520/topic/com.ibm.p8.ce.admin.tasks.doc/p8pcb027.htm>
 - External Information Center (available at eGA):
 - <http://pic.dhe.ibm.com/infocenter/p8docs/v5r2m0/topic/com.ibm.p8.ce.admin.tasks.doc/p8pcb027.htm>