destiny
Business & Technology Consulting SM
Education Solutions

IBM Netezza Performance Server Database Users

Course Length: 2 days **CEUs** 1.2

AUDIENCE

This course is designed as a hands-on training course with workshop. It will show how to administer and configure the IBM Netezza Performance Server environment. After completion of this course, you should be able to:

- Administer the IBM Netezza Performance Server
- Configure client connectivity
- Create databases and tables
- Determine distribution methods
- Set up Clustered Base Tables
- Load and unload tables
- Generate statistics
- Analyse query plans
- Create materialized views
- Reclaim unused disk space

PREREQUISITES

Attendees should have sound knowledge of advanced SQL, databases and Unix. 6-12 use cases are required.

COURSE TOPICS

Netezza SQL Introduction

- Accessing Netezza SQL Using nzsql
- Logging On
- SSL Support for Clients
- Understanding the nzsql Prompt
- Command Feedback
- Displaying SQL User Session Variables
- Using nzsql Commands and Command Line Options
- Using Command Inputs Outputs
- Using Miscellaneous Command Options
- Using the nzsql Internal Slash Options
- Using the Query Buffer
- nzsql Exit Codes

Using the SQL Grammar

- Managing Databases
- Managing Tables
- Joining Tables
- Combining Tables with UNION, INTERSECT, and EXCEPT

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- Understanding Precedence Ordering
- Handling NULLS
- Understanding Data Type Promotion
- Managing Views
- Memory Usage
- Mirroring and Regeneration of Materialized Views
- Understanding Subqueries
- Using Aggregate Functions

Netezza SQL Basics

- Data Types
- Calculating Row Size
- Functions and Expressions
- Data Definition Language

SQL Statement Grammar

- Netezza SQL Lexical Structure
- Keywords
- Identifiers
- Constants
- Comments
- Grammar Overview
- Implicit and Explicit Casting

Netezza SQL Analytic Functions

- Overview of Analytic Functions
- Processing Order
- Using Windowing
- Window Analytic Functions
- Netezza SQL Analytic Functions
- Examples
- Sample Table

Using National Character Sets

- Unicode Standard
- Encoding and Normalization
- Netezza Extensions
- The Data Types
- Syntax Shorthand
- Data Definition and Data Manipulation Language Effects
- Loading and Unloading through nzload and External Tables
- Understanding Loading Log File Errors
- Avoiding Illegal Character Data

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- Displaying NonASCII Characters
- ODBC Character Set Behavior
- Converting Legacy Formats
- Using nzconvert Options and Examples
- Byte Order Mark

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Sequences

- Overview of Sequences
- Creating a Sequence
- Caching and Altering a Sequence
- Flushing the Cache When Altering a Sequence
- Altering a Sequence Increment and the Sequence Sign
- Dropping a Sequence
- Privileges
- Getting Values from Sequences
- Next Value and Getting Batch Values for a Sequence
- Backing Up and Restoring

Data Loading Overview

- Data Loading Components
- Data Loading Formats
- New Decimal Delimiter Option

External Tables

- About External Tables and Best Practices
- Privileges Required
- Displaying External Table Information
- Log Files
- Usage
- Parsing
- Backing Up and Restoring
- Command Syntax
- Transient External Tables
- Explicit and Implicit Schema Definition
- Exporting Data Using Transient External Tables
- Remote Transient External Tables
- Supported Data Types
- Restrictions
- Transient External Table
- Standard Unloading and Reloading
- Backup and Restore a User Table

External Table Options

- Options and Details
- BoolStyle, Compress, CRinString, CtrlChars
- DataObject, DateDelim, DateStyle, DecimalDelim
- Delimiter, Encoding. EscapeChar, FillRecord
- Format, IgnoreZero, IncludeZeroSeconds, Layout
- LogDir, MaxErrors, MaxRows, NullValue
- QuotedValue, RecordDelim, RecordLength, RemoteSource
- RequireQuotes, SkipRows, SocketBufSize,
- TimeDelim, TimeRoundNanos, TimeStyle

- TruncString, YBase, Option Processing
- Counting Rows, Handling Bad Rows, Delineating Input Rows
- Matching Input Fields to Table Columns
- Using String and Nonstring Fields
- Handling the Absence of a Value
- Enabling Load Continuation
- Handling Legal Characters
- Session Variables

Using nzload

- How the nzload Command Works
- Protection and Privileges
- Concurrency and Transactions
- Program Invocation
- Using the nzload Command
- Syntax
- Inputs and Outputs
- Additional Options
- Using a Control File

Unloading Data

- Unloading Options
- Unloading Data to a Remote Client System

Using Fixed Length Format

- Formatting Background
- FixedLength Format
- Data Attributes
- Format Options
- New Options and Changed Options and Unsupported Options
- Default Values
- Layout Definitions
- Building the FixedLength Format Definition
- EndofRecord
- Record Length
- Skipping Fields
- Temporal Values, Numeric Values, Logical Values, Null Values

Netezza SQL Extensions Installation and Setup

- Software Availability
- Netezza Administration Information
- Netezza System Prerequisites
- Installing the Netezza SQL Extensions Toolkit
- Enabling SQL Functions Support in a Database
- User Account Permissions and Requirements
- Version and Upgrade
- Disabling and Removing the SQL Extensions Toolkit in a Database

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- Remove the SQL Extensions Toolkit
- Backups and Restores of the Netezza Data
- Known issues

XML Functions

- User Type XML
- Referencing Columns
- Getting Started: Publish SQL data as XML
- The XPath Expressions
- XML Function Reference
- IsValidXML() Function, IsXML() Function, XMLAgg() aggregate, XMLAttributes() Function, XMLConcat() Function, XMLElement() Function, XMLExistsNode() Function, XMLExtract() Function, XMLExtractValue() Function, XMLParse() Function, XMLRoot() Function,XMLSerialize() Function, XMLUpdate() Function

Data Transformation Functions

- Data Transformation Function Reference
- Compress() and Decompress() Functions
- Encrypt() and Decrypt() Functions
- fpe_encrypt() and fpe_decrypt() Functions
- Uuencode() and uudecode() Functions

Hashing Functions

- Hashing Function Reference
- Hash() Function

Date and Time Comparisons

- Date and Time Function Reference
- day(), days_between() Functions
- hour() Function, hours_between() Functions
- Minute() Function and minutes_between() Functions
- Month(), ext_month() Functions
- Next_week() Function, next_quarter() Function, next_year() Functions
- Second() Function, Seconds_between() Functions
- This_month(), this_quarter(), this_week(), this_year() Functions
- The weeks_between() Function
- The year() Function

Text Analytics Functions

- Word Comparison Function Reference
  - Word_diff(), word_find(), word_key(), ord_key_tochar(), word_keys_diff() , word_stem() Functions
- Regular Expression Function Reference
- The Flags Argument
- Functions: regexp_extract(), regexp_extract_all(), egexp_extract_all_sp(), regexp_extract_sp(), regexp_instr(), regexp_like(), regexp_match_count(), regexp_replace() and regexp_replace_sp()

Text Utility Functions

- Text Utility Function Reference
- Functions: hextoraw(), rawtohex(), replace(), strleft(), and strright()

Array Functions

- Array Function Reference
- The add_element() element
- Functions: array(), array_combine(), narray_combine(), array_concat(), array_count(), array_split(), array_type(), delete_element(), element_name(), nelement_name(), get_value_type() and replace_element()

Collection Functions

- User Type Collection
- Collection Function Reference
- Functions: Collection() and element_type()
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Miscellaneous Functions

- Miscellaneous Function Reference
- Fuctions: greatest(), least(), mt_random(), corr(), covar_pop(), covar_samp()