

# Data Warehouse Course Curriculum

## DATA WAREHOUSE BASICS

- An introduction to Data Warehousing
- Purpose of Data Warehouse
- Data Warehouse Architecture
- Operational Data Store
- OLTP Vs Warehouse Applications
- Data Marts
- Data marts Vs Data Warehouses
- Data Warehouse Life cycle

## DATA MODELING

- Introduction to Data Modeling
- Entity Relationship model (E-R model)
- Data Modeling for Data Warehouse
- Normalization process
- Dimensions and fact tables
- Star Schema and Snowflake Schemas

## ETL DESIGN PROCESS

- Introduction to Extraction
- Transformation & Loading
- Types of ETL Tools
- Key tools in the market

## DATA STAGE ADMINISTRATOR

- Datastage Training project Administration
- Editing projects and Adding Projects
- Deleting projects Cleansing up project files

- Environmental Variables
- Environment management
- Auto purging
- Runtime Column Propagation(RCP)
- Add checkpoints for sequencer
- NLS configuration
- Generated OSH (Orchestra Engine)
- System formats like data
- timestamp
- Projects protect – Version details

## **DATA STAGE DIRECTOR**

- Introduction to Data stage Director
- Validating Data stage Jobs
- Executing Data stage jobs
- Job execution status
- Monitoring a job, Job log view
- Job scheduling
- Creating Batches
- Scheduling batches

## **DATA STAGE DESIGNER**

- Introduction to Datastage Training Designer
- Importance of Parallelism
- Pipeline Parallelism
- Partition Parallelism
- Partitioning and collecting(In depth coverage of partitioning and collective techniques)
- Symmetric Multi Processing (SMP)and Massively Parallel Processing (MPP)
- Introduction to Configuration file
- Editing a Configuration file

- Partition techniques
- Data stage Repository Palette
- Passive and Active stages
- Job design overview
- Designer work area
- Annotations and Creating jobs and Importing flat file definitions
- Managing the Metadata environment
- Dataset management
- Deletion of Dataset
- Routine

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## **WORKING WITH PARALLEL JOB STAGES**

- Database Stages, Oracle, ODBC, Dynamic RDBMS
- File Stages, Sequential file, Dataset
- File set, Lookup file set
- Processing Stages, Copy, Filter, Funnel
- Sort, Remove duplicate, Aggregator, Switch
- Pivot stage, Lookup, Join, Merge
- Difference between look up, join and merge
- Change capture, External Filter, Surrogate key generator
- Transformer, Real time scenarios using different Processing Stages – Implementing different logics using Transformer
- Debug Stages, Head, Tail, Peek
- Column generator, Row generator
- Write Range Map Stage, Real Time Stages, XML input

- XML output, Local and Shared containers
- Routines creation, Extensive usage of Job parameters
- Parameter Sets, Environmental variables in jobs
- Introduction to predefined Environmental variables creating user defined Environmental variables
- Implementing the same in parallel jobs

## **ADVANCED STAGES IN PARALLEL JOBS**

- Explanation of Type1 and Type 2 processes
- Implementation of Type1 and Type2 logics using Change Capture stage and SCD Stage
- Range Look process
- Surrogate key generator stage
- FTP stage
- Job performance analysis
- Resource estimation
- Performance tuning

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## **JOB SEQUENCERS**

- Arrange job activities in Sequencer
- Triggers in Sequencer
- Restability
- Recoverability
- Notification activity
- Terminator activity
- Wait for file activity
- Start Loop activity

- Execute Command activity
- Nested Condition activity
- Exception handling activity
- End Loop activity
- Adding Checkpoints
- Jobs used in different real time scenarios
- Explanation of Sequence Job stages through different Jobs

## **IBM INFORMATION SERVER ADMINISTRATION GUIDE**

- IBM Web Sphere Data stage administration
- Opening the IBM Information Server Web console
- Setting up a project ion the console
- Customizing the project dashboard
- Setting up security
- Creating users in the console
- Assigning security roles to users and groups
- Managing licenses
- Managing active sessions
- Managing logs
- Managing schedules
- Backing up and restoring IBM Information Server
- Additional Features
- Performance Tuning of Parallel Jobs
- Data stage Installation process and setup
- Project Explanation

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