

Data Warehousing Concepts

Lesson 00:

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People matter, results count.



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Document History

Date	Course Version No.	Software Version No.	Developer / SME	Reviewer(s)	Approver	Change Record Remarks
	0.1D	NA				Content Creation
Jan-2009	0.1	NA	BI CDI team			Review
16-Apr-2009	2.0	NA	Priya Rane			Material Revamp
04-Feb-2010		NA	CLS Team			Review
31-July-2012		NA	Coordinators			Change to IGATE Format
June 2016	2.1	NA	Swati Rao	Rajita Dhumal	Mahima Sharma	Material Revamp as per Integrated ToC for I & D LoT

Course Goals and Non Goals

- Course Goals

- At the end of this program, participants gain an understanding of basic concepts in Data warehousing.

- Course Non Goals

- Implementation of dimensional modeling is not the part of this course.



Pre-requisites

- Fair knowledge of Database

Intended Audience

- Software Engineers and Senior Software Engineers



Day Wise Schedule

■ Day 1

- Lesson 1: Business Intelligence
- Lesson 2: General concept of Data Warehouse
- Lesson 3: Dimensional modeling
- Lesson 4: ETL and Metadata
- Lesson 5: Online Analytical Processing (OLAP)
- Lesson 6: Data Mining
- Lesson 7: Best Practices for Building Data Warehouse
- Lesson 8: Case Studies

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- Lesson 1: Business Intelligence
 - 1.1: Business Intelligence
 - 1.2: Need for Business Intelligence
 - 1.3: Terms used in BI
 - 1.4: Components of BI
- Lesson 2: General concept of Data Warehouse
 - 2.1: Data Warehouse
 - 2.2: Evolution of Data Warehouse

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- 2.3: Need for Data Warehouse
- 2.4: Data Warehouse Architecture
- 2.5: Data Mining Works with DWH
- 2.6: Features of Data warehouse
- 2.7: Data Mart
- 2.8: Application Areas

- Lesson 3: Dimension modeling basic concepts
 - 3.1: Dimension modeling
 - 3.2: Fact and Dimension tables
 - 3.3: Database schema
 - 3.4: Schema Design for Modeling
 - Star
 - Snow Flake
 - Fact Constellation schema

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- Lesson 4: ETL and Metadata
 - 4.1: ETL process
 - 4.2: Metadata used in ETL
 - 4.3: Metadata in Data Warehousing
 - 4.4: Simple Data warehouse model
- Lesson 5: Online Analytical Processing (OLAP)
 - 5.1: Online Analytical Processing (OLAP)
 - 5.2: Nature of OLAP analysis
 - 5.3: Types of OLAP

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- 5.4: OLAP Tools
- 5.5: OLTP and OLAP
- 5.6: OLAP Functional requirements
- 5.7: OLAP Fast and Selective
- 5.8: Operational versus Informational System

- Lesson 6: Data Mining
 - 6.1: Data mining
 - 6.2: The Knowledge Discovery process
 - 6.3: Need of Data Mining
 - 6.4: Use of Data mining
 - 6.5: Data mining and Business Intelligence

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- 6.6: Types of data used in Data mining
- 6.7: Data Mining applications
- 6.8: Data Mining products
- 6.9: Data Mining market

- Lesson 7: Best Practices for Building Data Warehouse
 - 7.1: Recipe for a Successful data warehouse
 - 7.2: Data warehouse pitfalls
 - 7.3: Popular BI DW tools and suits
 - 7.4: Trends in BIDW

References

- Student material:
 - Class Book (presentation slides with notes)

- Book:
 - The Data Warehousing Toolkit – Ralph Kimball
 - Introduction to Database Systems – C.J. Date
 - Advanced Data Warehouse – IBM

- Web-site:
 - <http://www.datawarehouse.org>
 - <http://etl-tools.info/>



Next Step Courses (if applicable)

- BI related tool training



Other Parallel Technology Areas

- NA