

## WebLearning Business Intelligence Curriculum



### Certified Business Intelligence Professional (CBIP)

Our new BI training packages are based on five skill areas necessary for every business intelligence and data warehousing programme. As an additional benefit for those seeking certification, these packages are aligned with the five areas of specialisation for Certified Business Intelligence Professional (CBIP) credential—the most meaningful and credible certification in the industry.

#### Leadership and Management package

- Managing the Data Warehouse for Growth and Value (one day)
- Aligning Business and IT

#### Business Analytics package

- WebLearning Business Intelligence Fundamentals: From Data Warehousing to Business Impact (one day)
- WebLearning Business Basics for IT Professionals: Essentials of Business Literacy (two days)

#### Data Analysis and Design package

- WebLearning Data Modelling: Data Warehousing Design and Analysis Techniques
- WebLearning Dimensional Data Modelling Primer: From Requirements to Business Analytics

#### Data Integration package

- Data Warehousing Concepts and Principles
- Data Acquisition: Techniques for Extracting, Transforming, and Loading Data
- Data Cleansing: Delivering High-Quality Warehouse Data

#### Administration and Technology package (select any three)

- Hands-On OLAP
- Hands-On Data Integration
- Hands-On Business Analytics
- Hands-On Data Mining

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- Hands-On Advanced Analytics
- Hands-On Technology Architecture Workshop

In addition to the above packages, WebLearning offers a wide range of courses and workshops that can be brought to your location. We will work with you and assess your needs to ensure your team receives an optimal educational experience.

## Administration and Technology

Administration and Technology covers those areas related to managing the infrastructure and ensuring continuous operation of data warehousing and business intelligence solutions. Technology architecture, technology planning and configuration, system and network administration, capacity planning, growth management, database administration, system and network administration, and access and security administration are essential skills in this area.

These skills are demanded for the roles of technical architect, technology specialist, data warehouse systems administrator, and warehouse database administrator, metadata administrator, and quality administrator. This body of knowledge is valuable for those with business intelligence customer service, support, and training responsibilities.

In addition to the Core and Data Warehousing exams, there is a specialty exam required for certification in Administration and Technology. You have two exam options: the Systems Security exam or the Database Administration exam. Both exam outlines are provided below with extended outlines available in the CBIP Examination Guide.

### Systems Security Exam Outline

#### Risk Assessment

- Organisation
- Systems and Data Asset Valuation
- Threat Characteristics
- Risk Assessment
- Dealing with Risk

#### Recovery from Information Service Interruptions

- Recoverable Storage Management
- Business Continuity Planning
- Disaster Management

#### Information and System Security

- Telecommunications
- Database Security
- Cryptography
- Operating Systems

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- Microcomputers and Local Area Networks
- Physical Security

### Security in System Design

- System Security Objectives and Functions
- Data Integrity Assurance
- Life Cycle Approach

### Security Management

- Policy Setting, Implementation and Administration
- Security Awareness
- Information Ethics
- Personnel Issues
- Evaluation of Security Measures

## **Database Administration Exam Outline**

### Database Administration Function

- Planning
- Organization
- Roles & Responsibilities

### Database Management Systems (DBMS) Environment

- Planning for the DBMS Environment
- Tools and Technology Types

### Database Design

- Data Modelling
- Data Access Methods
- File Organization Methods
- Distribution Design Considerations
- Performance Modelling

### Database Operation

- Database Standards
- Distributed Data Management
- Performance Tuning
- Backup and Recovery
- Database Processing Logic
- Data Storage Management

### SQL Considerations

- DDL - Data Definition Language
- DML - Data Manipulation Language
- DCL - Data Control Language

## WebLearning Education Services

- Data Dictionary (Systables)

## **Business Analytics**

Business Analytics focuses on effective use of data and information to drive positive business actions. The body of knowledge for this area includes both business and technical topics, including concepts of performance management, definition and delivery of business metrics, data visualization, and deployment and use of technology solutions such as OLAP, dashboards, scorecards, analytic applications, and data mining.

Business intelligence roles that demand business analytics knowledge and skills include business sponsor, business subject expert, knowledge worker, data steward, business requirements analyst, and developer of business analytics systems. Roles with broad scope of responsibility such as business intelligence architect, metadata administrator, quality administrator, and customer service personnel also benefit from a solid foundation in business analytics.

In addition to the Core and Data Warehousing exams, the Business Information Systems exam is required for certification in Business Analytics. The exam outline is provided below with an extended outline available in the CBIP Examination Guide.

### **Business Information Systems Exam Outline**

#### Business Information Systems Applications

- Financial Planning/Decision Support
- Accounting
- Organizational Performance
- Marketing and Sales
- Materials Management
- Production and Distribution Management

#### The Business Information Systems Environment

- System Analysis/Design Function
- Data Base Design Function
- Application Programming Function
- Computer Operations Function
- Systems Programming Function
- Quality Control Function
- Information Centre Function

#### Business Information System Considerations

- User/IS Relations
- Business Economics
- IS Resource Management
- EDP Equipment Use
- Software Development Environment

## **Data Analysis and Design**

All business intelligence applications depend on quality Data Analysis and Design. Analysis concentrates on understanding business requirements for data and information. Design focuses on translating business information into data structures. Core skills include information needs analysis, specification of business metrics, and data modelling. Solid understanding of data warehousing concepts, architectures, and processes is also essential.

Common roles in this area include data steward, information architect, data modeller, source data analyst, and database developer. A few roles that are broad in scope—business intelligence architect, metadata administrator, and quality administrator also benefit from this body of knowledge.

In addition to the Core and Data Warehousing exams, the Data Management exam is required for certification in Data Analysis and Design. The exam outline is provided below with an extended outline available in the CBIP Examination Guide.

### **Data Management Exam Outline**

#### Data Management Function

- Planning
- Organization
- Roles & Responsibilities

#### Data & Metadata Infrastructures Creation / Maintenance

- Planning for Data & Metadata
- Tools and Technology Types

#### Data Analysis and Modeling

- Data / Metadata Analysis & Design
- Data Model Components
- Data / Metadata Model Management

#### Data / Metadata Infrastructure Management

- Standards, Policies, Procedures, Guidelines
- Data Security and Privacy

#### Information Quality Management

- Information Quality Principles
- Information Quality Assessment / Audit
- Information Quality Improvement

## Data Integration

Data Integration is fundamental to data warehousing and is a vital process for a rich and robust data resource to deliver business intelligence solutions. Integration includes all of the activities necessary to acquire data from sources, and to transform and cleanse the data. The body of knowledge includes concepts and skills for source data analysis and source qualification, data profiling, source/target mapping, data cleansing and transformation, and ETL development.

Data integration skills are essential in roles such as data steward, data acquisition architect, source data analyst, and ETL developer. These skills are valuable in broader roles such as business intelligence architect, metadata administrator, and quality administrator.

In addition to the Core and Data Warehousing exams, the Systems Development exam is required for certification in Data Integration. The exam outline is provided below with an extended outline available in the CBIP Examination Guide.

### Systems Development Exam Outline

#### Systems Analysis

- General System Theory
- Preliminary Studies
- Definition of Objectives
- Data Gathering and Analysis
- System Requirements

#### Systems Design and Implementation

- Alternative Systems Design
- Logical Design
- Detailed Design
- Privacy, Security and Controls
- System Implementation
- System Evaluation and Maintenance

#### The Systems Analyst as a Professional

- Organizational Roles of the Systems Professional
- Interpersonal Roles of the Systems Professional
- Communications Skills
- Identifying Key Individuals

## **Leadership and Management**

Leadership and Management is a key success factor for business intelligence programs and projects, with strong focus on effectively integrating people, processes, and technology to deliver business value. The field requires depth of process knowledge, including development methodology, program management, and project management, as well as organizational and team-building skills.

An understanding of business topics such as Business Performance Management (BPM), Customer Relationship Management (CRM), and Supply Chain Management (SCM) is also needed. High-level technical understanding of business intelligence applications and data warehousing concepts is also part of the Leadership and Management body of knowledge. Roles that require this knowledge include program manager, project manager, and business intelligence architect.

In addition to the Core and Data Warehousing exams, the Management exam is required for certification in Leadership and Management. The exam outline is provided below with an extended outline available in the CBIP Examination Guide.

### **Management Exam Outline**

#### General Management and Organizational Concepts

- Business Functions
- Business Economics
- Management Systems
- Management Functions
- External Stakeholders
- Business Ethics and Organizational Values

#### Project Management

- Project Staffing and Roles
- Defining Project Objectives
- Determining Project Activities
- Estimating
- Planning and Scheduling
- Monitoring and Control
- Project Evaluation
- Tools for Project Management
- Consultants

#### Information Systems Management

- The Information Systems Organization
- Technical and Client Services
- System Performance Criteria
- Capacity Planning and Procurement
- Security, Protection and Controls

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- Contingency Planning
- IS Human Resource Management
- Strategic Role of Information Systems

## **Exam Prep for the Certified Business Intelligence Professional (CBIP)**

### **Core Skills: BI CERTIFICATION**

PREREQUISITE: None

### **You Will Learn**

- ICCP overview
- Why IT professionals certify
- The process of taking ICCP exams for the CBIP
- The characteristics of each CBIP exam through high-level coverage of exam subject outlines, timed sample questions, and discussion of answers

### **Geared To**

- Project and program managers; IT and DW professionals; data management professionals.

This CBIP Exam Prep course covers the test mechanics for successful CBIP exam taking. It is not intended to fill in gaps for missing experience or education, but it is designed to familiarize you with the testing process. CBIP candidates become prepared through time-pressure sample exam practice and review of different types of questions that might be asked.

Obtaining a CBIP certificate in a designated area of DW and BI specialization calls for professional-level work in information systems.

- CBIP Mastery Level Certificate® – 48 months of experience
- CBIP Practitioner Level Certificate® – 24 months of experience

For either designation, up to 24 months of credit is given for Bachelor degrees in related fields, and recertification is required. The ICCP establishes recognized professional certification standards within the IT industry. Its exams are being used for the new WebLearning CBIP credential. The sample exams for the Exam Prep and actual CBIP exams have the following characteristics:

- Industry based (not company based)
- Cover skills involved in DW and BI environments
- Product- and vendor-neutral
- International in nature

Candidates who attend this course usually perform significantly higher than those who do not. For more information on the CBIP program, go to [www.cbipro.com](http://www.cbipro.com).

## **SCM Basics for IT Professionals**

### **Module One**

Introduction to Supply Chain Management  
Meeting Customer Demand

- Overview
- Functional View
- Choosing a Role
- Issues and Challenges

Overview of Supply Chain Management

- Description of a Supply Chain
- Types of Management Decisions
- Flow Management
- Relationships to Other Functional Areas

Management Framework

- Description
- Using the Framework
- Layers of the Framework

Process Reference Model

- Purpose and Components
- The SCOR Model

Concepts from General Systems Theory

- System Dynamics
- Example – Bullwhip Effect

### **Module Two**

Strategic Context

External Environment

- SCM Framework
- The Extended Enterprise
- Products and Customers
- Complexity and Uncertainty

Physical Network

- SCM Framework
- Network Components

- Network Design and Capacity Planning

#### Strategy

- SCM Framework
- Strategic and Tactical Perspectives
- Strategic Context

#### Performance

- SCM Framework
- Dimensions and Drivers of Supply Chain Performance
- Coordination and Integration

## **Module Three**

### Executing for Results

#### Process

- SCM Framework
- Overview
- Demand and Inventory Management
- Production
- Transportation and Distribution
- Sourcing and Supply Management
- Invoicing and Payment
- Pricing and Revenue Management

#### Organisation

- SCM Framework
- Benefits of Collaboration
- Gaining a Win-Win Situation
- Leadership and Organization
- Partnerships and Alignment

#### Analytics

- SCM Framework
- Modelling, Planning and Optimization
- Forecasting and Collaboration

#### Measurements

- SCM Framework
- Measuring Performance
- Example of Performance Measurement

#### Technology

- SCM Framework

- Role of Information
- Applications of Business Intelligence

## **Module Four**

### **Summary**

#### Implementation Considerations

- Approach
- Continuous Improvement

#### Key Concepts

- SCM Framework
- Review

### **Appendices**

#### Appendix A – Business Context

##### Fundamental Purpose of Business

- Overview
- Management Focus
- Turning Strategy into Results

##### Issues and Challenges

- External Drivers – The Five C's
- The Velocity of Change
- Understanding and Maintaining Alignment

##### Management Approaches

- Trends in Methods and Practices
- Measurements Create Visibility
- Sustainable Business Operations

#### Appendix B – Exercise

##### Exercise 1

- Supply Chain Coordination

#### Appendix C – Bibliography and References

# **Workforce and Operations Basics for IT Professionals: Fundamental Concepts of Operations Management**

## **Module One**

### **Introduction to Operations Management**

- Creating Business Outcomes
  - Fundamental Purpose of Business
  - Focus on Customers
  - People and Processes
  - Issues and Challenges
- Functional Overview
  - The Need for Balance
  - Operations Management
  - Workforce Management
- Strategic Management Framework
  - Overview
  - Using the Framework
  - Framework Layers
- Concepts from General Systems Theory ○ Systems Thinking ○ Applications of Systems Thinking to Strategic Management ○ Basic Structure of Systems

## **Module Two**

### **Strategic Context**

- External Environment
  - Strategic Management Framework
  - The Five C's
  - Markets and Regulators
  - Partnerships, Alliances and Outsourcing
- Strategy
  - Strategic Management Framework
  - Balanced Approach
  - Strategic Objectives
  - Understanding Intangible Assets
- Performance
  - Strategic Management Framework
  - Dimensions of Operational Excellence
  - Dimensions of Workforce Performance
  - Strategy Maps
  - Setting Operational Targets

## Module Three

### Executing for Results

- Process
  - Strategic Management Framework
  - Classification of Business Processes
  - Process View of Operations Management
  - Process View of Workforce Management
- Organization
  - Strategic Management Framework
  - Workforce Readiness
  - Organization Capital – Alignment
  - Organization Capital – Culture, Leadership and Teamwork
- Analytics
  - Strategic Management Framework
  - Feedback Loops
  - Operations Scorecard Example
  - Workforce Scorecard Example
- Measurements
  - Strategic Management Framework
  - Data Sources
  - Reasons to Measure
  - Measuring Operations – Example
  - Measuring the Workforce – Example
  - Measuring the Organization – Example
- Technology
  - Strategic Management Framework
  - Technology Alignment
    - Business Intelligence and Data Warehousing

## Module Four

### Summary

- Approach
  - Steps
  - Continuous Improvement
- Strategic Management Framework
- Key Concepts

### Appendices

#### Appendix A – Business Context

- Fundamental Purpose of Business
  - Overview
  - Management Focus
  - Turning Strategy into Results

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- Issues and Challenges
  - External Drivers – The Five C’s
  - The Velocity of Change
    - Understanding and Maintaining Alignment
- Management Approaches
  - Trends in Methods and Practices
  - Measurements Create Visibility
  - Sustainable Business Operations

### **Appendix B – Exercise**

- Exercise 1
  - Define Strategic Objectives
- Exercise 1– Preliminary Strategy Map
  - Define Strategic Objectives
- Exercise 1 Worksheet
  - Define Strategic Objectives

### Appendix C – Bibliography and References

# **CRM Basics for IT Professionals: Fundamentals, Strategy, and Implementation**

## **Introduction**

### **Evolving the Extended Enterprise**

- Forces Shaping Change
- Practical Examples of CRM Initiatives
- Common Threads
- Exercise – Identify CRM Initiative

### **Components of CRM**

- Basic CRM Questions
- CRM Components
- CRM Component Exercise
- CRM Definition
- Role of Technology in CRM
- Technology Exercise

### **Customer Life Cycle**

- Lifecycle Terminology
- Lifecycle Defined – Structure of Lifecycle
- Lifecycle Defined – Intrude
- Lifecycle Defined – Acquire
- Lifecycle Defined – Retain and Expand
- Lifecycle exercise

### **Business Aspects of CRM**

- Executive Sponsorship
- Organization Structure
- Business Strategy and Culture
- Permission Marketing

### **CRM and e-Commerce**

- E-Commerce Defined
- E-Commerce and Customer Information
- Personalization
- Privacy

### **CRM Technology**

- Product / Process / Customer

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- CIF Review

### **Business Operations Technology**

- Product / Legacy systems
- Sales Force / Call Center Automation
- Map of Business Operations to Customer Lifecycle

### **Business Management Technology**

- Customer Repository
- Map of Business Management to Customer Lifecycle

### **Business Intelligence Technology**

- Customer Centric Data Warehouse
- Customer Oriented Data Marts
- Map of Business Intelligence to Customer Lifecycle

### **E-Commerce Technology**

Wrap-Up

# **Architecture and Design of the Operational Data Store**

## **(Architecture for Near 'Real-Time')**

### **Introduction**

#### **Operational Data Store Overview**

- Corporate Information Factory Overview
- Architectural Distinctions

#### **Classes of Operational Data Stores**

Why Organizations are Implementing the ODS

- Reasons to Build an ODS
- Financial Industry Example
- e-Business Example
- Insurance Industry Example
- Research and Development Example
- Deployment Sequence
- Architecture Workshop

#### **ODS Development Methodology**

- Program Management
- Initiation and Planning
- Getting Data In
- Process Management
- Getting Information Out
- Deployment
- Operation and Administration

#### **Team Dynamics and Resources**

Process Modeling for the ODS (with exercise)

#### **Data Modeling for the ODS**

- Data Modeling Concepts
- ODS Data Model Development
- Operational Mart Data Model Development

#### **CRUD Matrix and ODS Interfaces**

- EAI and ETL

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- Data Delivery to the Operational Data Marts
- Transactional Interface

### **Data Quality and Integrity**

Meta Data Issues for the ODS

Architectural Chaos Surrounding the ODS

Wrap-Up

## **Business Intelligence Fundamentals: From Data Warehousing to Business Impact**

### **Core Skills:—CORE SKILLS / BUSINESS ANALYTICS**

PREREQUISITE: None

### **You Will Learn**

- The factors that contribute to maximum business value
- Six common kinds of BI/DW business applications
- Key elements and common applications of business analytics
- The roles of dashboards, scorecards, and analytic applications
- The relationships between business intelligence and data warehousing
- Components of the BI infrastructure: people, processes, and technologies
- Best practices and common mistakes in BI programs

### **Geared To**

- Anyone with a role in BI programs;
- DW managers and leaders who are seeking to increase the value delivered from the DW;
- business and technical people who need to work together to implement BI;
- teams who need to develop a common base of concepts and terminology for BI

This course is designed to promote common language, consistent definitions, shared expectations, and mutual understanding essential to successful BI programs. BI focuses on use of information to drive effective business actions—it is the vehicle to achieve maximum business value from data warehousing. This course provides a comprehensive overview of business, technical, and cultural implications of business intelligence.

The data-to-value chain describes the transition from data to value as **DATA→INFORMATION→KNOWLEDGE→ACTION→OUTCOME→VALUE**. This course focuses on those parts of the chain that begin with information and end with value. For an introduction to the **DATA→INFORMATION** portion of the chain, consider WebLearning Data Warehousing Concepts and Principles:

#### **An Introduction to the Field of Data Warehousing**

“Clarifies understanding of terminologies and concepts. Will help deliver solutions to customers. Provided ideas on how to present concepts to customers and articulate how BI is different from DW. Dos and don’ts/pros and cons of different approaches.”

E. Brown, Offspring Solutions

“It’s actually confirmation for me that we are on the right track with industry standards and methodologies.”

S. Selimbegovic, Mindscape Information Technology

## **Data Warehousing Concepts and Principles: An Introduction to the Field of Data Warehousing**

### **Core Skills:—CORE SKILLS / DATA INTEGRATION**

PREREQUISITE: None

You Will Learn

- Basic concepts of data warehousing
- Common language, terminology, and definitions in data warehousing
- Key factors that contribute to data warehousing success
- Risk factors for data warehousing projects
- Common approaches to data warehousing architecture
- Data warehousing roles and responsibilities
- Data warehouse development concepts and best practices
- Data warehouse operations and administration considerations

### **Geared To**

- Anyone new to data warehousing;
- DW teams that need to develop a common base of concepts and terminology;
- DW team members who need to understand the roles and responsibilities of others on their team

This introductory-level course provides an overview of the activities, processes, and products involved in building a data warehouse. From business architecture to databases and access tools, the course examines the deliverables of data warehousing programs and discusses the resources and skills needed to produce them.

While much of data warehousing effort is expended in development projects, this course broadens the perspective from project to program and examines architecture and operations deliverables as well as those of development projects. The course emphasises common language, concepts, and understanding that are necessary to enable effective teamwork and achieve data warehousing success.

The data-to-value chain describes the transition from data to value as

**DATA → INFORMATION → KNOWLEDGE → ACTION → OUTCOME → VALUE.**

This course focuses on those parts of the data-to-value chain that begin with Data and end with Information.

For an introduction to the INFORMATION →...→ VALUE portion of the chain, consider WebLearning Business Intelligence Fundamentals: From Data Warehousing to Business Impact.

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*“I am just starting to learn about DW, and this course is a good way to start.”*

L. Boyd, Markel Essex Insurance Company

*“Excellent overview. Most eye-opening takeaway from this course: constant and committed involvement from the business is critical to the success of all data Warehousing projects.”*

L. Pearson, Sanofi Pasteur

## **Performance Dashboards: Measuring, Monitoring, and Managing Your Business**

### **You Will Learn**

- The difference between operational, tactical, and strategic dashboards
- How to launch, grow, and sustain a performance dashboard project
- How to create effective KPIs and design effective dashboard screens
- How to integrate and link performance dashboards throughout an enterprise

Performance dashboards are the new face of business intelligence. They provide a layered interface that conforms to the way users work rather than forcing them to conform to the way BI tools work. Like peeling an onion, users move through successive layers of information in a carefully guided and systematic manner.

When aligned with strategic objectives and plans, performance dashboards empower users to work more efficiently and effectively toward a common set of goals. This keynote will show how performance dashboards blend the once distinct disciplines of business intelligence and performance management into a powerful agent of organizational change.

## **Designing a High-Performance Data Warehouse**

### **Core Skills:—ADMIN & TECH**

PREREQUISITE: Database and systems knowledge

### **You Will Learn**

Advanced optimisation techniques and how they affect DSS database performance

- Database design techniques such as star schemas, selective denormalisation, partitioning, etc., in terms of tradeoffs related to performance, usability, and flexibility
- New indexing strategies and how they impact workload balance and capacity planning
- OLAP design and the tradeoffs between MOLAP, ROLAP, and HOLAP
- The role of data marts and operational data stores

### **Geared To**

- Technical architects; DBAs; DW administrators

A remarkable number of new features and functions have been introduced into the high-end database products specifically aimed at decision-support workloads. This course will

look at the latest developments in optimizer technology, index structures, OLAP database engines, and data mining techniques for delivering high performance in large-scale decision-support environments. These new innovations in high-end database functionality lead to new approaches for designing DSS database structures and sizing machines for supporting DSS workloads.

This course will share our benchmarking experiences and impart design techniques for designing DW environments for scalability and high performance. The content of this course is based on experience with some of the largest commercial and government databases in the world. The course also will discuss advanced topics such as issues in object-relational performance management and the architectural frameworks for deployment of data marts and operational data stores.

*“This course enabled me to understand the different design alternatives for a high-performance DW implementation.”*

D. Wong, Marriott International

*“Great class—best technical class I’ve seen in years!”*

J. Stafford, Litton Loan Servicing LP

*“Excellent course! Excellent instructor!”*

H. Choudhury, CGI-AMS

## Managing the Data Warehouse for Growth and Value

### Core Skills: ADMIN & TECH / LEADERSHIP & MGMT

PREREQUISITE: None

#### *You Will Learn*

- The importance of DW administration to meet changing user requirements
- The five major DW administration functions
- Roles and responsibilities for the DW administration team
- Sustaining business value through effective administration

#### *Geared To*

- Managers and analysts completing DW development efforts; managers responsible for managing production DW and data mart environments The first implementation of your data warehouse environment is complete; users are online and are happily productive. Your job is finished—right? Wrong! Your job is just starting. Now you need to focus on the operations and maintenance activities needed to promote the healthy growth of your data warehouse. If the data warehouse and data mart are to continue to meet their business objectives in a cost-effective manner, the management and administration team needs to change its focus from managing the team's work to managing and encouraging the business application of the warehouse. Without effective administration and management, it's unlikely that your data warehouse and data marts will evolve fast enough to meet changing user requirements or provide sustained business value.

In this course, we will discuss the factors affecting growth and five major functions—systems management, data acquisition management, enterprise data management, service management, and change management. Particular attention will be paid to the development and administration of service-level agreements and change requests.

*"I gained a better understanding of the roles involved in dealing with an enterprise data warehouse."*

A. Rodean, JP Morgan Chase

## **Aligning IT to Business: Success Strategies for Business and IT**

### **Core Skills: LEADERSHIP & MGMT**

#### **PREREQUISITE: None**

#### **You Will Learn**

- What we've learned the hard way—how BI best practices have evolved
- How to plan BI projects around corporate strategy
- Why data asset management is going mainstream
- Selling BI internally, and why it's a process
- Organizational ownership issues and the “P” word—politics!
- Evolving from the DW development team toward the Information Center of Excellence

#### **Geared To**

- CIOs and chief data officers; business sponsors and end-users; data management staff; project or program managers; members of the BI Competency Centre

Executives are starting to get it. They understand that data warehousing is a strategic enabler, and conversations are shifting away from the platform and toward business value. As business intelligence becomes an ever more critical corporate program, line of business managers and end users are not only key stakeholders, they also increasingly hold the purse strings. Managers and IT need better ways of planning their BI initiatives and understanding how to use corporate objectives to justify ongoing information deployment. The onslaught of enterprise-class solutions like ERP, CRM, and business performance management render data warehousing and the accompanying data management functions more important than ever.

This workshop focuses on ways to ensure that data warehouse and BI projects remain top-of-mind in your organisation. For managers considering new BI applications, it covers a series of real-life scenarios that illustrate requirements driven development.

For those already underway with their BI initiatives, it presents best-practice case studies to ensure that BI is approached not as a one-time-only activity, but as a portfolio of capabilities deployed over time. Examples of real-life companies are interwoven throughout the day to illustrate high-profile best practices. In either case, this course covers some valuable lessons learned about BI development methods, data management and ownership issues, the evolution of the data warehouse development team, the necessary “internal PR,” and other staples of successful business intelligence.

WebLearning Education Services

“As a 25+ year veteran of IT recently assigned global responsibility for BI, having a baseline understanding of BI is, of course, essential. This course did a good job of doing just that!”

T. Jefferson, Michelin North America

*“Good overview on the basic strategies for building a DW.”*

D. Akehurst, Magellan Health Services

## Data Warehousing Architectures: Choosing the Right Data Warehousing Approach

### Core Skills:—CORE SKILLS / DATA INTEGRATION

PREREQUISTE: None

### You Will Learn

- To distinguish between various data warehouse architectures
- To distinguish between top-down, bottom-up, and hybrid methodologies
- To understand dependencies between architecture and methodology
- To assess cost, value, and time-to-delivery implications of various approaches
- To use a systematic approach to determine the best-fit architecture and methodology for your DW program

### Geared To

- DW/BI program and project managers; data architects; anyone who participates in making architecture and methodology decisions; anyone who needs to understand differences between the various approaches

This course sorts out the confusion about data warehouse architectures and methodologies. Many data management architectures (hub versus bus) can be used to successfully deploy business intelligence, and many approaches (top-down versus bottom-up) may be used to develop the data warehouse. Choosing the right architecture and development approach for your organization is a challenge influenced by many factors. This course provides guidelines and techniques to assess your requirements and make informed choices.

*“This class was essential in my personal understanding of architecture in order to partner with my organization to leverage their BI initiatives and goals.”*

B. Augé, Valassis

*“Helps to evaluate the impacts of deviating from particular architectures and methodologies.”*

J. Holland, The George Washington University

*“Good overview of current practices and architecture. Helpful to get grounded on the common terms and architectures.”*

D. Moore, Capital One

## Technology Update Live! With Al Wilson

### Core Skills:—ADMIN & TECH

PREREQUISITE: None

### You Will Learn

- Emerging technology that is shaping our future
- One- and two-year predictions for existing BI technology and vendors
- Vital and pressing issues to consider for your BI environment and strategy

### Geared To

- Program and project managers; technical architects; BI application and data warehouse developers; database and systems administrators

Staying abreast of ever-changing technology is difficult. Yet it is a must for every BI professional. Whether you are a manager, developer, architect, or administrator, you need to stay informed about the rapidly changing technologies that make business intelligence work.

This course keeps you in touch with what's new and upcoming in the world of BI technology. Keeping his ever popular Hands-On series of courses up-to-date and writing WebLearning's quarterly Technology Update column is challenging.

These activities demand that Al Wilson is continuously aware of vendor plans, informed of new and innovative entries into the marketplace, and on top of product growth and evolution. From servers and infrastructure to analytic applications, this session offers an objective and unbiased look at what's happening in the world of BI technology.

Expect this to be a lively, engaging, and interactive session. Beyond hearing about new and emerging technology, you'll see product features demonstrated and have opportunity to join in discussion about the current and future states of the technology.

*“As a SMB, gathering this large amount of objective information on new solutions would be extremely difficult—and to get it in the course of one day would be simply impossible. This class has done more for our BI initiative than 100 vendor visits. Thank you.”*

*S. Booze, NKK Switches*

## **Data Warehousing Project Management**

### **Core Skills:—LEADERSHIP & MGMT**

### **PREREQUISITE: None**

### **You Will Learn**

- How to create a project agreement
- How to staff your project
- How to manage user expectations
- How to identify and mitigate risk
- Data warehouse methodology, project planning, and project control

### **Geared To**

- DW project managers; DW managers; business people implementing a DW Data warehouse

Project managers are often given an unrealistic schedule, an under funded budget, inadequate staff, and a project sponsor who has no clue about what to expect or what to ask for. Project planning for the data warehouse is different than for operational systems—the scope is usually less clear, and the expectations range from reasonable to impossible. The data warehouse project manager is faced with a whole new set of uncertainties and problems.

This course directly addresses the problems and suggests best practice solutions. It will provide many of the materials the project manager has to develop and should maximize the chances for success.

This session will address the components of project management that are unique to the data warehouse. It will give prospective data warehouse project managers a good understanding of their role as well as the important ingredients for their success.

### **Introduction**

#### Data Warehousing Overview

- Evolving Business Environment
- Architecture
- Partnerships

### **Project Management Overview**

- Project Management Triangle
- Project Issues
- Beyond the Project

### **Methodology Overview**

- Program Management

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- Data Warehouse and Data Mart Methodology
- Operational Data Store Methodology

### **Roles and Responsibilities**

- Initial Management and Administration
- Getting Data In
- Getting Information Out
- On-Going Management and Administration

### **Preparation (with exercise)**

- Zachman Framework Overview
- Project Identification and Prioritization
- Assessment
- Staffing and Management Implications

### **Program Management (with exercise)**

- Program vs. Project Orientation
- Strategy Development
- Stewardship
- Data Models
- Policies and Standards
- Staffing and Management Implications

### **Getting Information Out (with exercise)**

- Major Activities and Deliverables
- Data Mart Design
- Data Delivery
- Data Access
- Staffing and Management Implications

### **Getting Data In (with exercise)**

- Major Activities and Deliverables
- Information Requirements Gathering
- Data Warehouse Design
- Data Acquisition
- Staffing and Management Implications

### **Deployment (with exercise)**

- Major Activities and Deliverables
- Roll-Out Planning
- Post Implementation Review
- Staffing and Management Implications

### **Putting it Together (with exercise)**

- Plan Development
- Change Management

### **Administration and Operation**

- Definitions and Functions
- Migrating from Data Mart Chaos
- Staffing and Management Implications

### **Wrap-Up**

*“I’ve gotten a lot of great tips and outlines of steps to follow to form a project team, evaluate software, work with users, and plan a data warehouse project.”*

*M. Eakius, State Auto Insurance*

## Real-Time Data Warehousing

### Core Skills:—ADMIN & TECH

### PREREQUISITE: Knowledge of DW fundamentals

#### You Will Learn

- Active DW definitions and framework
- Evolutionary steps toward active DW deployment
- The architecture of an active DW
- Implementing extreme performance, data freshness, and availability
- CRM and the active DW
- The role of enterprise application integration (EAI)

#### Geared To

- DW architects, designers, developers, and administrators

Active data warehousing is rapidly changing the landscape for deployment of decision-support capability. The challenges of supporting extreme service levels in the areas of performance, availability, and data freshness demand new methods for DW construction. Particular attention is paid to architectural topologies for successful implementation and the role of frameworks for enterprise application integration (EAI). In this workshop we will discuss the evolution of DW technology and new methods for meeting the associated service levels with each stage of evolution.

The evolutionary steps from first-generation DW implementations to active DW deployment are provided as a means for incrementally delivering business value in the path toward advanced decision-support capability. An architectural framework for implementation of enterprise DW for deploying both strategic and tactical decision support will be presented. Implementation of scalable solutions with capability for near real-time data acquisition and mixed workload management with aggressive service levels will be discussed with real customer scenarios as case study examples.

*“Extremely good—very timely and fore thinking.”*

L. DeLong, ORIX Capital Markets

*“It showed me that the course we have taken in our DW methodology is effective for the future, and that a combined ODS/DW is a viable, effective solution if the business requirements dictate that.”*

M.Caffrey, Mercedes-Benz UK

## **Information Quality in Data Warehousing and Business Intelligence: Principles and Practice**

**Core Skills: LEADERSHIP & MGMT / DATA ANALYSIS & DESIGN**

**PREREQUISITE: Basic knowledge of data warehousing**

### **You Will Learn**

- How to define information quality from the DW customer perspective
- How to assess DW data definition and data architecture quality
- How to assess information quality
- How to implement a data cleansing and data re-engineering process
- How to implement quality controls in the ECTL (extract, correction, transformation, and load) processes
- Strengths of IQ tools, their limitations, and how to overcome them
- How to improve information processes to eliminate the causes of defective data
- How to implement an information quality culture for data warehousing and BI

### **Geared To**

Information quality practitioners; ETL and data movement professionals, data management and data warehouse managers.

A manufacturing firm wasted £1 million on its data warehouse before it recognised the need for quality data architecture and for data quality control in its data warehousing processes. A major bank scrapped a £29 million data warehouse to start over from scratch. The reason? Failing to understand and avoid the impact for poor quality. This tutorial details the essential ingredients of an effective information quality management function for the data warehouse.

This course describes how to assess information quality (IQ) at the data sources and in the warehouse. You learn processes for correcting defective data and for controlling data movement processes from source to warehouse. It also defines how to implement a Plan-Do-Check-Act process improvement initiative to prevent recurrence of data defects. You learn both the technical and management requirements for a sustainable information quality environment for data warehousing.

“This information is something I will share with others at my company. These are ideas that will make an impact.”

S. Distelhorst, State Auto Insurance

“Excellent, real-life case studies presented.”

M. Scarbrough, Wells Fargo

## **Hands-On Profiling and Business Rules**

**Core Skills: ADMIN & TECH / LEADERSHIP & MGMT**

**PREREQUISITE: None**

### **You Will Learn**

- About technology that facilitates Rule-Based Audit (RBA) and Proof of Concept (POC) efforts, including Business Rules Engine and Blaze Advisor Builder
- How to use the technology in sample audit and POC applications

### **Geared To**

- Business sponsors
- BI program managers
- BI project managers
- Architects, designers, and developers of BI systems

BI projects are peppered with risks, from data quality to integration, from applicability to analytic value. These risks often bring entire projects to a halt, leaving planners scrambling for cover, sponsors looking for remedies, and budgets wiped out. Conducting a rules-based audit (RBA) or proof-of-concept (POC) is done in order to get answers, to add clarity, and to understand scale and scope of the project at hand—essentially, to mitigate risk.

## **Data Modelling: Data Analysis and Design for BI and Data Warehousing Systems**

**Core Skills:—DATA ANALYSIS & DESIGN / DATA INTEGRATION**

**PREREQUISITE: Knowledge of data warehousing concepts and BI fundamentals**

### **You Will Learn**

- Modelling techniques to gather business requirements
- Differences in modelling approaches for business transactions, business events, and business metrics
- Semantic and subject modelling techniques for the “big picture” view
- Relational modelling skills and when to apply them
- Dimensional modelling skills and when to apply them
- State-transition modelling skills and when to apply them
- The role of normalization in data warehousing and BI systems
- How time-variant data is represented in data models
- Optimization techniques for warehousing data stores
- Applied data modelling for data warehouses, data marts, and analytic applications

### **Geared To**

- Data architects; data modellers; project and program managers; DSS and analytics developers; business people with data warehousing and business intelligence roles

BI and data warehousing systems challenge the proven data modelling techniques of the past. From requirements gathering to optimisation, new roles and uses of data demand updated data modelling skills. The “toolbox” for data modellers has expanded beyond basic entity-relationship modelling and now includes techniques to manage time-variant data, to distinguish between event data and reference data, to manage data redundancy, and much more. For those with data modelling experience, this course extends their skills to include modelling of business metrics, modelling of temporal data, and more. For those new to data modelling the course provides a sound introduction to the array of modelling skills needed for BI and data warehousing systems. Those who need to understand data models, but not necessarily to develop them, will understand the various forms of data models and what they are intended to communicate.

*“I felt that there was something for everyone. Great learning for both the novice and the expert.” S. Quiles, Unilever Foods NA*

*“Was actually much more comprehensive than I anticipated. I was expecting more focus on star schema design, but this was better. It laid out the whole spectrum of models.” M. Morella, Radian Group*

## **Enterprise Business Intelligence: Strategies and Technologies for Deploying BI on an Enterprise Scale**

### **Core Skills: LEADERSHIP & MGMT**

PREREQUISITE: None

### **Practical Advice from BI Practitioners!**

Organisations today want to migrate their business intelligence (BI) environments from tactical, departmental installations to strategic, enterprise applications. CFOs want to cut costs and improve efficiencies by eliminating redundant applications and reducing the number of software suppliers. More importantly, enlightened CEOs recognise that insight gleaned from timely analysis of information is a competitive advantage in today's knowledge economy.

However, many organizations are stumped about how to transform BI to an enterprise resource because there are numerous obstacles. For instance, individuals and groups are wedded to their own tools and views of data and don't want to relinquish them. On the technical side, it's unclear how to provide adequate performance and usability when serving the analytical needs of thousands of users.

To provide some clear thinking around these issues, WebLearning convenes experts and practitioners from a variety of industries at its November BI Strategies summit. Through lectures, case study presentations, one-on-one interviews, and panel discussions, you will learn a variety of strategies for standardizing on BI tools, converting reluctant users and groups, and leveraging BI as an enterprise resource that optimizes performance and aligns the organization around strategic objectives.

### **What You Will Learn**

Attending the BI Strategies summit will give you the knowledge and confidence you need to establish and execute an effective BI strategy and give your organization a leg up against the competition.

In particular, you will learn:

- The costs of non-standardized BI environments
- Strategic approaches for standardizing BI tools in a legacy environment
- The benefits of deploying BI on an enterprise scale
- How to deliver BI to customers and suppliers
- How to select BI tools that meet enterprise requirements
- How to tune BI environments to deliver adequate scalability and performance
- How to deliver to users real-time information from hundreds of sources

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- How to deliver both structured and unstructured data in an enterprise BI environment
- How to use business analytics for deep insight into complex issues, such as pricing optimisation
- And much more!!

## **Predictive Analytics**

### **What is Data Mining?**

- Definition
- What's New? So What?...
- The Data Mining Project Life Cycle
- The First Deadly Sin
- An Enterprise DSS Architecture
- Compare/Contrast with other DSS Components
- Relation to Data Warehousing
- A Surface Introduction to Primary Data Mining Technologies

### **What can Data Mining do?**

- Directed Analysis
- Classification
- Estimation
- Prediction
- Undirected Analysis
- Clustering
- Affinity Grouping
- Association Rules
- Three Case Studies
  - Banking: Identification of Cross Selling Opportunities
  - Insurance: Risk Assessment
  - Finance: Market Timing in the Treasury Bond Market
- What Did Data Mining Deliver?

### **How is Data Mining implemented?**

- Advantages and Disadvantages of
  - o Scores
  - o Software
  - o Consultants
  - o Internal Capability
- Forming the Right Combination

### **What is the Data Mining process?**

Problem Formulation and Planning: How do we get started?

- Defining a Project
- Needs and Skills Assessment
- Scope
- Roles and Responsibilities

- Duration and Schedule
- Executive's Role
- Why Projects Fail

### **Experimental Design: How do we know we can trust our results?**

- Data Distributions
- Train-Test Designs
- Train-Test-Validate Designs

### **Data Management: What data is required?**

- Sources
- What does Data Mining data look like?
- Volume: How Much is Enough?
- Fixing Problems with data
- Transforming data

### **How are effective models developed?**

- Begin with the End in Mind: Measuring Success
- Model-Test-Validation Strategies for Robustness
- Applying Automatic Clustering
- Applying Decision Trees
- Applying Neural Networks

### **Choosing technologies and products**

- Picking the Right Technology for a Problem
- Prescriptive vs. Descriptive Goals
- Performance vs. "Explain-ability"
- Data Type Considerations

### **A Taxonomy of Software Tools**

- Generic, Application-Independent Tools
- Algorithm-Specific Tools
- Application-Specific Tools
- Embedded Tools (OLAP-assist tools)
- Analytical Programming Tools
- Selection Criteria
- Validation o Testing in the real world
- The role of domain experts

### **Deployment and Maintenance**

- Rolling out models for production
- Tracking performance in production
- The Next Step: Iteration

**EXERCISES: Data Mining in Action**

- Model Creation
- Model Validation
- Model Implementation

## Hands-On Data Mining

### Core Skills: ADMIN & TECH / BUSINESS ANALYTICS

### PREREQUISITE: Knowledge of DW terminology

#### You Will Learn

- How to establish data mining as a natural component of the DW effort and BI solutions
- Why and when to implement data mining applications
- How to recognize data mining opportunities
- Technology/techniques that must be considered for effective data mining

Through extensive lab exercises, you will gain hands-on experience with leading data mining tools, including:

- IBM OLAP Miner
- Teradata Warehouse Miner
- MS Analytics
- SAS Enterprise Miner

#### Geared To

- Project managers; project sponsors; data architects; anyone who wants to understand (1) how data mining advances BI, (2) how to make mining a natural part of the warehouse effort, and (3) how to recognize a mining opportunity in your organization

Hands-On Data Mining is committed to providing non-biased information on best-of-class technologies and techniques as well as exposing participants to leading data mining tools, their use, and their application, including SAS Enterprise Miner, IBM OLAP Miner, Teradata Warehouse Miner, and Microsoft Analytics. The course encompasses a mix of lecture and formal lab exercises. The lecture components include an overview of data mining, the fundamental uses of the technology, and how to effectively blend that technology into your overall BI environment.

Formal lab exercises are conducted between lecture components in order to provide participants an opportunity to experience the fundamental features of leading data mining tools. Lab exercises are conducted for a minimum of three distinct mining tools. These labs are designed to allow participants to compare how each tool generally functions, its best features, and how well it integrates with your warehouse and BI solution.

***\*Enrollment is limited to 30 attendees.***

*“Good combination of theory and practice. Valuable insights on tools, vendors, and strategies.”*

*C. Gonzalez, Schaller Anderson, Inc.*

## **Dimensional Data Modelling Primer: From Requirements to Business Analytics**

### **Core Skills: DATA ANALYSIS & DESIGN / BUSINESS ANALYTICS**

#### **PREREQUISITE: None**

#### **You Will Learn**

- Concepts of dimensional data modelling
- The relationship between business metrics and dimensional data
- Similarities and differences between relational and dimensional data models
- Requirements gathering techniques for business metrics and dimensional data
- How to build a logical dimensional model
- How to translate a logical dimensional model to a star-schema design
- How dimensional data is used to deliver business analytics and OLAP capabilities

#### **Geared To**

- Data architects; data mart developers; business analysts; BI and DW program and project managers

Dimensional data is a core component of modern business intelligence and data warehousing implementations. Dimensionally organized data offers a more effective and adaptable solution to business analytics needs than can be achieved with relational data structures. Virtually anyone involved in business intelligence and data warehousing projects needs to have fundamental knowledge of the pathway from business questions to business analytics. This course traces that pathway.

The course begins with a comparison of relational and dimensional data organization and provides an example of business questions not readily answered using more traditional data structures of relational modelling. It then illustrates the steps to design analytic solutions starting from business questions and concluding by demonstrating an OLAP solution. These steps encompass techniques to capture business questions, represent them as a business solution, translate them to a technology solution, and deliver them to those who need information.

### **Module One**

#### **Dimensional Data Modeling Concepts**

- Dimensional Modeling Basics
  - dimensional modelling defined
  - business metrics defined
  - business metrics examples
  - dimensional data models
- Comparing Relational and Dimensional Models

- a quick review of relational models
- introduction to dimensional models
- dimensional is relational with additional constraints
- example
- Concepts Summary – Review of Key Points

## **Module Two**

### **Requirements Gathering for Dimensional Modeling**

- Business Context for Data Modeling
  - business alignment
- process alignment Business Questions as Requirements Models
- addressing performance, people, and process
- a framework for business questions
- examples
- Fact/Qualifier Analysis
  - from business requirements to data requirements
  - mapping business questions
- Requirements Gathering Summary – Process Review

## **Module Three**

### **Logical Dimensional Modeling**

- Modeling Meters and Measures
  - meter – a group of related business measures
  - meters and measures in the data model
- Modeling Dimensions
  - finding hierarchies in qualifiers
  - adding dimensions to the model
  - refining the dimensions
  - completing the dimensions
- More About Meters and Measures
  - granularity and the meter
  - granularity and the measures
  - completing the meter
- Logical Modeling Summary – Process Review

## **Module Four**

### **From Logical Model to Star Schema**

- Star Schema Dimensions
- naming the dimensions
- modeling the dimension tables
- degenerate dimensions

- defining dimension table keys
- Star Schema Fact Tables
- defining the fact table key
- supporting calculated measures Star Schema Design Challenges
- conformed dimensions
- slowly changing dimensions
- semi-additive and non-additive facts
- Modeling Process Summary – From Business Requirements to Star Schema

## **Module Five**

### **Dimensional Data and Business Analytics**

- Delivering Business Value
- An OLAP Demonstration

*“[We are] currently designing a data warehouse. [The] information discussed here was directly applicable.”*

H. Herrera, Sandia National Laboratories

*“Provides a foundation of basic procedures within a DW effort.”*

S. Mehelic, Federal Reserve Bank of St. Louis

## **Dashboard Design for Immediate Insight New!**

### **Core Skills: BUSINESS ANALYTICS**

PREREQUISITE: None

### **You Will Learn**

- To recognize the common problems in dashboard design
- To match your message to the right means of dashboard display
- To avoid clutter and arrange data that communicates clearly and at a glance

### **Geared To**

- Dashboard designers; those who must understand best practices of visual dashboard design to prepare for dashboard software evaluation

Dashboards are a popular means to present critical business information at a glance, but few do so effectively. Huge investments are made in IT to produce actionable information, only to have it robbed of meaning at the last stage of the process—the presentation of insights to those making the decisions. When designed well, dashboards engage the power of visual perception to communicate a dense collection of information in an instant with exceptional clarity. This can only be achieved by applying visual design skills that address the unique design challenges of dashboards.

## **Data Visualization for Discovery and Analysis**

### **Core Skills: BUSINESS ANALYTICS**

PREREQUISITE: Course Dashboard Design recommended, but not required

### **You Will Learn**

- Common mistakes in data presentation
- How to match your message to the right type of display
- How to remove extraneous information so the data speaks clearly, and the most important data speaks loudly

### **Geared To**

- Anyone who examines business data in an attempt to make sense of it by discerning meaningful patterns and exceptions

Business data analysis can be performed using a simple collection of graphing techniques—not sophisticated financial or statistical methods. But these techniques are rarely taught. Despite the simplicity of these skills and the ease with which they can be learned, the ability to recognize meaningful patterns, trends, and exceptions in business data is not intuitive. This course identifies what to look for in the data and presents the graphs and visual analysis techniques that are most effective for spotting and making sense of what's meaningful.

## **Evaluating BI Toolsets, Part I**

### **Core Skills: ADMIN & TECH / BUSINESS ANALYTICS**

PREREQUISITE: Knowledge of DW fundamentals; understanding of OLAP ideal

#### **You Will Learn**

- Process for selecting and/or standardizing on a toolset
- Overview of the BI market and vendors' positions
- Framework for evaluating BI vendors and suites
- Functional differences between leading toolsets

#### **Geared To**

- Project sponsors; business analysts; BI application owners

Companies have multiple BI tools inherited from acquisitions and departmental initiatives. However, the holy grail of BI is one toolset that adapts to individual users' changing information requirements. This course will delve into how to select and standardize on a toolset, taking into account key functional requirements including vendor finances, query and reporting, OLAP capabilities, administration, architecture, and price. Part I of this course focuses on defining and understanding requirements. Vendor examples are interwoven for illustrative purposes. Part II focuses on specific vendor capabilities.

## **BI Tools in Action: Evaluating BI Toolsets, Part II**

### **Core Skills: ADMIN & TECH / BUSINESS ANALYTICS**

PREREQUISITE: Evaluating BI Toolsets, Part I

#### **You Will Learn**

- Strengths and challenges of leading BI vendors
- Key differences between major BI vendors
- Tradeoffs in the various approaches
- How to maximize your own scripted demos

#### **Geared To**

- Project sponsors; business analysts; BI application owners

Part II of this course expands on content introduced in Part I. Based on in-depth hands-on evaluations, the instructor provides a short overview of leading BI vendors' strengths and challenges. Scripted demos delve into how three leading vendors differ in their approach to fulfilling key functional and business requirements and give attendees an opportunity

to see the products in action, without the marketing hype. For specific vendor participation, see this course description on the WebLearning Web site.

## **Hands-On OLAP**

### **Core Skills: ADMIN & TECH / BUSINESS ANALYTICS**

**PREREQUISITE:** Understanding of relational database and DW terms and concepts

### **You Will Learn**

- The best practices, in both data and technical architectures, for implementing an OLAP strategy
- The core components to effective OLAP and more
- Through extensive lab exercises, you will gain hands-on experience with leading OLAP tools such as:
  - MOLAP: using Hyperion Essbase and Cognos PowerPlay
  - HOLAP: using MS OLAP
  - ROLAP: using MicroStrategy Intelligence Server
- The right application of atomic level data, star schemas, and MOLAP cubes
- How to effectively apply leading OLAP tools, including MS OLAP Analytics, Excel Pivot Tables, MS Analyzer, MDX, Essbase Multidimensional Server, and Cognos PowerPlay cubes
- To compare and contrast OLAP features in order to make the best decision for your organization

### **Geared To**

- Anyone involved in the design and construction of data access methods for the organization

Hands-On OLAP is committed to providing non-biased information on best-of-class technologies and techniques as well as exposing participants to leading OLAP tools, their use, and their application. The course begins with an examination of data and technical architectures specific to OLAP. Participants are then led through discussions and lab exercises that emphasize product features, functionality, and applicability of products such as MS OLAP Analytics, Hyperion Essbase (DB2 OLAP), MicroStrategy, and Cognos PowerPlay.

This course is designed to provide participants with an opportunity to compare and experience critical features of leading OLAP tools. Using a formal case study, students will create multidimensional reporting applications. Extensive lab time provides students with valuable insight into the features of each product and how it might fit in their warehouse efforts.

Hands-On OLAP is designed to provide participants with a non-biased view of leading OLAP tools.

Enrolment is limited to 30 attendees.

*“Helps us to know where OLAP tools are going and see which trends we need to position our technology to leverage.”*

***M. Kalko, Banner Health***

*“Helped me to see a wide perspective of OLAP tools. Absolutely met my expectations—actually it exceeded my expectations.”*

*J. DeCristoforo, The University of Texas at San Antonio*

## **Quantifying Financial Benefits of BI and DW Initiatives for Business Cases and Post-Implementation Assessments**

### **Core Skills: LEADERSHIP & MGMT**

PREREQUISITE: None

### **You Will Learn**

- The rationale for developing a business case
- The components of a business case
- How to anticipate the financial rewards
- How to calculate financial measures: ROI, TVO, TCO, and payback period
- The rationale for conducting a post-implementation assessment
- How to conduct a post-implementation assessment
- Components of a post-implementation assessment document

### **Geared To**

- Directors of IT; IT managers; project managers

This full-day course is comprised of two sessions that address the financial impact of BI and DW initiatives to an organization. The morning session is devoted to building the business case and the financial measures that would be used to estimate the anticipated value. The afternoon session builds upon the morning session and reviews the financial impact after the solution has been implemented.

### **Morning: Financial Assessment for Business Case**

Building the business case and quantifying the anticipated financial benefits of a BI and DW initiative is often essential to winning support and receiving funding. Calculating the financial measures provides a basis for evaluating the BI and DW initiative against other internal initiatives. In addition, the financial measures in the business case provide a foundation for conducting a post-implementation assessment.

## **Afternoon: Financial Assessment Post-Implementation**

Quantifying the financial benefits of a BI and DW solution validates the decision to undertake the initiative as well as quantifies the success and justifies the investment that was made. Conducting a post-implementation assessment can be time consuming and difficult to perform. However, formally defining and conveying the benefits of the BI and DW solution to the organization can be very rewarding.

*“Examples and class exercise were great and really helped solidify the course content.”*  
L. Ramos, Oxford Health Plans

*“Very helpful course. As a financially-minded person, I found it very useful.”*  
J. Onorato, Conversion Services International

## **Dimensional Modelling: Intermediate and Advanced Techniques**

### **Core Skills:—DATA ANALYSIS & DESIGN**

PREREQUISITE: Basic knowledge about dimensional modelling and some hands-on experience; knowledge of dimensional DW concepts

### **You Will Learn**

- Advanced techniques for handling complex, real-life dimensional modelling problems
- How to weigh advantages and disadvantages of design options
- Guidelines for designing complex data marts
- Techniques to keep users involved in the modelling process

### **Geared To**

- Data modellers; database administrators; project managers; staging system developers; end-user application designers

OK, you have done your homework. You have learned the fundamental dimensional modelling skills, and you have jumped into the first, second, and third project. Now what?! Your modelling problems do not fit neatly into the textbook examples. Maybe you are stumped, or perhaps you think you have solved the problem correctly but you need a second opinion.

This accelerated class will go beyond the fundamental questions to tackle some of the most commonly asked questions and address the most common mistakes that people make. This course is based on real-world experience in dealing with large data volumes and very complex models. The goal of this course is to equip you with the tools and knowledge to address your complex modelling challenges and to meet your demanding business needs.

*“Huge value—dimensional modelling is a key function of my job.”*

B. Czajkowski, Fisher-Price

*“Relevant and useful examples of solutions to real-world problems.”*

R. Lane, NC Office of the State Controller

*“Great course—saw some modelling alternatives that hadn’t entered my mind before.”*

M. Caffrey, Mercedes-Benz, UK

## **Metadata Strategies for BI and DW Environments**

### **Core Skills:—DATA INTEGRATION / ADMIN & TECH**

PREREQUISITE: None

### **You Will Learn**

- How to use a formalized approach for developing a metadata strategy
- How to identify practical metadata projects that deliver real benefits
- How to evaluate and define metadata architectures
- How to demonstrate ROI and initiate sustainable metadata projects
- How to evaluate and select a metadata repository tool
- Alternatives for starting without purchasing a metadata repository

### **Geared To**

- Managers and directors of IT who are responsible for large and complex data management systems

Many organisations still aren’t adequately addressing metadata, even though there is an abundance of evidence available that data warehouse/business intelligence solutions without formalized metadata solutions don’t provide the desired results.

Solutions without metadata don’t deliver the anticipated benefits relating to ease of data navigation, total cost of ownership, and flexibility to support rapid change/expansion.

Information access metadata strategies address the daunting task of implementing a practical metadata solution to support DW/BI. From funding the project, to building your approach, to tool selection, to implementation, metadata initiatives are relatively complex with no complete out-of-the-box solutions available.

The course will address these issues by providing a framework for defining and implementing practical metadata solutions within your organisation. In addition, he will show examples of how metadata can be used to build, administer, and navigate complex DW/BI environments, and review the progress of metadata industry standards and their impact on projects.

*“Packed with information! This course is exactly what I needed to begin planning properly for a metadata solution for our EDW.”*

J. Newell, Highmark, BCBS

*“[I now have] much better knowledge of metadata and how it relates to our DW efforts, and [the course] gave me great ideas on how to practically implement and how to build and support the case.”*

L. DeLong, ORIX Capital Markets

## **Hands-On Business Analytics**

### **Core Skills:—ADMIN & TECH / BUSINESS ANALYTICS**

**PREREQUISITE:** Understanding of relational database and data warehouse terms and concepts

### **You Will Learn**

- The best practices for blending data mining, machine intelligence, advanced visualization, and spatial data technology into your BI environments
- The core components to effective spatial analysis, data mining, machine intelligence, and visualization applications
- Through extensive lab exercises, you will gain hands-on experience with leading BI tools, including:
  - Microsoft Data Mining
  - Oracle Data Miner
  - Blaze Business Rule Engine
- How and when to effectively apply advanced BI technology in order to enhance your information content and analytical landscape

### **Geared To**

- Anyone involved in the sponsorship, management, design, and construction of BI solutions for an enterprise

Business intelligence (BI) is well beyond the domain of traditional topics such as ETL and OLAP. Today, BI drives the information organization with technologies and techniques that allow the enterprise to glean actionable insight from volumes of disparate data, with near real-time refresh cycles.

This course starts by defining the promise of business intelligence and the gap that exists between what is promised and what is often implemented. The lecture portion of the course then sets out to identify the technologies and techniques necessary to not only fill the gap, including data mining, machine intelligence, advanced visualization, and spatial analysis.

Hands-on exercises complement all lecture content. Throughout the course, participants experience leading products, representing tangible evidence and applicability, to enhance the informational content of any BI effort. Specific technologies include:

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- Data Mining: Microsoft Data Mining lab
- Human-Machine Intelligence: Blaze Business Rule Engine lab
- Visualization: Business Objects Analytics
- Spatial Analysis: ESRI Business Analyst lab

Hands On-Business Analytics is designed to provide participants with a nonbiased view of leading BI tools.

## Data Warehousing Step by Step

### Core Skills: DATA INTEGRATION / DATA ANALYSIS & DESIGN

PREREQUISITE: Knowledge of DW fundamentals

#### You Will Learn

- A 26-step approach to warehousing development
- The difference between programme planning and project management
- An exploratory data mart development approach
- Production issues unique to a warehousing environment

#### Geared To

- Business knowledge workers; program managers; project managers; decision support analysts; data designers; data architects; ETL designers; ETL developers

With data warehousing in its second decade, we've learned a tremendous amount about why warehousing is critical. But many companies still flounder when it comes to architecture design and the approach for building a warehousing environment.

This course offers a step-wise guide to warehouse development, highlighting what deliverables should be considered to support a successful warehousing implementation. While the multi-tiered warehousing architecture is the basis for this material, many of the deliverables and techniques are applicable to other warehousing architectures.

One of the many things learned in the first generation of data warehousing is the circular, iterative development approach. While this material is presented in a linear manner, the execution is anything but. This class shows the warehousing practitioner how to adapt the approach to fit each company's specific development needs.

This material relates to terminology used in WebLearning-owned courses.

*"Good, sound information with experiences to back it up. Excellent course!"*

*B. Pennington, Rollins, Inc.*

*"Karolyn may have been the best instructor I've had in my 15 years of conferences."*

*J. Boyd, Penn National Insurance*

## **Oracle Business Intelligence: Integrated OLAP Developing and Using Oracle9i OLAP**

Oracle9i Warehouse Builder (9.2) is a tool used to design and deploy business intelligence applications, data warehouses and data marts. The tool enables users to design their own business intelligence application from start to finish. Dimensional design, Extraction, Transformation and Load (ETL) process design, extraction from disparate source systems, extensive metadata reporting and integration with Oracle Discoverer, Oracle Workflow and Oracle Enterprise Manager enable an integrated business intelligence solution with Oracle9i Warehouse Builder at the core.

Oracle9i Warehouse Builder is tightly integrated with the Oracle database, the main supported target system. Designers have a wizard driven process to easily create various relational and dimensional models for their target schema.

This Hands on lab is intended to give new users an overview of Warehouse Builder functionality. Please visit the Warehouse Builder demo station or Oracle's Technology Network website for additional information and to view a complete list of Warehouse Builder features.

- 1.1 Login Information
- 1.2 Overview of Warehouse Builder main console
- 1.3 Importing source metadata
- 1.4 Defining a target module
- 1.5 Dimensional design
- 1.6 ETL Design: Data Flows (Mappings)
- 1.7 Deployment Manager
- 1.8 ETL Design: Process Flow Editor
- 1.9 External tables
- 1.10 Data Quality
- 1.11 Mapping Debugger

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## **Oracle Business Intelligence: Analytical Workspace Primer**

Analytic Workspace Manager 10g is a new tool for creating, developing, and managing multidimensional analytic workspaces in an Oracle OLAP data warehouse. With this easy-to-use GUI tool, you will create an analytic workspace with logical dimension and cube objects. Afterwards, you will map these objects with existing star, snowflake, and normalized relational sources and then load the data. In addition, throughout the lesson you will use templates, and make data storage decisions.

Workspace Manager is a feature of the Oracle Database for application developers and DBA's. It manages current, proposed and historical values for data in the same database. It saves money by reducing the amount of hardware and corresponding software licensing needed to manage this data, as compared to scenarios where data is copied and synchronized across multiple database instances.

It saves time by allowing concurrent access to current, proposed and historical data without the latency associated with making copies of the data. It saves labour by allowing a single point of update and management for this data while freeing the application developer from writing custom code and creating application specific metadata to keep track of multiple data versions.

Potential uses for Workspace Manager include isolating a collection of changes to production data, keeping a history of changes to data and creating multiple data scenarios for “what if” analysis.

## **Oracle Business Intelligence: Oracle Discoverer End-User Primer**

In lesson you will learn how to build Ad-Hoc Reports based on OLAP (On-Line Analytical Processing) data using Oracle Discoverer Plus.

Oracle Discoverer is a powerful Enterprise Ad-Hoc Reporting tool to build and publish high quality, dynamically generated Paper and Web reports. It enables businesses to give immediate access to information to all levels within and outside of the organisation in an unrivalled scalable and secure environment. Oracle Discoverer consists of Oracle Discoverer Plus (a component of the Oracle Developer Suite) and Oracle Discoverer Viewer. (a component of the Oracle Discoverer). Oracle Discoverer uses a declarative, document-centric development model to help Analysts and end-Users rapidly create high-fidelity Web and paper reports against any data source (including Oracle Database, JDBC, XML, text files, and Oracle OLAP).

In this lesson you will use Discoverer Viewer to create and view worksheets in a workbook called Sales & Profits. The lessons will be created from an OLAP multi-dimensional data source.

### **Topics**

Viewing Sales History Information Using OracleBI Discoverer Viewer  
Analyzing Sales History Information Using OracleBI Discoverer Plus Relational  
Creating Business Intelligence Reports Using OracleBI Discoverer Plus OLAP  
Developing Sales History Business Area by Using OracleBI Discoverer Administrator  
Exploring the New Features of OracleBI Discoverer  
Creating a Business Intelligence Dashboard Using OracleBI Discoverer Portlets

## **Oracle Business Intelligence: Oracle Discoverer Administration Primer - coming soon**

## **Oracle Business Intelligence: Oracle Analytics Spreadsheet Add-In Primer**

The Oracle BI Spreadsheet Add-In enables end-users to display and navigate Oracle OLAP data from within Excel.

Users can treat Oracle OLAP data as regular Excel data, for example by creating formulas and graphs, thus enabling them to combine the powerful analytic capabilities of Oracle OLAP with standard Excel functionality.

Using a wizard driven interface, users can select data from Oracle OLAP by choosing from a simple list of values, or by creating advanced selections, such as exceptions, top/bottom, or hierarchy-based. Users can also create Oracle OLAP based calculations.

In this course, you will learn how to use Spreadsheet Add-In to quickly and easily create OLAP focused worksheets directly within Excel and extend the power of worksheets using existing Excel capabilities.

### Topics

Connect to an Oracle OLAP Data Source

Create OLAP Queries

Use Excel Features on OLAP Data

Create OLAP Calculations

Add an Excel Conditional Format

Summary

## **Using OWB9i to Design, Build and Manage OLAP**

Oracle9i Warehouse Builder fully supports OLAP integration by providing end-to-end metadata integration with the Oracle9i release 2 database (9.2) OLAP structures.

Using Warehouse Builder you can design, deploy, and load OLAP objects that provide complex analytical power to your data warehouse. Warehouse Builder enables you to perform all the activities required to create an OLAP environment from a relational star schema.

First you can use the Warehouse Builder design environment to create your OLAP metadata. You can define multidimensional objects, such as dimensions and cubes, necessary to create the Analytical Workspace (AW) in your database and enable analytical processing.

Using the Warehouse Builder Transfer Bridge, you can deploy this metadata to your database to create the AW.

This course covers the integration of Warehouse Builder with Oracle9i OLAP server.

## **Using OWB10g to Design, Build and Manage OLAP**

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This course covers the integration of Warehouse Builder with Oracle10g OLAP server.

## **Oracle Business Intelligence: Business Intelligence Beans 10g**

This Course is divided into two sections. This first, explains the process of creating business intelligence (OLAP) objects, which can be used in either HTML-client or Java-client applications. The second section explains how to build and deploy BI Beans reports using the application and deployment wizards.

## **Oracle Business Intelligence: Building Reports based on OLAP data**

In lesson you will learn how to build Reports based on OLAP (On-Line Analytical Processing) data using Oracle Reports.

Oracle Reports is a powerful Enterprise Reporting tool to build and publish high quality, dynamically generated Paper and Web reports. It enables businesses to give immediate access to information to all levels within and outside of the organization in an unrivalled scalable and secure environment.

Oracle Reports consists of Oracle Reports Developer (a component of the Oracle Developer Suite) and Oracle Application Server Reports Services (a component of the Oracle Application Server).

Oracle Reports Developer uses a declarative, document-centric development model to help the J2EE developer rapidly create high-fidelity Web and paper reports against any data source (including Oracle Database, JDBC, XML, text files, and Oracle OLAP).

While allowing developers to leverage the latest J2EE technologies such as JSP and XML, OracleAS Reports Services securely publishes these reports in any format (including HTML, XML, PDF, delimited text, Postscript, PCL, and RTF) to any destination (including e-mail, Web browser, Oracle Portal, and file system).

## **Oracle10g Data Mining Workshop**

In today's, fast paced business environment, identifying and capitalizing on the right information before a competitor is critical to success. Recognising the next competitive battlefield, discovering ways to expand order sizes, or increasing customer profitability are just a few areas of opportunity that become obvious with the right information.

Most organisations possess a wealth of corporate data, but still cannot identify those key nuggets of information that allow them to achieve a significant competitive advantage. Few organizations ever realize the true potential of their corporate data and this failure allows their competitors to dominate the more lucrative and profitable segments of the market.

In the past, to achieve insight into corporate data, an organisation required a specialized staff of research analysts working in a dedicated environment - not any more. Today, even the smallest organisations can dominate segments of the market with the right information - information that can only be achieved through the data mining process.

The Data Mining Workshop should be considered:

- When an understanding of data mining process, methodology and capabilities are needed
- When organizations are searching for new opportunities to leverage their corporate data to gain a competitive advantage
- When results to complex business problems cannot be met with standard analysis or research methods
- When considering the technical architecture and infrastructure necessary to support enterprise knowledge discovery
- When there is a question of how to perform advanced analytical analysis and knowledge discovery in the shortest time frame

## **LET WEBLEARNING HELP with the Data Mining Workshop**

The Data Mining Workshop educates organisations on how to leverage one of their most valuable assets to provide insight into the operations of their business, the behavioural patterns of their customers and the hidden relationships found deep within corporate data that may have a direct impact to the bottom line. By focusing on the knowledge discovery process, organizations will understand the techniques of collecting and exploring data, the construction of predictive models, and the empirical verification to validate the solution.

The workshop design is based on the following initiatives:

- A discussion session emphasizing the opportunities and value provided by the knowledge discovery process

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- An understanding of the data mining process, methodology and how it can be used to solve business problems within your industry
- An understanding of the architecture, infrastructure and environment necessary to support data mining
- Examples highlighting how data mining has provided strategic impact to organisations
- A classification of business approaches and proven solutions aligned to your organization's requirements

In a marketplace where speed & industry knowledge is the ultimate competitive advantage, the WebLearning Data Mining Workshop is simply the best investment an organisation can make to help expand revenues and reduce costs.

## **FEATURES AND BENEFITS**

WebLearning offers this workshop to educate your organization about the benefits of the data mining discovery process. These capabilities will benefit your organization by enabling:

- Strategic Business Information -- Enables your organisation to understand how to maximize the return on one of your most valuable assets -- its data
- Architectural Foundation -- Provides the foundation and integrated platform optimized for your knowledge discovery activities
- Reduce Costs -- Identifies business insight and opportunities to expand revenue and reduce costs
- Expertise -- Delivered by highly trained and experienced consultants. WebLearning Consulting has a portfolio of data mining solutions that can be delivered in increments to allow your organisation to achieve the highest value in the shortest possible time frame

## **Oracle9i Hands-On Best Practice CD**

Oracle9i Database Complete OCP Hands-On Course Workbook. Covers everything you need to become an Oracle Certified Professional - DBA (Database Administrator). Also included are Self-running Flash rich-media demonstrations of how each Task in each Lesson is done.

This is a unique new approach to learning, which combines a hands-on practice workbook with rich media demos to provide a combination of read, practice and watch how it is done.

### **Audience:**

Technical Support Professionals  
Database Administrators  
System Analysts  
Applications Developer  
Implementation Team

### **Prerequisites:**

Required Prerequisites: Working with iSQL\*Plus

### **Course Objectives:**

Manage Content in the Database(Oracle DBA OCP)  
Develop a Highly-Available Database Environment  
Deploy and Administer Oracle9iAS J2EE, Web Services and Web Cache (Web Administration Master)  
Manage the Oracle9i Environment  
Build an Information Portal  
Build and Deploy Enterprise Portals with Oracle9i Application Server  
Developing SQL and PL/SQL with Oracle9i JDeveloper  
Modeling, Developing, Discovering, and Accessing Web Services  
Build and Manage a Datawarehouse  
Gain hands-on experience of Building and Designing Oracle Business Intelligence Applications  
Manage and Administer Oracle9iAS

### **Lesson 1- Manage Content in the Database**

In this Oracle9i course, you will learn how to manage content in the database utilizing a variety of Oracle tools and technologies. After taking the modules in this course, you should be able to:

## WebLearning Education Services

- Perform SQL queries using Oracle Spatial and Workspace Manager
- Perform SQL queries that search product documents
- Load an XML Schema and XML documents into the database
- Build and deploy an XML Application
- Utilize some new PL/SQL capabilities
- Build an application that displays and updates multimedia information

### Lesson 2 - Extend The Database for Globalization

In this Oracle9i by Example course, you will learn how to facilitate the task of developing, deploying and hosting multiple languages in a single central database. After taking the modules in this course, you should be able to:

- Understand the basic concepts of building multilanguage Internet Application
- Use the Character Set Scanner in Migrating a Database to support Unicode
- Deploy Unicode with SQL NCHAR datatypes
- Sort multilingual data
- Create your own locale definitions using the Oracle Locale Builder
- Use datetime and interval datatypes in a global environment.

### Lesson 3 - Integrate your eBusiness

In this Oracle9i course, you will learn how to integrate your data together using messaging and queing technology. After taking the modules in this course, you should be able to:

- Integrate your data using Oracle Streams
- Use Advanced Queueing (AQ) on the Internet.

### Lesson 4 - Build a Secure Data Center

In this Oracle9i by Example unit, you will utilize the Oracle9i security capabilities, such as the virtual private database, Oracle Label Security and data encryption. After completing the modules in this course, you should be able to:

- Build an Application Context
- Build a Security Policy and attach the policy to a user
- Assign a user with a label authorization to view confidential information
- Encrypt Credit Card information in the database.

### Lesson 5 - Manage the Oracle9i Environment

In this Oracle9i course, you will learn how to use Enterprise Manager to administer, manage and tune the database for optimum performance. After completing the modules in this course, you should be able to:

- Create and manage administrators
- Create events, jobs and reports using the EM Console
- Manage the instance, schema, storage and security of the database using the EM Console
- Evaluate the performance of a SQL Statement using the Virtual Index Wizard

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Evaluate and synchronize changes made to the Development and Production databases using Change Manager

Change Resource Plans during a long-running query using the Enterprise Manager Console

Manage the Oracle9i Real Application Clusters environment using Enterprise Management.

### Lesson 6 - Develop a Highly-Available Database Environment

In this Oracle9i course, you will learn how to use some of the Oracle9i capabilities which ensure maximum database availability. After completing the modules in this course, you should be able to:

Enable Archiving.

Use LogMiner to Perform Logical Recovery.

Use Data Guard Manager to Manage a Physical and Logical Standby Database Environment.

Improve Availability through online Operations.

Support Self-Service Error Correction using Oracle Flashback Query.

Perform backups and Recovery of your Database using Oracle9i Recovery Manager.

Use Oracle9i Recovery Manager in Enterprise Manager.

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## **Hands-On Dimensional Modelling Master Class**

Excellence in dimensional modelling remains the keystone of a well designed data warehouse.

### **What you'll learn**

In this course you will learn classic dimensional modelling from beginning to advanced issues. Following the tradition of the Data Warehouse Toolkit, all the techniques in this class will be motivated by specific industry situations. During the class you will briefly “work” in retail, procurement, inventory, order management, accounting, human resources, customer relationship management, financial services, telecommunications, transportation, education, health care, electronic commerce and insurance! You will stand back from all these industries and learn how to develop the data warehouse “bus architecture” which is the basis for building distributed data warehouse systems. You will learn to discern what is myth and what is real in dimensional modelling.

### **Who should attend**

This course is designed for data warehouse architects, data modellers, DBAs, application developers, and system designers. It is appropriate for anyone interested in an A to Z coverage of dimensional modelling. Every attendee in this class will receive Ralph Kimball and Margy Ross’ book, The Data Warehouse Toolkit, 2nd Edition.

## **COURSE OUTLINE**

### Dimensional Modelling Primer

- Eight simultaneous data warehouse design challenges
- Profound separation of data warehouse systems
- Dimensional modelling as the driver for all query services
- Fundamental roles of dimension tables and fact tables
- Key structures of dimension tables and fact tables
- Application profiles of dimension tables and fact tables
- Starting and finishing dimensional data warehouse designs
- Core vocabulary that will be used during the remainder of the class
- Myths and misconceptions about dimensional modelling
- Role of normalized models

### Retail Sales

- Core dimensional modelling concepts
- The four-step process for designing your dimensional models
- Retail sales ticket class design exercise
- Time dimensions accurate to the second
- Shopper dimensions with millions of members
- Causal dimensions describing promotions
- Snowflaked dimensions and when they may be permissible
- Detailed design for the date dimension
- Degenerate dimensions

## WebLearning Education Services

- Surrogate keys and the surrogate key pipeline
- Market basket analysis

### Inventory

- Data warehouse bus architecture
- Conformed dimensions and facts
- Distributed data warehouses
- Data warehouses spanning incompatible technologies
- Semi additive facts
- Defining and contrasting the three fundamental types of fact tables
- Transaction fact tables
- Periodic snapshot fact tables
- Accumulating snapshot fact tables

### Procurement

- Modeling a value chain
- The data warehouse Bus matrix
- Partially overlapping conformed dimensions
- Drilling across remote fact tables
- Dimension authorities
- Fact table providers
- Synchronous replication of dimensions
- Blended vs. separate transaction table designs
- Slowly changing dimensions, types 1, 2, and 3
- Hybrid type 2/3 dimensions
- Multiple alternate realities
- Rapidly changing monster dimensions

### Order Management

- Dimensional role playing
- Header/line-item designs
- Multiple currencies and units of measure
- Junk dimensions with miscellaneous transaction indicators
- Deciding when to combine or split dimensions
- Invoices in multiple currencies
- Allocating shipping charges to the line item
- Real time data warehousing approaches

### Customer Relationship Management

- The customer dimension
- Customer demographics
- Variable amounts of customer information in a huge dimension
- Customer behaviour tracking techniques
- Analysis of evolving customer cluster labels
- Hierarchical customer dimensions, especially commercial organizations
- Address standardization

## WebLearning Education Services

- Managing extremely large, wide customer dimensions
- Unpredictable customer hierarchies
- Consolidating customer data from multiple sources
- Avoiding the granularity trap

## Accounting

- Modeling a general ledger
- Year-to-date facts
- Multiple fiscal calendars
- The Budget – Commitment – Expenditure value chain
- Consolidated dimensional models combining data from multiple business processes

## Human Resources Management

- Employee dimension table behaving like a fact table
- Precision time stamping of a type 2 slowly changing dimension
- Audit dimensions
- Keyword dimensions
- Survey questionnaire data

## Financial Services

- Heterogeneous products in retail banking and investment banking
- Modeling the complex relationships among accounts, customers, and households
- Administering the Account-to-Customer bridge table
- Correctly weighted reports vs. impact reports
- Value banding reports

## Telecommunications and Utilities

- Putting daily call tracking fact tables on a diet
- Geographic location dimensions
- Leveraging geographic information systems

## Transportation

- Voyage schemas and their relationship to networks
- Related fact tables at different levels of granularity
- High dimensionality container shipping schema
- Country-specific calendars
- Synchronization across multiple time zones

## Education

- The student application pipeline
- Three techniques for modelling “what didn’t happen”

## Health Care

- Many valued dimensions: multiple diagnoses associated with a patient treatment
- Advanced event tracking with multiple many valued dimensions
- Assigning allocation factors in a many valued dimension
- Designs with several many valued dimensions

## WebLearning Education Services

- Medical lab data: sparse data with many possible measures
- Late arriving fact records and late arriving dimension records

### Electronic Commerce

- The Clickstream data source
- Cookies, global Ids, and proxies
- Describing web pages
- Diagnosing web visits
- Three levels of Clickstream fact tables

### Insurance

- Viewing insurance as the combination of many of the preceding examples
- Building the Data Warehouse
- High-level overview of data warehouse lifecycle activities
- Rating the dimensional compliance of your own environment
- Present Imperatives and Future Outlook
- A preview of what we anticipate data warehousing will look like in the future

## **Hands-On Data Warehouse Lifecycle Master Class**

The data warehouse continues to be one of the most organizationally complex and technically interesting projects in Information Technology. This course will prepare you to implement a successful data warehouse.

### **What you'll learn**

This course is packed with specific techniques, guidance and advice from the initial project planning all the way through to the final rollout and maintenance.

### **Who should attend**

We've designed this course to appeal to all major roles on a data warehouse project, from project managers to DBA's to data modellers to application developers. Anyone who is new to data warehousing and wants to learn how to do it, or who has been through a project or two and wants to learn how to do it right.

## **COURSE OUTLINE**

### Data Warehousing Fundamentals

- Concepts and definitions

### Project Planning

- Business Dimensional Lifecycle framework
- Readiness and risk assessment
- Scoping prioritization and justification
- Data warehouse project team roles and responsibilities

## WebLearning Education Services

- Project plan development and maintenance

### Business Requirements Definition

- Techniques for gathering requirements
- Requirement deliverables

### Dimensional Modeling

- Role of dimensional modelling
- Fact and dimension table characteristics
- 4-step process for designing dimensional models
- Denormalising dimension hierarchies
- Surrogate keys
- Factless fact tables
- Snowflake variation
- Degenerate dimensions
- Value chain implications
- Data warehouse bus architecture & matrix to integrate dimensional models
- Conforming dimensions
- Slowing changing dimension techniques
- Dimension role-playing
- Semi-additive and non-additive facts
- Heterogeneous products
- Large dimension design considerations
- Multi-valued dimension attributes
- Transaction vs. snapshot vs. accumulating snapshot schemas

### Technical Architecture

- Overview: definitions and descriptions
- DW Architecture
- Models, Levels of Detail and the Arch. Plan Doc.
- Common Components and Services
- Back Room
- Staging area considerations
- Front Room
- Data warehouse user types
- Ad Hoc (multi-pass; drill-across; date math, etc.)
- Standard Reporting
- Data Mining
- Meta data repository
- Contents
- Standards—XML
- The 8-step architecture development process

### Physical Configuration Options

- Infrastructure
- Data Warehouse vs Data Marts

## WebLearning Education Services

- Standalone Data Marts
- Enterprise Data Warehouse
- Conformed Data Warehouse
- The various types of Operational Data Store (ODS)
- Presentation architectures—OLAP, ROLAP, MOLAP, HOLAP

### Product Selection

- Architecture-based process for choosing products
- Product evaluation matrices

### Physical Database Design

- Standards and naming conventions
- Physical model development
- Aggregation navigation and strategy
- Index types and guidelines
- Data asset management

### Data Staging Process

- Data staging application design
- Staging the dimension tables
- Staging the fact tables
- Setting up data QA and process validation
- Implementing warehouse operations

### Data Staging Techniques

- Basic extract, transformation and load techniques
- Surrogate key creation and maintenance
- Fact table extract issues
- Building aggregates
- Speeding up the load cycle
- Integrating data from multiple sources
- Data quality and data cleansing

### End User Applications

- Role of end user applications
- Application template and navigation design and development
- Application roll-out

### Deployment

- Deployment release process—alpha, beta, roll-out
- Training and support approaches
- User support
- Documentation and the web

### Management and Growth

- On-going user, data, and system maintenance

- Planning for growth

## **Hands-On ETL Architectures**

This class makes sure that you understand all the factors necessary for effectively designing the back room of a data warehouse that can gracefully evolve over time as your needs mature and new technologies become available.

### **Why You Should Attend**

This course is intended for the data warehouse designer who has identified the sources of data and the target end users and is ready to start implementing.

Above all, this course tries to guarantee that you don't overlook a critical requirement. For example you dare not design your data warehouse while ignoring

- Compliance
- Integration of diverse sources
- Increasingly demanding real-time pressures
- The time variance of your major dimensions such as customer and product
- Being able to resume or back out a partially completed load
- Having a 100% certainty that you have captured all the changes in the source systems
- And a host of other requirements that you will learn about in this course

Even if you don't have an immediate qualified need for every item on our list, over time it is likely that that you will. At the end of this course you will understand how your data warehouse ETL system can be built to anticipate all of the possible requirements.

This is not a microscopic code-oriented implementation class. Rather, it is an architecture class for the designer who must keep a broad perspective, and who needs to know what the latest technologies and techniques make possible.

In this course, you will circle around a series of design issues starting with the first steps of extraction, on through to the final steps of delivery of properly formatted data suitable for your BI tool.

### **Who should attend**

This course is designed for data warehouse implementers, who are responsible for building the back room, or ETL portion, of a data warehouse environment. This would include ETL developers, ETL architects, data warehouse operational staff, compliance tracking data warehouse professionals and real time data warehouse designers.

## Prerequisites

This class is intended for data warehouse professionals who are architects or implementers of the “back room” ETL processes in the data warehouse. Familiarity with the basic principles of dimensional modeling is helpful since dimensional models are designed as the ultimate ETL deliverables. The student can gain this familiarity by reading the first four articles in the Fundamentals series of articles found on this web site. The class will include a 2 hour overview of the principles of dimensional modeling so that everyone has the same vocabulary.

## COURSE OUTLINE

### Surrounding The Requirements

- Business needs
- Compliance
- Data profiling
- Security latency
- Archiving
- End user profiles
- Skills
- Licenses
- Coding vs. tool choice
- The restaurant analogy
- Data types used in ETL systems

### Data Profiling Results

- Source to target map
- Access methods, source types
- Software, techniques
- Extract window
- Immediate transformations
- Extract staging table designs, table types, retention, backup
- Change data capture
- Exception handling architecture
- Metadata architecture
- Security architecture
- Responsibilities

### Cleaning

- Data quality architecture
- Module designs: customer deduplication, address validation, ...
- Error event fact table
- Data quality screens
- Audit dimension, compliance tracking
- Final clean data table designs

### Conforming

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- Definition of conformed dimensions and facts
- Using the matrix
- Master data management
- Mapping incompatible structures into common structure

### Delivering Dimension Tables

- Key management, table target designs
- Referential integrity
- Time variance designs (SCDs)
- Surrogate key system design
- Late arriving data design
- Dimensional roles
- Multi-valued dimensions, bridge tables
- Hierarchical dimensions

### Delivering Fact Tables

- Fact table types
- Text facts
- Aggregations
- Feeding OLAP cubes
- Distributed, federated data warehouses
- Dimension manager responsibilities
- Delivering remote dimensions and attributes
- Fact table provider responsibilities
- Delivering remote facts
- Handling structure changes

### Development

- Sorting
- Team development tools: debugger, version control
- Lineage and dependency analysis
- Database performance
- Parallel processing
- Improving throughput
- Regression suite

### Operations

- Delivery
- Scheduling (architecture, controls)
- Dev ==> test ==> production
- Auditing
- Monitoring
- Tuning
- Parallel processing, grid computing
- Process vulnerabilities
- Recovery and restart

- Archiving
- Security

#### Metadata

- Process metadata
- Run results, exception handling, immediate schedule
- Technical metadata
- System inventory, data models, data definitions,
- Business rules, ETL jobs, transformations, batch parameters
- Business metadata
- Business definitions, source system info, DW data dictionary,
- Source to target map
- Responsibilities
- Team roles

#### Real Time ETL Systems

- Streaming ETL vs. batch ETL
- Streaming extract
- Streaming cleaning and conforming
- Streaming delivery, query, reporting, dashboards, notifications
- Real time dimension manager
- Real time fact provider

#### Designing Your System

- Stepping back from the details
- The important decisions
- Designing and managing your ETL project
- The important deliverables

## **Hands-On Microsoft Data Warehouse Master Class**

With SQL Server 2005, Microsoft provides a complete suite of tools for you to build data warehouse and business intelligence systems using software from a single vendor. This course prepares you to deal with the many facets of developing, deploying, operating, and growing your Microsoft data warehouse system.

#### What you'll learn

This three-day lecture and demo course, based on *The Microsoft Data Warehouse Toolkit* (John Wiley & Sons; late 2005), will provide you a detailed technical introduction to building a Microsoft data warehouse system that meets the needs of your business users. The class will provide Microsoft-specific detailed guidance for working through the data warehouse lifecycle, from requirements gathering and design through the ETL system, relational data warehouse, OLAP and data mining applications, to reporting and ad hoc query systems. We'll discuss issues around deploying, operating, and securing the Microsoft data warehouse system. This course covers a lot of material in a short time.

The focus of the course is architectural—how should you design the components of the system. We expect our attendees to be able to read documentation and follow Microsoft's generally straightforward user interfaces. Our goal is to teach you the hard stuff: not which button to push, but why. The pace of the course permits only demos by the instructor; do not expect hands on tutorials during class time.

### Who should attend

This course is designed for data warehouse architects and implementers, who are responsible for building the data warehouse environment. This would include data warehouse team managers, system architects, ETL system architects and developers, data warehouse operational staff, and BI application designers and developers.

### Prerequisites

Attendees must be familiar with and understand dimensional modeling. If you have attended one of the Kimball Group public or onsite courses, you qualify. If you have thoroughly read and understood the Data Warehouse Toolkit, Second Edition (John Wiley & Sons, 2002), you qualify. This course supplements, rather than replaces, the material in our other courses. Whether or not you've attended one of our courses, be sure to review the key dimensional design concepts. For example, you must readily grasp the concept of a Type 2 Slowly Changing Dimension without explanation during the class. Please note that dimensional modeling is not taught during this course. It is your responsibility to come prepared.

### COURSE OUTLINE

#### Getting Started the Right Way

- Project planning
- Business requirements
- Dimensional modeling
- Understanding the Microsoft product architecture and toolset

#### Developing the Microsoft Data Warehouse / BI System

- Installation, setup and configuration
- Relational data warehouse physical design
- Designing the ETL system for SQL Server Integration Services
- Developing the ETL system in Integration Services
- Developing the Analysis Services OLAP database
- Designing BI applications
- Implementing Reporting Services
- Developing the Data Mining applications

#### Running the Microsoft Data Warehouse / BI System

- Implementing security
- Testing and deploying the system
- Operations and maintenance
- Growing and modifying the system

## WebLearning Education Services

- Metadata
- Real time business intelligence

## **WebLearning Data Integration Series**

### **Hands-On-Data Integration**

#### **Core Skills: ADMIN & TECH / DATA INTEGRATION**

Prerequisite: None

#### **You Will Learn**

The best practices for designing data integration solutions to address modern BI solutions  
The core components to effective spatial analysis, data mining, machine intelligence, and visualization applications

Through extensive lab exercises, you will gain hands-on experience with leading BI tools, including:

- Microsoft Data Integration Services
- Oracle Warehouse Builder
- Ascential Data Stage

How and when to effectively apply these tools

#### **Geared To**

Anyone involved in the product selection, design, and implementation of data integration technology

The services demanded from data integration go well beyond the original intent of ETL. Modern BI dictates that technologies and techniques address a broad range of data movement and data integration services in order to facilitate the applications being designed and implemented. From batch to real-time data movement cycles, from structured to unstructured data types, data integration has become the foundation to success BI. The course begins by examining terminology and market leaders. We then focus on the following core topics:

Architecture Strategies  
Architecture Enables  
Data Integration Hub  
Master Data Management  
Integrated Competency Centres  
Service Oriented Architectures

This course is designed to provide participants with an opportunity to compare and experience critical features of leading data integration tools. In a formal lab setting, students will use tools such as:

BusinessObjects Data Integrator  
Microsoft Data Integration Service  
Oracle Warehouse Builder  
Ascential Data Stage

Hands-On Data Integration™ is designed to provide participants with a non-biased view of leading BI tools. The course is designed to complement all lecture content with extensive lab time. Lab exercises provide students with valuable insight into the features of leading technology and how that technology may fit in a student's warehouse and BI efforts.

Enrolment is limited to 30 attendees

## **Enterprise Architecture for Business Integration**

**Core Skills: ADMIN & TECH / LEADERSHIP & MGMT**

PREREQUISITE: None

### **You Will Learn**

- How to achieve enterprise integration in an era of rapid change
- How to use enterprise architecture for business integration
- How to achieve rapid delivery of priority business processes

### **Geared To**

- Business, IT, and project managers; enterprise architects;
- business analysts; data and process modelers;
- data administrators

There is an explosion in use of enterprise architecture for business integration. Business-driven methods identify high reusability business processes within government, defense, and commercial organizations. These processes use common shared data as an integrated resource. Data is updated once and becomes immediately available to all shared systems. This leads to improved cost effectiveness of business processes—with dramatic cost savings. These processes are delivered rapidly using technologies discussed in the next course, Enterprise Architecture for Technology Integration.

## **Enterprise Architecture for Technology Integration**

### **Core Skills: ADMIN & TECHNOLOGY / LEADERSHIP & MGMT**

PREREQUISITE: None

### **You Will Learn**

- Technology methods that are used in an era of rapid business change
- How Web services and service-oriented architectures are used
- How these technologies are used with enterprise architecture

### **Geared To**

- Business, IT, and project managers; enterprise architects; business analysts; data and process modelers; data administrators.

- Enterprise Architecture for Technology Integration is based on rapid delivery technologies such as integrated development environments (IDEs) using XML and Web services that can move automatically from workflow models directly to executable code. Some IDEs can also move from database design directly into code. Used alone for the management and delivery of business processes, these new technologies are impressive and productive. But dramatic time and cost savings are also achieved from the reusability definition in the morning seminar, Enterprise Architecture for Business Integration.

## **Data Integration Basics for Business and IT Professionals**

### **Core Skills: DATA INTEGRATION / DATA ANALYSIS & DESIGN**

PREREQUISITE: None

#### **You Will Learn**

- Typical causes of the need for data integration
- Widespread barriers to successful data integration and techniques to overcome them
- Common data integration technologies and processes
- Business and IT roles in data integration projects
- Analysis, design, construction, deployment, and operations activities for data integration
- The critical role of business rules
- Data integration success strategies

#### **Geared To**

- BI and DW sponsors;
- business executives and managers;
- business data stewards;
- business analysts; program and project managers;
- data architects;
- BI and DW developers;
- business and IT consultants

Every business person wants timely and reliable information, and each wishes for the integrated data repository that serves as a single source of accurate data. IT departments want to deliver on the promise of integrated data, but frequently struggle to do so. Challenges of expectations, communication, and teamwork combine to continuously challenge data integration projects.

This course is designed to establish common concepts, understanding, language, and techniques that enable business and IT people to work together to achieve data integration success. When attended by both business and IT members of data integration teams, you'll experience new levels of communication, collaboration, and coordination in your data integration projects.

Through a combination of lecture and exercises, you will gain an appreciation for the importance of common business definitions as a foundation for data integration, understand why data quality is both a business problem and a technology problem, and learn techniques to define business rules and translate business rules into data transformation processes. Most importantly you'll discover how data integration is a collaborative effort of business and IT, understand the roles and dependencies of business and IT participants, and position to achieve real success in data integration efforts.

## Hands-On ETL

### Core Skills: Administration & Technology / Data Integration

#### You Will Learn

- The best practices, in both data and technical architectures, for implementing a successful extraction, transformation, and loading process
- The core components to effective ETL processes
- Through extensive lab exercises, you will gain hands-on experience with leading ETL tools, including:
  - Ascential Software DataStage
  - SAS ETL Technology
  - MS Data Transformation Services
  - Syncsort High Performance Utilities
  - Oracle Warehouse Builder
  - DFD-Pro Data Flow Diagramming Utility
  - Other (the combination of products is based on availability)
- How and when to effectively apply leading ETL tools
- How to compare and contrast ETL features in order to make the best decision for your organization

#### Geared To

- Anyone involved in the design and construction of extraction, transformation, and loading of a DW

“Hands-On ETL” is committed to providing non-biased information on best-of-class technologies and techniques as well as exposing participants to leading ETL tools, their use, and their application. The course begins with an examination of data and technical architectures specific to ETL. Participants are then led through discussions and lab exercises that emphasize product features, functionality, and applicability of products such as DataStage, SAS, MS DTS, and Syncsort.

This course is designed to provide participants with an opportunity to compare and experience critical features of leading ETL tools. In a formal lab setting, students will use three tools for extracting, transforming, cleansing, and loading raw source data into a target star schema. Extensive lab time provides students with valuable insight into the features of each product and how it might fit in students’ warehouse efforts.

“Hands-On ETL” is designed to provide participants with a non-biased view of leading ETL tools.

## **Oracle Hands-on - Oracle10g Integrated Business Intelligence & Data Warehousing**

### **What you will learn:**

Gain hands-on experience using Oracle10g Business Intelligence and Data warehousing with WebLearning BI CD-ROM. This unique self-paced learning experience will provide practical experience and help you sharpen your Oracle skill sets, leading to certification.

This CD leads to Oracle Business Intelligence OCP Certification Exams. Also included are Self-running Flash rich-media demonstrations of how each Task in each Lesson is done.

This is a unique new approach to learning, which combines a hands-on practice work-book with rich media demos to provide a combination of read, practice and watch how it is done.

### **Audience:**

Technical Support Professionals  
Database Administrators  
System Analysts  
Applications Developer  
Implementation Team

### **Prerequisites:**

#### **Required Prerequisites:**

Working with iSQL\*Plus  
Introduction to Oracle10g: SQL  
11i Navigate Oracle E-Business Suite

### **Course Objectives:**

Manage Content in the Database(Oracle DBA OCP)  
Develop a Highly-Available Database Environment  
Deploy and Administer Oracle10gAS J2EE, Web Services and Web Cache (Web Administration Master)  
Manage the Oracle10g Environment  
Build an Information Portal  
Build and Deploy Enterprise Portals with Oracle10g Application Server  
Developing SQL and PL/SQL with Oracle10g JDeveloper  
Modeling, Developing, Discovering, and Accessing Web Services  
Build and Manage a Datawarehouse

Gain hands-on experience of Building and Designing Oracle Business Intelligence Applications  
Manage and Administer Oracle10gAS

### **Course Topics:**

#### **Lesson 1 - Develop and Deploy a Business Intelligence System**

This session you will walk through the entire process of creating a business intelligence system for a fictional company. The session will begin with using Oracle10g Warehouse Builder to extract, transport and load data from multiple source systems into a consolidated data mart. Next, Oracle 9iAS Discoverer will be used to perform ad-hoc queries and analysis on the extracted data, and post your findings to Oracle10gAS Portal. More advanced reports will be developed with Oracle10g Reports, and an advanced analytical application will developed using Oracle10g Business Intelligence Beans. Finally, you will use Oracle 9iAS Clickstream Intelligence to analyze the logs from the company's web site, and Oracle 9iAS Personalization will create recommendations.

#### **Lesson 2 - Consolidated Information For Optimized Analysis**

Oracle10g Warehouse Builder (OWB) is a tool for extraction, transformation, and loading (ETL). It is used to consolidate fragmented data culled from custom and legacy data sources and packaged applications, such as Oracle E-Business Suite.

The hands-on session is designed to give you highlights of OWB's key functionality.

The powerful graphical user interface, wizard-driven processes, and library of pre-defined transformations provided in OWB lets you design and implement your target database fast and efficiently.

Among the features that will be available for testing are the integration with the Oracle 9i ETL features such as table functions, merge and multi table insert. These will be shown in the ETL framework adding a user interface to these powerful features.

#### **Lesson 3 - Intuitive Ad Hoc Query, Analysis, and Web-Publishing**

Oracle10gAS Discoverer is an intuitive ad hoc query, analysis, and web-publishing tool. A key component of Oracle10g Application Server (Oracle10gAS) Business Intelligence, Discoverer empowers business users at all levels of the organization to gain immediate access to information from data marts, data warehouses, and online transaction processing (OLTP) systems.

In this session, participants will learn how to rapidly create, modify, and execute ad hoc queries and reports. Participants will learn how to leverage Oracle10g Analytics, for advanced business reporting, and distribute information on the web via Portals and HTML.

#### **Lesson 4 - Build an Information Portal**

Oracle10g Application Server (Oracle10gAS) Business Intelligence includes integrated

components for reporting, ad hoc query and analysis, as well as integrated web analytics and business intelligence functions.

In this laboratory, participants will build a new page using Oracle Portal to provide customized Business Intelligence using content provided by Oracle Portal, Oracle Reports, and Oracle Discoverer. Learn how easy it is to centralize information and create and deploy interactive, customized web pages.

While there are no prerequisites for this laboratory, this will supplement the Oracle10gAS Discoverer, Oracle10g Reports Services and Oracle10gAS Portal workshops.

### **Lesson 5 - Enterprise Data Publishing with Oracle10g Reports**

A successful Business Intelligence (BI) solution must support a wide range of users and requirements, from enterprise level reporting to ad hoc query and analysis. With Oracle10g Application Server (Oracle10gAS), integrated components smooth the way, enabling developers to move ad hoc queries and analysis to production without losing fidelity.

The provided exercises are split in two tracks, which allow experienced reports users as well as reports beginners to learn what Oracle10g Reports can do for your enterprise data publishing needs.

### **Lesson 6 - Exploring BI Application Development**

Oracle10g Business Intelligence Beans (BI Beans) are a set of standards-based JavaBeans™ that enables developers to build custom business intelligence applications. In this session, users will explore the development of custom business intelligence applications, using Oracle10g JDeveloper and Business Intelligence Beans.

Users will tour an Executive Information System dashboard application that was built using BI Beans and that leverages the analytic power of 9i OLAP. Users will then create this Java application in JDeveloper, without writing a single line of code. Users will see how easy and fast it is to create custom BI applications and will walk away with a better understanding of the capabilities of BI Beans.

### **Lesson 7 - Winning on the Web with Oracle10gAS Clickstream Intelligence**

Oracle10g Clickstream Intelligence is a comprehensive Web-based analysis tool for Web site and traffic analysis. This hands-on session introduces you to Clickstream Intelligence, a new component of the Oracle10g Application Server. Clickstream Intelligence is a Web analytics application that provides insight into what is happening on your Web site. This session will take you through all the steps that are necessary to get Clickstream Intelligence up and running. You will begin with a raw Web server log file, and will use the Web-based Runtime Administrator tool to configure your system, e.g. define log file data formats, define data filters, define site-specific assumptions, etc. Thereafter you will use a subset of the more than 150 predefined reports that come with Clickstream Intelligence to inspect the log file data that you loaded. For example, you

will examine what content visitors viewed, what they searched for, where they came from (referrers), what browsers they used, and much more.

## **Oracle Hands-on - Oracle9i Integrated Business Intelligence & Data Warehousing**

### **What you will learn:**

Gain hands-on experience using Oracle9i Business Intelligence and Data warehousing with WebLearning BI CD-ROM. This unique self-paced learning experience will provide practical experience and help you sharpen your Oracle skill sets, leading to certification.

This CD leads to Oracle Business Intelligence OCP Certification Exams. Also included are Self-running Flash rich-media demonstrations of how each Task in each Lesson is done.

This is a unique new approach to learning, which combines a hands-on practice workbook with rich media demos to provide a combination of read, practice and watch how it is done.

### **Audience:**

Technical Support Professionals  
Database Administrators  
System Analysts  
Applications Developer  
Implementation Team

### **Prerequisites:**

#### **Required Prerequisites:**

Working with iSQL\*Plus  
Introduction to Oracle9i: SQL  
11i Navigate Oracle E-Business Suite

#### **Course Objectives:**

Manage Content in the Database(Oracle DBA OCP)  
Develop a Highly-Available Database Environment  
Deploy and Administer Oracle9iAS J2EE, Web Services and Web Cache (Web Administration Master)  
Manage the Oracle9i Environment  
Build an Information Portal  
Build and Deploy Enterprise Portals with Oracle9i Application Server

Developing SQL and PL/SQL with Oracle9i JDeveloper  
Modeling, Developing, Discovering, and Accessing Web Services  
Build and Manage a Datawarehouse  
Gain hands-on experience of Building and Designing Oracle Business Intelligence Applications  
Manage and Administer Oracle9iAS

### **Course Topics:**

#### **Lesson 1 - Develop and Deploy a Business Intelligence System**

This session you will walk through the entire process of creating a business intelligence system for a fictional company. The session will begin with using Oracle9i Warehouse Builder to extract, transport and load data from multiple source systems into a consolidated data mart. Next, Oracle 9iAS Discoverer will be used to perform ad-hoc queries and analysis on the extracted data, and post your findings to Oracle9iAS Portal. More advanced reports will be developed with Oracle9i Reports, and an advanced analytical application will developed using Oracle9i Business Intelligence Beans. Finally, you will use Oracle 9iAS Clickstream Intelligence to analyze the logs from the company's web site, and Oracle 9iAS Personalization will create recommendations.

#### **Lesson 2 - Consolidated Information For Optimized Analysis**

Oracle9i Warehouse Builder (OWB) is a tool for extraction, transformation, and loading (ETL). It is used to consolidate fragmented data culled from custom and legacy data sources and packaged applications, such as Oracle E-Business Suite. The hands-on session is designed to give you highlights of OWB's key functionality.

The powerful graphical user interface, wizard-driven processes, and library of pre-defined transformations provided in OWB lets you design and implement your target database fast and efficiently.

Among the features that will be available for testing are the integration with the Oracle 9i ETL features such as table functions, merge and multi table insert. These will be shown in the ETL framework adding a user interface to these powerful features.

#### **Lesson 3 - Intuitive Ad Hoc Query, Analysis, and Web-Publishing**

Oracle9iAS Discoverer is an intuitive ad hoc query, analysis, and web-publishing tool. A key component of Oracle9i Application Server (Oracle9iAS) Business Intelligence, Discoverer empowers business users at all levels of the organization to gain immediate access to information from data marts, data warehouses, and online transaction processing (OLTP) systems.

In this session, participants will learn how to rapidly create, modify, and execute ad hoc queries and reports. Participants will learn how to leverage Oracle9i Analytics, for advanced business reporting, and distribute information on the web via Portals and HTML.

## **Lesson 4 - Build an Information Portal**

Oracle9i Application Server (Oracle9iAS) Business Intelligence includes integrated components for reporting, ad hoc query and analysis, as well as integrated web analytics and business intelligence functions.

In this laboratory, participants will build a new page using Oracle Portal to provide customized Business Intelligence using content provided by Oracle Portal, Oracle Reports, and Oracle Discoverer. Learn how easy it is to centralize information and create and deploy interactive, customized web pages.

While there are no prerequisites for this laboratory, this will supplement the Oracle9iAS Discoverer, Oracle9i Reports Services and Oracle9iAS Portal workshops.

## **Lesson 5 - Enterprise Data Publishing with Oracle9i Reports**

A successful Business Intelligence (BI) solution must support a wide range of users and requirements, from enterprise level reporting to ad hoc query and analysis. With Oracle9i Application Server (Oracle9iAS), integrated components smooth the way, enabling developers to move ad hoc queries and analysis to production without losing fidelity.

The provided exercises are split in two tracks, which allow experienced reports users as well as reports beginners to learn what Oracle9i Reports can do for your enterprise data publishing needs.

## **Lesson 6 - Exploring BI Application Development**

Oracle9i Business Intelligence Beans (BI Beans) are a set of standards-based JavaBeans™ that enables developers to build custom business intelligence applications. In this session, users will explore the development of custom business intelligence applications, using Oracle9i JDeveloper and Business Intelligence Beans.

Users will tour an Executive Information System dashboard application that was built using BI Beans and that leverages the analytic power of 9i OLAP. Users will then create this Java application in JDeveloper, without writing a single line of code. Users will see how easy and fast it is to create custom BI applications and will walk away with a better understanding of the capabilities of BI Beans.

## **Lesson 7 - Winning on the Web with Oracle9iAS Clickstream Intelligence**

Oracle9i Clickstream Intelligence is a comprehensive Web-based analysis tool for Web site and traffic analysis. This hands-on session introduces you to Clickstream Intelligence, a new component of the Oracle9i Application Server. Clickstream Intelligence is a Web analytics application that provides insight into what is happening on your Web site. This session will take you through all the steps that are necessary to get Clickstream Intelligence up and running. You will begin with a raw Web server log file, and will use the Web-based Runtime Administrator tool to configure your system, e.g. define log file data formats, define data filters, define site-specific assumptions, etc. Thereafter you will use a subset of the more than 150 predefined reports that come with Clickstream Intelligence to inspect the log file data that you loaded. For example, you

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will examine what content visitors viewed, what they searched for, where they came from (referrers), what browsers they used, and much more.

## **Building Scorecards with Microsoft Office Business Scorecard Manager 2005**

### **Abstract**

Identifying, monitoring, and managing the critical indicators that improve business performance are some of the biggest challenges facing companies today. Today, we have the ability to leverage this business practice with Microsoft Office Business Scorecards Manager 2005 (BSM), a comprehensive scorecarding application that provides all employees with deep contextual insight into business drivers. BSM provides the tools and collaborative platform for a pragmatic, low-risk, complete Business Performance Management strategy for high impact and fast results. It helps companies make sense of their business data by putting it within the context of key performance indicators. By using familiar tools such as Office and SharePoint Portal Server, companies can leverage the skills, technology, and investments they have already made so that they will get more value for less cost, time, and risk.

### **Objectives**

Design BSM scorecards  
Develop BSM scorecards  
Deploy BSM scorecards

### **Prerequisites**

OLAP concepts  
Microsoft Analysis Server 2000 or SQL 2005 BI experience  
Windows SharePoint Server or SharePoint Portal Server  
SQL Reporting Services

Duration

Two (2) Days

### **Course Outline**

#### **Course Outline**

1. Business Scorecard Fundamentals
  - a. General scorecard concepts
  - b. Terminology definition
    - i. Perspectives
    - ii. Objectives
    - iii. KPI
2. Dashboards
  - a. Creating

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- b. Deployment
  - c. Maintenance
  - d. Common configurations
  - e. Master / Detail relationship
  - f. SQL Reporting Services integration
  - g. Drilldown to transaction
  - h. Scorecard as TOC
  - i. Annotations
  - j. Filters
  - k. Etc.
- 3. BSM Fundamentals
    - a. Architecture choices
    - b. Deployment scenarios
    - c. XML Integration
    - d. Extensibility options
    - e. Best practices
  - 4. Installation/Configuration
  - 5. BSM Builder
    - a. Workspaces
    - b. KPIs
    - c. Targets
    - d. Data Sources
    - e. Data mappings
    - f. Banding
    - g. Indicators Sets
    - h. Scorecards
    - i. Scorecard Views
    - j. Report Views
    - k. Tools->Options Pane
    - l. Workspace Properties Pane
    - m. Server Administration Pane
    - n. Deployment to SQL Reporting Services
    - o. Deployment to SharePoint
      - i. Standard
      - ii. mysite
  - 6. BSM Server
    - a. Management
    - b. Deployment>
    - c. Updating
    - d. Troubleshooting
  - 7. Security
  - 8. Extended Capabilities (Overview)

## **Microsoft Office Business Scorecard Manager 2005 for Business Decision Makers**

### **Abstract**

Identifying, monitoring, and managing the critical indicators that improve business performance are some of the biggest challenges facing companies today. Today, we have the ability to leverage this business practice with Microsoft Office Business Scorecards Manager 2005 (BSM), a comprehensive scorecarding application that provides all employees with deep contextual insight into business drivers. BSM provides the tools and collaborative platform for a pragmatic, low-risk, complete Business Performance Management strategy for high impact and fast results. It helps companies make sense of their business data by putting it within the context of key performance indicators. By using familiar tools such as Office and SharePoint Portal Server, companies can leverage the skills, technology, and investments they have already made so that they will get more value for less cost, time, and risk.

### **Objectives**

- Navigate through BSM
- Design BSM scorecards
- Communicate scorecard requirements to BSM developers and other Information Technology professionals
- Use BSM to monitor and improve their business practices

### **Prerequisites**

- Ability to navigate in Internet Explorer
- Some familiarity with using Microsoft Office products
- Basic understanding of scorecard concepts
- Fundamental understanding of database concepts

### **Duration**

- One (1) Day

### **Course Outline**

1. Business Scorecard Fundamentals
  - a. History
  - b. Terminology definition
  - c. General scorecard concepts
    - i. Perspectives – financial, customer, internal business process, learning & growth
    - ii. Measures – ROI, satisfaction, quality, time, price, employee satisfaction & capabilities, information availability, and others

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- iii. Linking objectives, measures, and strategy
  - iv. Key performance indicators (KPIs)
  - v. Building a balanced scorecard
  - vi. Implementing a scorecard management program
- 2. Overview of Microsoft Office Business Scorecard Manager 2005 (BSM)
  - a. Understand the value proposition
  - b. Navigation
  - c. Building and managing scorecards
  - d. Advanced analytics
  - e. Best practices
  - f. Scenarios
    - i. Sales applications
    - ii. IT Applications
    - iii. Operations applications
- 3. Communicating with developers and other IT professionals
  - a. Understand the architecture and configuration
    - i. Server
    - ii. Client
  - b. Deployment scenarios
  - c. Mapping scorecards
  - d. Data sources
  - e. Scorecard Views
- 4. Applying BSM Exercises
  - a. Analyzing scorecard information – BSM functionality
  - b. Analyzing profit margin issues – BSM functionality and tool integration
  - c. Sales opportunity and other concerns – analyzing data from integrated tools sales
  - d. Modifying a scorecard with the BSM Builder – Add and modify elements in a scorecard

Interoperability between BSM and existing MS Business Intelligence products

## The BusinessObjects 6.5 Migration Training Toolkit

The BusinessObjects 6.5 Migration Training Toolkit is computer-based training (CBT) available on a CD for IT professionals who are responsible for migrating existing deployments to BusinessObjects 6.5. The CD features 6 migration webinars as well as 11 recorded webinars on technical topics critical to migration success. Your CD includes a 148 page course booklet and services information brochures.

### What will the learner learn?

After learning from the lessons and webinars, the learner will be able to:

- Describe what's new in WebIntelligence® 6.5 (thin client) and BusinessObjects 6.5 (full client).
- Install a default configuration of Business Objects 6.5 server products
- Upgrade deployments in a controlled environment
- Upgrade Business Objects desktop products.
- Migrate BusinessObjects 5i documents and customized applications to BusinessObjects 6.5

### What's New?

Learn about the new features, functions, and architecture.

**New Features and Architecture for WebIntelligence** - Learn how BusinessObjects 6.5 provides extensive reporting functionality in WebIntelligence, with two new query panels. Understand workflows from the end-user's perspective, application services (CORBA infrastructure), connectivities, architecture improvements, and interoperability. Follow basic BusinessObjects InfoView portal workflows with the new report, connection, and connectivity servers.

**New Features for full-client, Designer, Supervisor, and Auditor** - Use an XML document as a data provider. Learn how to save reports, charts, and chart data sources as Excel. Use the Find feature in the query panel and in a report. Understand the enhancement of the calculator engine. Use the Find/Replace command in Designer and understand the new commands in Supervisor. Understand how Auditor has native support of multi-cluster architectures and increased performance.

**Supported Stacks and sizing guidelines** - Understand minimal hardware requirements for acceptable performance, required software, and which platform stacks are supported.

**Default Installation and Configuration** - Install the necessary products that support BusinessObjects 6.5 (a web server and application server). Install BusinessObjects 6.5 and use the configuration tool to configure the server products.

**Migration Techniques** - Learn the different migration methods and associated benefits and risks. Understand the factors that impact which migration method is best for your organization.

## **Delivery & Duration**

This is a computer-based training CD and the approximate duration is 14 hours (9 hours of webinars and 5 hours of PDFs).

## **Prerequisites**

- Server Products course for BusinessObjects version 5, or equivalent experience.
- Windows 2000 Server and Network Environment administration skills.

System Requirements (Also see the ReadMe file on the CD)

- Windows Media Player 9.0
- Soundcard with required drivers installed
- Flash 7 Plugin
- Acrobat Reader 6.0

## **BusinessObjects XI Release 2 Overview**

### **Prerequisite Education**

- Not applicable for this offering.

### **Prerequisite Knowledge/Experience**

While not required for this course, experience with these products or technologies will be helpful:

- The users, content, architecture, and security in their organization's source deployment

### **Course Description**

This course is designed to provide students with an understanding of the BusinessObjects Enterprise XI Release 2 platform. By the end of the course learners will understand how users, content, security, and servers operate in BusinessObjects Enterprise Release 2 so that they can properly assess their migration options.

The business benefit of this course is that learners will understand how the BusinessObjects Enterprise XI Release 2 platform differs from their current deployment.

### **Course Audience**

The target audience for this course is Project Planners/Managers who are responsible for planning, assessing and/or implementing a strategy for their organization to migrate their BusinessObjects 5.x/6.x deployment to the BusinessObjects XI R2 or System Administrators/Architects looking for a very basic overview of the XI R2 platform.

### **Course Topics**

#### **Using InfoView**

- Logging on to InfoView
- Navigating through folders and categories
- Viewing reports in InfoView
- Scheduling in InfoView

#### **Administering BusinessObjects Enterprise using the Central Management Console**

- Overview of the CMC
- Overview of managing Folders
- Overview of managing Reports and Documents
- Overview of managing Users and Groups
- Overview of managing Servers

#### **Organising and Securing Content in BusinessObjects Enterprise**

- Understanding security rules and guidelines in BusinessObjects Enterprise

- How to secure content

### **BusinessObjects Enterprise Server Overview**

- Overview of the role of each server in BusinessObjects Enterprise

### **BusinessObjects Enterprise Process Flows**

- Overview of the transactions between servers when logging in
- Overview of the transactions between servers when viewing and scheduling Crystal Reports
- Overview of the transactions between servers when viewing and scheduling Web Intelligence documents
- Overview of the transactions between servers when viewing and scheduling Desktop Intelligence documents
- Overview of the transactions between servers when viewing OLAP Intelligence documents

## **BusinessObjects Desktop Intelligence XI R2: Advanced Report Design**

Course Description Desktop Intelligence is an integrated query, reporting and analysis solution that allows business users to access the data in their corporate databases directly from their desktop and present and analyze this information in a Desktop Intelligence document. This course is designed to give learners the comprehensive skills needed to apply advanced reporting techniques in the creation of Desktop Intelligence documents. After completing this course learners will be able to apply alternative query techniques in the creation of advanced Desktop Intelligence documents and reports. Learners will also be able to apply character and date string functions, create user-defined objects, group data, and use calculation contexts to further develop their documents and reports.

### **BusinessObjects 6.x and BusinessObjects XI R2**

This course is designed to teach learners using the XI R2 version how to apply advanced reporting techniques in the creation of documents using Desktop Intelligence. Note that there is not an XI R1 version of Desktop Intelligence and that the previous version is BusinessObjects 6.x full client. New features covered in this course include: • WebConnect is no longer available as a data source for reporting This icon has been placed throughout the guide to identify features that are specific to BusinessObjects XI Release 2.

### **Course Audience**

The target audience for this course is business users who are experienced Desktop Intelligence report builders and who need to create advanced Desktop Intelligence documents and reports.

## **Prerequisite Education**

BusinessObjects Desktop Intelligence XI R2: Report Design  
Experience building Desktop Intelligence reports

## **Course Topics**

### Lesson #1

- Alternative Query Techniques
- Defining Combined Query Types
- Using Combined Queries
- Using Sub-Queries
- Creating a Query on a Query

### Lesson #2

- Character and Date String Functions
- Understanding Character Strings
- Using the Replace Function
- Using the Right Function
- Using the SubString() Function
- Using the Pos() Function
- Concatenating Different Data Types
- Using Date Functions

### Lesson #3

- User-Defined Objects
- Creating User Objects
- Using a User Object in a Query
- Editing a User Object
- Deleting a User Object
- Storing a User Object

### Lesson #4

- Grouping Data
- Grouping Data Using "If... Then... Else..."
- Using If...Then...Else to Modify Calculations

### Lesson #5

- Calculation Contexts
- Understanding Calculation Contexts
- Using Forced Output Calculation Context
- Using Forced Input Calculation Context
- Identifying Input and Output Context

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### Lesson #6

- Advanced Charting
- Using Charts
- Invoking a Secondary Y-axis
- Applying Multiple Styles on a Single Y-axis

### Lesson #7

- Reporting from Other Data Sources
- Using XML as a data source

## **BusinessObjects Desktop Intelligence XI R2: Report Design**

### **Course Description**

Desktop Intelligence is an integrated query, reporting and analysis solution that allows business users to access the data in their corporate databases directly from their desktop and present and analyze this information in a Desktop Intelligence document.

This course is designed to give learners comprehensive skills and core knowledge to present and analyze information, distribute documents and reports and use the major reporting features of Desktop Intelligence. After completing this course learners will be able to present information in reports as tables, as well as sophisticated dynamic documents with drillable charts. Learners will also be able to distribute documents and reports to colleagues.

BusinessObjects 6.x and BusinessObjects XI R2

This course is designed to teach learners using the XI R2 version how to create Desktop Intelligence documents using Desktop Intelligence. Note that there is not an XI R1 version of Desktop Intelligence and that the previous version is BusinessObjects 6.x full client.

New features covered in this course include:

Export to repository is equivalent to the 6.x workflows “publish to corporate documents” and “send to personal documents.” Publishing to public folders is the same as to corporate documents.

Users are able to browse the folders structure or the categories structure.

Data providers available include universe, personal data files, stored procedures, free hand SQL (in 2-tier mode only), XML data providers, and VBA data provider.

Desktop Intelligence can be launched from InfoView.

This icon has been placed throughout the guide to identify features that are specific to BusinessObjects XI Release 2.

### **Course Audience**

The target audience for this course is business users who need to generate effective reports using BusinessObjects Desktop Intelligence.

### **Prerequisite Education**

None

## Course Topics

### Lesson #1

- Introducing Desktop Intelligence
- Understanding core concepts of Desktop Intelligence
- Understanding core functionality of Desktop Intelligence

### Lesson #2

#### Getting Started with Desktop Intelligence

- Logging on to Desktop Intelligence
- Modifying start up options
- Accessing help
- Opening documents
- Viewing reports
- Saving documents

### Lesson #3

- Creating Desktop Intelligence Documents with Queries
- Getting new data with Desktop Intelligence
- Creating a query
- Modifying the query
- Understanding Report Manager
- Projecting data

### Lesson #4

- Restricting Data Returned by a Query
- Applying query conditions
- Applying wildcards in conditions
- Using condition objects
- Understanding relational operators in conditions
- Using logical operators for multiple conditions

### Lesson #5

- Designing Reports
- Displaying data in tables and charts
- Formatting Desktop Intelligence documents
- Selecting a presentation style at point of query

### Lesson #6

- Enhancing Presentation of Reports
- Formatting Desktop Intelligence documents using the Slice and Dice Panel
- Applying functions
- Filtering data

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- Applying calculations to data
- Applying breaks to data
- Ranking data

### Lesson #7

- Creating Variables and Alerters
- Creating variables and formulas
- Creating alerters
- Creating running calculations

### Lesson #8

- Synchronizing Data from Multiple Data Providers
- Concepts of combining data from multiple sources
- Building a document with blocks of data

### Lesson #9

- Grouping Data using Sections
- Concepts of grouping data using sections
- Sectioning
- Outlining

### Lesson #10

- Creating Templates and Styles
- Creating templates
- Applying styles

### Lesson #11

- Analyzing in Drill Mode
- Analyzing the data cube
- Using the drill-down mode
- Taking a snapshot of the data

### Lesson #12

- Sharing Data with Colleagues
- Sharing reports with BusinessObjects users
- Creating reports for non-BusinessObjects users
- Retrieving reports from the repository
- Exporting data
- Viewing a Desktop Intelligence document in InfoView
- Setting Desktop Intelligence viewing

## **Business Objects Enterprise XI R1/R2: Administration-2 Designing and Deploying a Solution – Windows**

### **Prerequisite Education**

To be successful, learners who attend this course should have attended the following offerings or have the equivalent knowledge:

- BusinessObjects Enterprise XI R1/R2: Administering Users and Content with the CMC
- BusinessObjects Enterprise XI R1/R2: Administering Servers - Windows SA310R2 (Instructor-led) or SA310eR2

### **Prerequisite Knowledge/Experience**

While not required for this course, experience with these products or technologies will be helpful:

- Tasks involved in supported BusinessObjects Enterprise users and groups so they can access corporate data through InfoView
- Familiarity with Windows NT/2000 and NT administration
- NT enterprise security concepts (global/local groups and directory structure)

### **Additional Education**

- Not applicable for this offering.

### **Delivery & Duration**

The instructor-led offering is a 2-day course.

This eLearning offering is a 9-12-hour course.

### **Applicable Certification**

This course is a core course in the BusinessObjects Enterprise Certified Professional (BCEP) certification.

### **Course Description**

This course gives learners the skills and knowledge required to design and deploy a BusinessObjects Enterprise system. Through hands-on activities and instructor demonstration, learners will analyze customer requirements, and design architecture and a system management plan to meet the customer's needs. Based on the design, learners will deploy the solution in a classroom environment. Learners will also learn how to migrate system content from one environment to another. Learners will benefit from more in depth exposure to the mechanics of a BusinessObjects Enterprise system and a careful review of the factors that can impact system performance. The course is structured to help System Architects/Administrators fine tune their deployment and get the most out of their system.

## **Course Audience**

The target audience for this course is System Architects/Administrators who are responsible for designing and deploying BusinessObjects Enterprise across their organization.

## **Course Topics**

### **BusinessObjects Enterprise**

#### **Architecture**

- Understanding Business

#### **Intelligence and Activities**

- Understanding the

#### **BusinessObjects architecture**

- Information process flows in BusinessObjects Enterprise

#### **Designing a System Architecture**

- Designing a scalable system
- Sizing a BusinessObjects

#### **Enterprise deployment**

- Designing a reliable system
- Designing an architecture plan

#### **Deploying a System Managing system data between environments**

- Managing BusinessObjects Enterprise System Data

#### **Designing a System Management Plan**

- Designing a content management plan
- Designing an instance management plan
- Designing a system auditing plan
- Installing and configuring

#### **BusinessObjects Enterprise**

- Troubleshooting BusinessObjects Enterprise

## **BusinessObjects Enterprise XI R1/R2: Administration-1 Administering Servers - Windows**

### **Prerequisite Education**

To be successful, learners who attend this course should have attended the following offerings or have the equivalent knowledge:

- BusinessObjects Enterprise XI R1/R2: Administering Users and Content with the CMC

### **Prerequisite Knowledge/Experience**

While not required for this course, experience with these products or technologies will be helpful:

- Tasks involved in supporting BusinessObjects Enterprise users and groups so they can access corporate data through InfoView
- Familiarity with Windows NT/2000 and NT administration

### **Course Description**

This course details the operation, configuration, and process flows associated with the servers in BusinessObjects Enterprise. The course features solo and group activities which are designed to enable learners to configure and manage servers. The business benefit of this course is that it provides a foundation for System Architects/Administrators who are responsible for setting up and maintaining a BusinessObjects Enterprise system.

### **Course Audience**

The target audience for this course is System Architects/Administrators who are responsible for setting up and maintaining a BusinessObjects Enterprise system.

### **Course Topics**

#### **BusinessObjects Enterprise Architecture**

- Understanding Business Intelligence
- Understanding the BusinessObjects Enterprise architecture
- Information process flows in BusinessObjects Enterprise

#### **Preparing, Installing, and Configuring BusinessObjects Enterprise**

- Preparing and Installing BusinessObjects Enterprise
- Configuring BusinessObjects Enterprise

#### **Performing Common Server Management Tasks**

- Describing server management tools
- Using the Central Configuration Manager (CCM) to manage servers

- Using the CMC to manage servers
- Managing auditing

### **Managing the Web Application Services**

- The web application services
- Configuring the Java Web Application Server and the Java Web Component Adapter
- Configuring the .NET Web Application Server and the .NET Web Component Adapter
- Configuring the web application services to communicate across a firewall

### **Managing the Central Management Server and the Repository**

- The role of the Central Management Server
- Migration and backup of CMS system data
- Clustering Central Management Servers

### **Managing the File Repository Servers**

- The role of the File Repository Servers
- Configuring the File Repository Servers

### **Managing the Crystal Reports Servers**

- The roles of the Crystal Reports servers Configuring the Crystal Reports Servers
- How to set and run a schedule for a report

### **Working with List of Values (LOV) Objects**

- The role of the LOV Job Server and LOV objects
- Configuring the LOV Job Server
- How LOV objects are processed

### **Managing the Web Intelligence Servers**

- The role of the Web Intelligence servers
- Configuring the Web Intelligence servers
- How report viewing requests are processed by the Web Intelligence servers
- How report scheduling requests are processed by the Web Intelligence servers

### **Managing the Desktop Intelligence Servers**

- Responsibilities of the Desktop Intelligence servers
- Configuring the Desktop Intelligence Report server
- Configuring the Desktop Intelligence Cache server
- Publishing Desktop Intelligence documents
- Using 3-tier Desktop Intelligence mode
- Process flows for the Desktop Intelligence servers

### **Managing the Destination Job Server**

- The role of the Destination Job Server
- Configuring the Destination Job Server
- Setting a schedule to send an object or instance to a destination

### **Managing the Program Job Server**

- The role of the Program Job Server
- Configuring the Program Job Server
- How scheduled programs are processed

### **Managing the Event Server**

- Understanding events in the

### **BusinessObjects Enterprise**

- Responsibilities of the Event Server
- Configuring the Event Server

### **Managing Server Groups**

- Understanding server groups
- Creating server groups

### **Troubleshooting BusinessObjects Enterprise**

- Troubleshooting BusinessObjects Enterprise
- NT enterprise security concepts (global/local groups and directory structure)

## **BusinessObjects Enterprise XI R1/R2: User Administration Administering Users and Content with the CMC**

### **Prerequisite Education**

- Not applicable for this offering.

### **Prerequisite Knowledge/Experience**

While not required for this course, experience with these products or technologies will be helpful:

- Windows conventions
- Familiarity with Windows NT/2000 and NT administration
- NT enterprise security concepts (global/local groups, and directory structure)

### **Course Description**

This course explains how to perform the tasks in the Central Management Console (CMC).

These tasks involve supporting BusinessObjects Enterprise users and groups so they can access corporate data through BusinessObjects Enterprise's web portal. This corporate data can take the form of Crystal Reports, Web Intelligence or Desktop Intelligence documents, OLAP Intelligence reports, program objects, object packages, and popular 3<sup>rd</sup> party objects such as Microsoft Word and Excel files, among others. Please note, this course does not discuss maintaining BusinessObjects Enterprise servers, which is taught in *the BusinessObjects Enterprise XI R1/R2: Administering Servers – Windows course*.

The business benefit of this course is that it provides a foundation for System Architects/Administrators to effectively manage both users and content on the BusinessObjects Enterprise platform.

### **Course Audience**

The target audience for this course is System Architects/Administrators who are new to BusinessObjects Enterprise and will be responsible for maintaining BusinessObjects Enterprise users, groups, and objects in their organization.

### **Course Topics**

#### **Understanding BusinessObjects Enterprise**

- What is BusinessObjects Enterprise?
- Working in InfoView
- Working in the CMC

#### **Planning Your Content**

- Creating a content plan

## **Application Security**

- Securing applications

## **BusinessObjects Enterprise Architecture**

- Understanding the BusinessObjects Enterprise architecture
- Information process flows in BusinessObjects Enterprise

## **Authentication and Mapping Third-**

### **Party Accounts**

- Authentication and single sign-on
- Mapping third-party accounts to BusinessObjects Enterprise

## **BusinessObjects Enterprise Security**

- Creating users, groups, and folders
- The BusinessObjects Enterprise security model
- Categories
- Guidelines for planning security
- Profiles

## **Publishing and Configuring Content**

- Publishing objects

## **Scheduling**

- Scheduling objects
- Scheduling on events
- Scheduling with business calendars
- Managing instances

## **Migrating BusinessObjects 5.x & 6.x to Business Objects XI Release 2**

### **Prerequisite Education**

To be successful, learners who attend this course should have attended the following offerings, or have equivalent knowledge:

- BusinessObjects 5i Supervisor

### **OR**

- BusinessObjects Supervisor 6.5
- BusinessObjects 6.5 Enterprise Administration

### **AND**

- BusinessObjects Enterprise XI R1/R2: Administering Users and Content with the CMC
- BusinessObjects Enterprise XI R1/R2: Administering Servers - Windows

### **Course Description**

This course is designed to provide students with an understanding of how to migrate a BusinessObjects 5.x/6.x system to BusinessObjects XI Release 2. By the end of the course learners will understand how to properly plan and assess their migration strategy, understand how users and content will migrate from their source environment, as well as understand the BusinessObjects XI Release 2 security model. Students will have the opportunity to practice migrating different types of users and content through a series of workshops. The business benefit of this course is that learners will be able to plan for and implement a successful migration from their source system to the BusinessObjects XI Release 2 platform.

### **Course Audience**

The target audience for this course is System Architects/Administrators who are responsible for planning, assessing and/or implementing a strategy for their organization to migrate their BusinessObjects 5.x/6.x deployment to the BusinessObjects XI Release 2 platform.

### **Course Topics**

#### **Migrating Overview**

- What is migration?
- Top challenges as you migrate
- What migrates (and what doesn't)
- Developer Suite
- Supported platforms

- Tools for migration
- Case studies
- Migration roadmap
- Terminology

## **Planning and Assessment BusinessObjects 5/6.x Administration and Security Workshop**

- Explaining BusinessObjects 5/6.x administration and security
- Managing Repository security and

## **Repository domains**

- Creating overloads, column/row level security, and control restrictions

## **Creating a System Backup Workshop**

- Creating a backup before migrating

## **Using the Import Wizard**

- Assessing your migration strategy
- Installing
- Importing content
- Post migration validation
- Administration
- Using the Import Wizard
- Explaining the features of the Import

## **Wizard**

- Performing a simple migration

## **Validation Workshop**

- Validating migrated content

## **BusinessObjects XI R2 Administration and Security Workshop**

- Explaining BusinessObjects XI Release 2 administration and security
- Comparing security models

## **Migrating Security Workshop**

- Setting up the system
- Preparing the target environment
- Validating Command Restriction and access rights
- Migrating and mapping rights
- Creating overloads, column/row level security, and control restrictions
- Creating and publishing new content to BusinessObjects Enterprise XI R2

## **Merge Versus Update Workshop**

- Explaining how Merge works

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- Explaining how Update works
- Validating Access Restrictions (formerly known as Overloads or Restrictions Sets)
- Using the BIAR (Business Intelligence Archive Resource)

### **Report Migration and Conversion Workshop**

- Performing report migrations
- Using the Report Conversion Tool

### **Complex Migration Workshop**

- Performing a migration

## **Essentials - Migrating from Business Objects 5.x/6.x to BusinessObjects XI Release 2**

### **Prerequisite Education**

- Not applicable for this offering.

### **Prerequisite Knowledge/Experience**

While not required for this course, experience with these products or technologies will be helpful:

- The users, content, architecture, and security in their organization's source deployment

### **Course Description**

This course is designed to provide students with the essential knowledge required when considering a migration of their source environment to BusinessObjects Enterprise XI Release 2. By the end of the course learners will have a basic understanding of how users, content, and security migrate between the BusinessObjects Enterprise 5.x/6.x and BusinessObjects Enterprise Release 2 platforms.

The business benefit of this course is that learners will understand how migration operates so that they can properly plan and assess a migration strategy for their organization.

### **Course Audience**

The target audience for this course is Project Planners/Managers or System Architects/Administrators who are responsible for planning, assessing and/or implementing a strategy for their organization to migrate their BusinessObjects 5.x/6.x deployment to BusinessObjects XI R2, or System Administrators/Architects looking for a very basic overview of migration components and topics.

### **Course Topics**

#### **Migration Overview**

- Migration Roadmap
- Migration Process
- Migration Tools

#### **Migration Planning & Assessment**

- System Assessment
- Migration Requirements
- Post Migration Validation

#### **BusinessObjects 5.x/6.x Administration & Security**

- Repository Domains

## WebLearning Education Services

- System Storage
- Managing Users, Groups, and Resources

### **Using The Import Wizard**

- Process Flow
- Security Migration
- Migration Details & Confirmation

### **Import Wizard - Merge vs. Update**

- Process Flows
- Pros & Cons
- Incremental Import

### **Migrating Basic Objects**

- Planning & Assessment
- Migration
- Post Migration Validation

### **BusinessObjects XI Release 2 Administration & Security**

- New Features
- Security Model Comparison
- Managing Users, Groups, and Resources

### **Migrating Security**

- Security Model Comparison
- Security Rights & Details
- Security Migration Validation

### **Report Conversion**

- Conversion Details
- Conversion Tools
- Process Flow

### **Planning for Your User Base**

- Migration considerations to educate your users

## Data Mining Essentials - CD-ROM

**Duration:** 9 Hours

**Delivery Method:** CD-ROM

**Skill Level:** Basic to Intermediate

**Language:** English

**Price:** £199

### Overview:

Many businesses store enormous amounts of data on customers, suppliers, products, and sales. Data mining helps businesses to find and analyze this information in order to use it for forecasting sales, segmenting markets, analyzing customer behavior and solving business problems. This course will cover data mining and neural network basics from a business information systems and management perspective. This is a single use license copy of the software download.

### Who Should Take This Course:

Executives, managers and computer professionals who want to use data mining technology for business applications.

### What You Are Taught:

- Identify the need for Data Mining and the description of the different processes involved in Data Mining
- Identify the functions of a Neural Network and the features of the different Neural Network Models and Architecture.
- Identify the process of developing Data Mining Applications and their implementation.

### Topics Include:

- Unit 1: Data Mining
  - Duration: 2 - 3 Hour(s)
  - Identify the need of data mining as a modern business requirement.
  - Identify the need for a data warehouse.
  - Identify the features of parallel database architecture.
  - Identify the uses of data mining.
  - Sequence the different steps involved in the process of data preparation.
  - Match the different data types with their methods of representation.
  - Identify the applications of market basket analysis in a retail market business scenario.
  - Identify the advantages of memory-based reasoning.
  - Identify the characteristics of automatic cluster detection.
  - Identify the characteristics of link analysis.

- Identify the key issues to be considered while using the decision tree method.
- Identify the features of genetic algorithm.
- Unit 2: Neural Networks
  - Duration: 2 - 3 Hour(s)
  - Identify the learning style adopted to train the neural network for a given task.
  - Sequence the steps in which a Neural network makes decisions.
  - Identify the basic functions of a neural network.
  - Match the different learning parameters of Neural Network with their functions.
  - Match the neural network topologies with their descriptions.
  - Match the different types of Neural Network Models with their functions.
  - Identify the guidelines for selecting Models and Architecture.
- Unit 3: Data Mining Applications
  - Duration: 2 - 3 Hour(s)
  - Sequence the steps in the training of a Neural Network.
  - Match the different intelligent agents with their functions.
  - Identify the functions of intelligent agents in automated data mining process.
  - Identify the key issues to be considered while implementing data mining applications in market segmentation.
  - Identify the factors to be considered for designing a Data Mining application for real estate pricing.
  - Sequence the different steps involved in the design of a neural network for customer ranking model.
  - Sequence the process in design of a Sales Forecasting Data Mining Application.

## **Data mining Fundamentals**

### **LEVEL-I**

#### **ABOUT THIS COURSE**

Data mining is essentially a discovery process, riddled with elusive pitfalls. Project failure is rarely due to poor implementation. Rather, data mining projects often fall victim to flawed or overlooked strategy. If you are looking for a vendor-neutral and non-promotional introduction to data mining, and an approach to predictive analytics which is critical to modelling success, then this course is designed for you.

This two-day course offers a broad-brushed presentation of data mining terminology, applications, best practices and strategy. Those in attendance will be exposed to various methods of predictive analytics, resources and live illustrations as well as common pitfalls that often cause data mining projects to fall short of their potential.

Practitioners seeking to drill down into the implementation of predictive analytics may also attend the Data Mining: Level II offering: an additional two days immediately following this course at the same site.

#### **WHO SHOULD ATTEND**

**IT/IS EXECUTIVES AND MANAGERS:** CIOs, CKOs, CTOs, Functional Officers, Technical Directors and Project Managers

**LINE-OF-BUSINESS EXECUTIVES AND FUNCTIONAL MANAGERS:** Risk Managers, Customer Relationship Managers, Business Forecasters, Inventory Flow Analysts, Financial Forecasters, Direct Marketing Analysts, Medical Diagnostic Analysts, eCommerce Company Executives

**TECHNOLOGY PLANNERS:** Who survey emerging technologies in order to prioritize corporate investment

**CONSULTANTS:** Whose competitive environment is intensifying and whose success requires competency with data mining and related emerging information technologies

#### **BENEFITS OF ATTENDING**

Make better business decisions based on information hidden in your data

Develop a strong vocabulary and understanding of data mining terminology

Communicate with confidence among your developers and consultants

Plan and manage your data mining projects effectively from the start

Leave with resources, contacts and actionable plans to substantially reduce your project preparation time, costs and risks

## **THE BUSINESS CHALLENGE**

Traditionally, organizations use data tactically - to manage operations. For competitive edge, leading organizations use data strategically - to expand the business, to improve profitability, to reduce costs, anticipate behavior, and market more effectively. The mining of data for predictive indicators creates information assets that an organization can leverage to achieve these strategic objectives.

Predictive analytics is a new component in an enterprise's decision support system (DSS) architecture. It complements and interlocks with other DSS capabilities such as query and reporting, on-line analytical processing (OLAP), data visualization, and traditional statistical analysis. These other DSS technologies are generally retrospective.

The predictive aspect of data mining may be defined as “the data-driven discovery and modeling of hidden patterns in large volumes of data.” Predictive analytics differs from the retrospective technologies above because it produces models—models that capture and represent hidden patterns and interactions in the data. Via data mining, a user can discover patterns and build models automatically, without knowing exactly what s/he's looking for.

The resulting models are both descriptive and prospective. They address why things happened and what is likely to happen next. A user can pose “what-if” questions to a data-mining model that cannot be queried directly from the database or warehouse. Examples include: “What is the expected lifetime value of every customer account,” “Which customers are likely to open a money market account,” or “Will this customer cancel our service if we introduce fees?”

## **WHAT YOU WILL LEARN**

Basic principles and terminology for predictive analytics

Who is utilizing predictive analytics, and why

What are common project pitfalls and how to avoid them

Project deployment, performance and maintenance issues

How to define business objectives for a discovery process

How to get started

## **WHAT MAKES THIS COURSE UNIQUE**

This course offers a balanced and non-promotional presentation of data mining topics and its role in enterprise decision support. For over fifteen years, the instructor has been deeply involved with the development and deployment of real-world data mining solutions.

Leading products will be used from a vendor-neutral perspective to illustrate and compare methods. Results will be drawn from actual data mining applications and interpreted in the context of business impact. Attendees will depart with a binder full of slides, supporting notes and a valuable index of data mining resources.

## COURSE OUTLINE

### WHAT IS DATA MINING?

Definition

What's New? So What?...

The Data Mining Project Life Cycle

The First Deadly Sin

An Enterprise Decision Support System (DSS) Architecture

Compare/Contrast with other DSS Components

Relation to Data Warehousing

A Surface Introduction to Primary Data Mining Technologies

### WHAT CAN DATA MINING DO?

Directed Analysis

- Classification
- Estimation
- Prediction

Undirected Analysis

Clustering

Affinity Grouping

Association Rules

Three Case Studies

- Banking: Identification of Cross Selling Opportunities
- Insurance: Risk Assessment
- Finance: Market Timing in the Treasury Bond Market What Did Data Mining Deliver?

## HOW IS DATA MINING IMPLEMENTED?

### Advantages and Disadvantages of

- Scores
  - Software
  - Consultants
  - Internal Capability Forming the Right Combination
- ### WHAT IS THE DATA MINING PROCESS?

Problem Formulation and Planning: How do we get started?

### Defining a Project

- Needs and Skills Assessment
  - Scope
  - Roles and Responsibilities
  - Duration and Schedule Executive's Role Why Projects Fail
- Experimental Design: How do we know we can trust our results?
- Data Distributions
- Train-Test Designs
- Train-Test-Validate Designs
- Data Management: What data is required?
- Sources
- What does Data Mining data look like?
- Volume: How Much is Enough?

- Fixing Problems with data
- Transforming data
- How are effective models developed?
- Begin with the End in Mind: Measuring Success
- Model-Test-Validation Strategies for Robustness
- Applying Automatic Clustering
- Applying Decision Trees
- Applying Neural Networks
- Choosing technologies and products
- Picking the Right Technology for a Problem
- Prescriptive vs. Descriptive Goals
- Performance vs. “Explain-ability”
- Data Type Considerations

## **A Taxonomy of Software Tools**

- Generic, Application-Independent Tools
- Algorithm-Specific Tools
- Application-Specific Tools
- Embedded Tools (OLAP-assist tools)
- Analytical Programming Tools
- Selection Criteria

## **Validation**

- Testing in the real world
- The role of domain experts

## **Deployment and Maintenance**

- Rolling out models for production
  - Tracking performance in production
- The Next Step: Iteration

### **EXERCISES: DATA MINING IN ACTION**

Model Creation

Model Validation

Model Implementation

### **ADDITIONAL RESOURCES**

Books, Journals and Trade Magazines

Individual Articles

Data Mining Center

The World Wide Web

## **Data mining Advanced**

### **LEVEL-II**

#### **ABOUT THIS COURSE**

This second level offering presents a deeper examination of the data mining process at a functional level. Attendees will observe demonstrations of computer-guided analytical techniques for extracting and interpreting complex business rules from data. If you desire a rapid and substantial boost in your understanding of data mining concepts, tools, techniques and supporting methods, then this course is designed for you.

Those who may be responsible for project leadership may benefit by obtaining a solid strategic framework through the Data Mining: Level I offering: two days immediately preceding this course at the same site. Likewise, participants who wish to apply the techniques and methods presented in this course in a hands-on workshop environment through team-oriented exercises should consider attending Data Mining: Level III.

#### **WHO SHOULD ATTEND**

- IT PROFESSIONALS who wish to expand their skills in this increasingly visible area within the corporate IT agenda
- PROJECT LEADERS who must report on developmental progress, resource requirements and system performance
- DECISION SUPPORT SYSTEM ARCHITECTS who require an understanding of the infrastructures required for supporting a data mining solution
- BUSINESS ANALYSTS who must develop and interpret the models, communicate the results and make actionable recommendations
- FUNCTIONAL ANALYSTS: Customer Relationship Managers, Risk Analysts, Business Forecasters, Statistical Analysts, Inventory Flow Analysts, Direct Marketing Analysts, Medical Diagnostic Analysts, Market Timers, e-commerce System Architects and Web Data Analysts

#### **BENEFITS OF ATTENDING**

Vendor-neutral exposure to tools and techniques that will place you months ahead in method planning and product surveying

Examine which methods and tools are most effective for your needs

Avoid pitfalls in data preparation, modelling, and results interpretation

Leave with resources, contacts and actionable plans to substantially increase your analysis capabilities while minimizing dead end

## **THE BUSINESS CHALLENGE**

The rapid emergence of electronic data processing and collection methods has led some to call recent times as the “Information Age.” However, it may be more accurately termed as “The Age of the Data Glut.” Most businesses either possess a large database or have access to one. These databases contain so much data that it becomes very difficult to understand what that data is telling us.

There is hardly a transaction that does not generate a computer record somewhere. All this data has meaning with respect to making better business decisions or understanding customer needs and preferences. But how do you discover those needs and preferences in a database that contains gigabits of seemingly incomprehensible numbers and facts? Data mining does just that.

The intent of this course is to offer attendees a stronger grasp of data mining techniques, and a solid understanding of how various methods and tools apply to different kinds of data intensive problems.

## **WHAT YOU WILL LEARN**

The data mining process and general implementation  
How to prepare raw data and benefit from visualization  
Various data mining methods and how they compare  
Advanced model building techniques  
Results analysis and validation  
Technology and product selection  
Solution integration, ongoing performance and maintenance  
Where to begin and how to obtain resources and support

## **WHAT MAKES THIS COURSE UNIQUE**

This course does not restrict or skew the presentation of data mining methods through a single product. Rather, the course gives consideration to all resources from a vendor-neutral position. The instructor has over ten years of experience in applying data mining technology to real-world applications.

In addition, live modelling demonstrations projected from the presenter’s machine will support the instructional sessions. The demonstrations will highlight superior performance as well as pitfalls. The instructor will show how to evaluate various packages based on strengths, limitations, value and general performance.

## **COURSE OUTLINE**

### **DAY 1**

#### **Data Mining Description**

- What is Data Mining?
- What Can Data Mining Do?
- How is Data Mining Used?
- Data Mining Process (CRISP-DM)

## **Designing the Data Mining Project**

- Business Questions
- Data Mining Objectives
- Identifying Data for Data Mining

## **Data Characterisation**

- Univariate and Multivariate Descriptions of Data
- Cleaning and Conditioning Data
  - Missing Data, Outliers, and Variable Formatting
- Effective Use of Data Visualization
- Demonstration #1

## **Feature Creation and Selection**

- Binning Real-valued and Categorical Variables
- Correcting Problems with Variable Distributions
- Removing Redundant Variables
- Demonstration #2

## **Creating Data Samples**

- Ways to Sample Data
  - Random and Stratified Sampling
  - Cross-validation
  - Bootstrapping
  - How Much Data is Needed?

## **Model Scoring and Deployment**

- How algorithms score models
  - Estimation
  - Classification
- How users (should) score models

DAY 2

## **Overview and Comparison of Data Mining Algorithms**

- Predictive vs. Descriptive Models
- Data Mining Algorithm Taxonomy
- Data Mining vs. OLAP

## **Supervised Learning Algorithm Descriptions and Tips**

- Decision Trees
- Demonstration #3
- Linear and Logistic Regression

- Neural Networks
- Demonstration #4
- Other Methods

## **Unsupervised Learning Algorithm Descriptions and Tips**

- Association Rules
- Clustering
- Kohonen Self-Organizing Maps
- Demonstration #5

## **Model Ensembles and Deployment**

- What are model ensembles?
  - Bagging, Boosting and Other Killer B's
- How to Create Model Ensembles
- Model Deployment

## **Data Mining Software Tools**

- Types of Tools
- General Purpose vs. Industry Specific
- Free Tools vs. Commercial Tools
- Feature Comparisons
- Data Mining Resources

## **Data Mining Master Class**

### **LEVEL-III**

#### **ABOUT THIS COURSE**

This third-level offering takes the tactical and methodological presentation of Data Mining: Level II and puts the material into action through team-driven, live data mining exercises. Comparative review sessions then reveal real-world obstacles, breakthroughs and results from which to interpret, learn and apply.

Data Mining: Level III is a hands-on application workshop, applying data mining methods and techniques presented in Data Mining: Level II to real-world data. Although the workshop may be attended exclusively, registrants should have experience with the breadth of material covered in the Level II offering.

Throughout the workshop, the CRISP-DM model will be used to guide participants through the steps of the data mining process, and the attendees themselves will complete the entire data mining process during the workshop by solving simple data mining problems through a staged progression.

In the morning, participants will begin with a database containing multiple tables of information. Participants will each have a networked computer and may choose to work on exercises in pairs or individually. Attendees will determine which business

questions will be considered, how they will be addressed using data mining, and how the data will be prepared for data mining. A divide-and-conquer approach will be used to carry out the “data understanding” and “data pre-processing” steps as participants work alone or in pairs to prepare the data for data mining.

In the afternoon, regression, decision tree, and neural network models will be created, and performance assessed. Participants may optimize these models by using advanced algorithm options, and report model performance on held-out data and summaries of key variables used in the models. Data pre-processing will be re-applied if models do not meet performance requirements. The team will determine which model best addresses the business question, and score the model on validation data.

Throughout the day, emphasis will be placed not only on the data mining process from a technical perspective, but also how to interpret, explain and apply results that have been discovered during the process.

### **WHO SHOULD ATTEND**

- LEVEL II COURSE PARTICIPANTS with an interest in applying the methods and techniques first-hand as presented and illustrated in the course
- DATA MINING PRACTITIONERS who wish to expand their skills and analytical toolbox as well as hone proficiencies in manoeuvring elusive data mining obstacles that stand in the way of superior model accuracy
- BUSINESS ANALYSTS who must develop and interpret models, communicate the results and make actionable recommendations
- FUNCTIONAL ANALYSTS: Customer Relationship Managers, Risk Analysts, Statistical Analysts, Business Forecasters, Inventory Flow Analysts, Direct Marketing Analysts, Medical Diagnostic Analysts, Market Timers, e-commerce System Architects and Web Data Analysts

### **BENEFITS OF ATTENDING**

- Driving the Level II presentation material through team exercises
- Hands-on experience through the data mining process via a staged progression of exercises using application data
- First-hand vendor-neutral exposure to various data mining tools
- Real-world perspective of data preparation for data mining, model optimization and results interpretation
- Cross-learning through team exercise comparisons to reveal what worked, what didn't, and why?

### **WHAT MAKES THIS COURSE UNIQUE**

Unlike any other application-oriented offering on the market, Data Mining: Level III offers a structured approach to team-oriented data mining exercises in a lab environment. Since The WebLearning is not a tools vendor, participants enjoy a balanced, broad, and non-promotional perspective of data mining.

## **COURSE OUTLINE**

### **MORNING**

#### **Team Meeting #1**

- Introduction
- Purpose of Data Mining III: Practice
- CRISP-DM
- Description of Data Source for Modeling
- Business Understanding
- Prioritize Questions to be Addressed
- Determine Method to Score Results
- Assign Data Understanding Responsibilities
- Result: List of Prioritized Business Questions and Corresponding Data
- Mining Approaches

#### **Breakout Session #1: Data Understanding**

- Summary Statistics
- Visualization
- Outlier Analysis
- Missing Data Analysis
- Create Mini-Report

#### **Team Meeting #2**

- Data Assessment Summary
- Assign Data Preprocessing Responsibilities
- Result: Summaries of Available Modeling Data, and Recommendations for Their Use

#### **Breakout Session #2: Data Preprocessing**

- Correct Data Problems
- Create Features
- Create Mini-Report

#### **Team Meeting #3**

- Data Preprocessing Summary
- Join Data Modified During Breakout Sessions
- Determine Sampling Strategy
- Assign Modeling Responsibilities
- Result: Single Modeling Dataset

## **AFTERNOON**

### **Breakout Session #3: Modeling and Evaluation**

- Build Decision Trees, Regression, and Neural Networks
- Assess Results
- Rebuild Models, Changing Modeling Parameters

### **Breakout Session #4: Model Evaluation and Assessment**

- Score Models on Testing Data
- Rank Variable Importance to Models
- Create Mini-Report

### **Team Meeting #4**

- Summarize Modelling Results
- Assess Which Modelling Techniques Worked and Didn't Work
- Determine Needs for More Data Pre-Processing and Modelling
- Assign Responsibilities

### **Breakout Session #5: Re-visit Modelling**

- Create Final Models
- Create Mini-Report
- Score Models on Validation Data

### **Team Meeting #5**

- Select Final Model to Use (if any)
- Explain Reason for Selection
- Assess Trade-offs Between Models
- Assign List of Action Items Pending

## Oracle10g Data Mining Fundamentals

### Objectives

After completing this course, students should be able to do following:

- Provide an overview of Oracle10g Data Mining.
- Identify the features of Oracle10g Data Mining.
- List the components of Oracle10g Data Mining.
- Provide an overview of Oracle10g Data Mining functionality and algorithms.
- Describe the Data Mining process.

### Audience

- Business Intelligence Developer
- Database Administrator
- Data Warehouse Analyst
- Data Warehouse Administrator

### Outline

- Oracle10g Database: Oracle10g Data Mining Concepts
  - Course Overview
  - How to Use this Course
  - Introduction to Oracle10g Data Mining
    - Module Objectives
    - Business Scenario
    - What is Data Mining?
    - Data Mining Architecture
    - Overview of Oracle10g Data Mining
    - Query/Reporting, OLAP and Data Mining
    - Typical Problems solved by Data Mining
    - What is the difference between traditional techniques and Oracle10g Data Mining?
    - Data Mining Value Proposition
    - Oracle10g Data Mining Examples
    - Module Summary
    - Quick Quiz
- Oracle10g Data Mining Features
  - Module Objectives
  - Oracle10g Data Mining Process Flow
  - Overview of Oracle10g Data Mining architecture
  - Oracle10g Data Mining Features
  - Data Mining embedded in Oracle10g database
  - Open Java Standard API
  - Predictions and Insights
  - Performance and Scalability
  - Elimination of Data Movement
  - Enhanced Data Security

- Module Summary
- Quick Quiz
- Installing and Administering Oracle10g Data Mining
  - Module Objectives
  - Oracle10g Data Mining Requirements
  - Administering Oracle10g Data Mining
  - Upgrading Oracle10g Data Mining
  - Oracle10g Database Parameters
  - Verifying Oracle10g Data Mining Installation
  - Oracle10g Data Mining Errors
  - Module Summary
  - Quick Quiz
- Oracle10g Data Mining Components
  - Module Objectives
  - Oracle10g Data Mining Components
  - Oracle10g Data Mining API
  - Oracle10g Data Mining Server
  - Data Mining Standards
  - Java Data Mining API
  - PMML
  - SQL/MM
  - Common Warehouse Metamodel
  - Module Summary
  - Quick Quiz
- Oracle10g Data Mining Functionality
  - Module Objectives
  - Overview of Data Mining Functionality
  - Supervised Learning
  - Classification Problem
  - Classification Problem (Costs)
  - Classification Problem (Priors)
  - Attribute Importance
  - Clustering Algorithm
  - Association Rules
  - Module Summary
  - Quick Quiz
- Oracle10g Data Mining Algorithms
  - Module Objectives
  - Oracle10g Data Mining Algorithms
  - Naive Bayes Algorithm
  - Adaptive Bayes Network
  - Model Seeker
  - Predictor Variance Algorithm
  - k-Means Algorithm
  - O-Cluster Algorithm
  - Apriori Algorithm
  - Module Summary
  - Quick Quiz
- Oracle10g Data Mining Process
  - Module Objectives

- Data Mining Tasks
- Problem Definition
- Restatement of the Problem in Terms of the Available Data
- Data Preparation
- Preparing Data
- Physical Data Specification
- Building Model
- Model Testing
- Deploy Model
- Applying the Model
- Module Summary
- Quick Quiz
- Course Conclusion
- Course Evaluation - Oracle10g Database: Oracle10g Data Mining Concepts
- Continue Developing Your Skills

## Oracle9i Data Mining Fundamentals

### Objectives

After completing this course, students should be able to do following:

- Provide an overview of Oracle9i Data Mining.
- Identify the features of Oracle9i Data Mining.
- List the components of Oracle9i Data Mining.
- Provide an overview of Oracle9i Data Mining functionality and algorithms.
- Describe the Data Mining process.

### Audience

- Business Intelligence Developer
- Database Administrator
- Data Warehouse Analyst
- Data Warehouse Administrator

### Outline

- Oracle9i Database: Oracle9i Data Mining Concepts
  - Course Overview
  - How to Use this Course
  - Introduction to Oracle9i Data Mining
    - Module Objectives
    - Business Scenario
    - What is Data Mining?
    - Data Mining Architecture
    - Overview of Oracle9i Data Mining
    - Query/Reporting, OLAP and Data Mining

- Typical Problems solved by Data Mining
- What is the difference between traditional techniques and Oracle9i Data Mining?
- Data Mining Value Proposition
- Oracle9i Data Mining Examples
- Module Summary
- Quick Quiz
- Oracle9i Data Mining Features
  - Module Objectives
  - Oracle9i Data Mining Process Flow
  - Overview of Oracle9i Data Mining architecture
  - Oracle9i Data Mining Features
  - Data Mining embedded in Oracle9i database
  - Open Java Standard API
  - Predictions and Insights
  - Performance and Scalability
  - Elimination of Data Movement
  - Enhanced Data Security
  - Module Summary
  - Quick Quiz
- Installing and Administering Oracle9i Data Mining
  - Module Objectives
  - Oracle9i Data Mining Requirements
  - Administering Oracle9i Data Mining
  - Upgrading Oracle9i Data Mining
  - Oracle9i Database Parameters
  - Verifying Oracle9i Data Mining Installation
  - Oracle9i Data Mining Errors
  - Module Summary
  - Quick Quiz
- Oracle9i Data Mining Components
  - Module Objectives
  - Oracle9i Data Mining Components
  - Oracle9i Data Mining API
  - Oracle9i Data Mining Server
  - Data Mining Standards
  - Java Data Mining API
  - PMML
  - SQL/MM
  - Common Warehouse Metamodel
  - Module Summary
  - Quick Quiz
- Oracle9i Data Mining Functionality
  - Module Objectives
  - Overview of Data Mining Functionality
  - Supervised Learning
  - Classification Problem
  - Classification Problem (Costs)
  - Classification Problem (Priors)
  - Attribute Importance
  - Clustering Algorithm

- Association Rules
- Module Summary
- Quick Quiz
- Oracle9i Data Mining Algorithms
  - Module Objectives
  - Oracle9i Data Mining Algorithms
  - Naive Bayes Algorithm
  - Adaptive Bayes Network
  - Model Seeker
  - Predictor Variance Algorithm
  - k-Means Algorithm
  - O-Cluster Algorithm
  - Apriori Algorithm
  - Module Summary
  - Quick Quiz
- Oracle9i Data Mining Process
  - Module Objectives
  - Data Mining Tasks
  - Problem Definition
  - Restatement of the Problem in Terms of the Available Data
  - Data Preparation
  - Preparing Data
  - Physical Data Specification
  - Building Model
  - Model Testing
  - Deploy Model
  - Applying the Model
  - Module Summary
  - Quick Quiz
- Course Conclusion
- Course Evaluation - Oracle9i Database: Oracle9i Data Mining Concepts
- Continue Developing Your Skills

## **Mining Data with Microsoft SQL Server 2000 and Analysis Services**

This course provides hands-on lessons for the Preparing and Mining Data with Microsoft SQL Server 2000 and Analysis Services. The sample code demonstrates how to apply data mining to a real-world situation using SQL Server 2000, Microsoft SQL Server 2000 Analysis Services, and Microsoft Visual Basic® 6.0.

This course takes a real-world dataset and shows you how to: clean and prepare it for data mining; explore the data within the dataset and choose the appropriate columns for a data mining model; create data mining models from the cleaned data; and compare data the mining models to choose the one that best solves a given problem.

## **ORACLE BUSINESS ACTIVITY MONITORING FUNDAMENTALS**

Business and IT users in the last two decades have been consistently striving to achieve two needs, which are absolutely necessary for corporate success. They are:

1. Business Visibility
2. Business Control.

Oracle Business Activity Monitoring (Oracle BAM) gives business executives the ability to monitor their business services and processes in the enterprise, to correlate KPIs down to the actual business process themselves, and most important, to change business processes quickly or to take corrective action if the business environment changes.

Oracle BAM is a complete solution for building real-time operational dashboards and monitoring and alerting applications over the Web. Using this technology, business users get the ability to build interactive, real-time dashboards and proactive alerts to monitor their business services and processes.

Today's Corporations all use some kind of systems for doing business. Enterprise Departments are demanding from their IT Managers, more and more ability to have complete visibility into their business operations and demanding to be in control of the operations. IT on the other hand wants to get away from being the bottleneck in doing business, but rather be the value adder to the business operations. Enterprises have realized that the key is in leveraging more the systems and processes in place in the Organization, and not deploying new ones. Hence various Integration efforts are underway in every Corporation to leverage the existing intellectual property residing in the Corporate Processes and Business Systems implemented.

Business Process Integration is the approach to build the Enterprise Integration platform for complete Business visibility and Control. The new genre of Business Process Management Systems bundled in the Business Process Integration Platforms are now mature to provide the ability to deploy the most complex Enterprise processes that span multiple Corporate systems and Departments. Using the Business Process Integration Platform besides Integrating the silos of Information and Processes, gives the Business the visibility they need in real-time and puts them in control directly, without involving IT, to take the necessary actions needed to influence the daily business operations.

### **Objective**

The Primary purpose of this course is to unveil the power of the Corporate Business Process Visibility. The course helps identify the next revolution in IT management systems, similar to what the RDBMS did to business data two decades ago. The Business Process Management System (BPMS) is the foundation Killer application to take the Enterprise to the next level, enabling automation, Integration and most

importantly opening a window to Business Process Visibility and Control using BAM - Business Activity Monitoring.

### **Real-time monitoring for better business decisions**

Oracle Business Activity Monitoring (Oracle BAM) is a complete solution for building interactive, real-time dashboards and proactive alerts for monitoring business services and processes. Oracle BAM gives business executives and operations managers the information they need to make better business decisions and take corrective action if the business environment changes.

### **Monitor and Optimise Processes**

Identify bottlenecks in your business processes by integrating BAM with your existing systems to track processes and capture business events. This information can be presented to business users in real-time through a personalized dashboard in their web browser.

### **Identify Issues that Need Attention**

Immediately recognise, or even predict, problems that occur in your business operations by pro-actively tracking the appropriate events across all your IT systems. Once an issue is identified, Oracle BAM can notify business users through multi-channel alerts, or initiate an automated response process.

### **Manage Service-Level Agreements**

Deliver a superior customer experience through better management and real-time visibility of your service levels. Oracle BAM easily integrates with any system and can monitor even the most complex service agreements across multiple call centres, delivery channels, and time periods.

### **Audience:**

CIO's, Systems Architects, Project and Portfolio Managers, Systems Designers, Senior Application Developers, Integration Designers and Architects, Business Process Designers

Duration: 2 Days

### **Course Outline**

Overview

The Corporate Business Process

The Manual Business Process - Basics

The Manual Business Process- An Example

Real-Time Business Process Monitoring

Business Process Management System (BPMS)

BPMS Managed Business Process - Basics

## WebLearning Education Services

BPMS Managed Business Process- An Example  
Real-Time Business Process Monitoring  
OracleAS Integration – BPMS and Beyond  
Streamline Business Processes  
Path to Business optimization  
Business Process Monitoring  
Business Activity Monitoring  
Business Process Optimisation