DATA TECHNOLOGY PARTNERSHIP PROGRAM

PROGRAM OVERVIEW
This course describes how to implement a data warehouse platform to support a BI solution. Students will learn how to create a data warehouse with Microsoft SQL Server 2014, implement ETL with SQL Server Integration Services, and validate and cleanse data with SQL Server Data Quality Services and SQL Server Master Data Services.

Every student will learn how to:
• Describe data warehouse concepts and architecture considerations.
• Select an appropriate hardware platform for a data warehouse.
• Design and implement a data warehouse.
• Implement Data Flow in an SSIS Package.
• Implement Control Flow in an SSIS Package.
• Debug and Troubleshoot SSIS packages.

• Implement an ETL solution that supports incremental data extraction.
• Implement an ETL solution that supports incremental data loading.
• Implement data cleansing by using Microsoft Data Quality Services.
• Implement Master Data Services to enforce data integrity.
• Extend SSIS with custom scripts and components.
• Deploy and Configure SSIS packages.
• Describe how BI solutions can consume data from the data warehouse.

WHO SHOULD ATTEND
This course is intended for Database Administrators, Database Developers, and Business Intelligence professionals. The course will very likely be well attended by SQL power users who are not necessarily database-focused or plan on taking the exam; namely, report writers, business analysts and client application developers.

PREREQUISITES
This course requires that you meet the following prerequisites: At least 2 years’ experience of working with relational databases, including:
• Designing a normalized database.
• Creating tables and relationships.
• Querying with Transact-SQL.

• Some exposure to basic programming constructs (such as looping and branching).
• An awareness of key business priorities such as revenue, profitability, and financial accounting.

<table>
<thead>
<tr>
<th>COURSE TITLE</th>
<th>DURATION</th>
<th>LISTED PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry 4.0 Big Data – Implementing a Data Warehouse with Microsoft SQL</td>
<td>6 DAYS</td>
<td>RM 3,500.00</td>
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</tbody>
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TRAINER PROFILE
Balasubramaniam@Balan is a certified Trainer with specialization in the field of Information Systems and a Master’s Holder in Business Administration. Being exposed to information systems and network operations based environment, he has garnered interest in that respective field. Ever since then he has continuously updated himself with various kind of knowledge either from the area of training or having managing medium range project locally or abroad. One of the mainstream project that was partially outsourced, in the area of complete network infrastructure implementation, configuration was handled and completed in due time which also contributed to his additional knowledge on different area of skills which could have not been obtained via certification.

He has served corporate giants such as LYOD Register, Kuala Lumpur City Center Berhad (KLCCB), Putrajaya Holdings (PJH), University Technology PETRONAS (UTP), Maxis Communication Berhad, Asia Pacific Broadcasting Union (ABU), United Nations Development Programme and Kuala Lumpur Heart Care (KLHC). He is currently associated with I Tech Train as a Project Consultant. He has been a project manager and technical trainer since year 2007 and has educated many corporate professional from various industries ever since then. Balan was responsible for the preparation and assessment of training and developing and updating the course outline and content. Meanwhile he also provides consultation to department which requires special training and outlining the course specification in accordance to the organizational goal.

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Industry 4.0: Introduction to Concepts & Technology Pillars

Module 1: Introduction and overview
• Overall course objective and deliverables
• Overview of the course outline

Module 2: Industry 4.0 Background
• What is Industry 4.0 and why now?
• What enabled the new revolution?
• Industry 4.0 framework & blueprint

Module 3: Overview of Pillar 1-4
• Digital Supply Chain, IoT, Cloud, Big Data Analytics

Module 4: Overview of Pillar 5-8
• Cybersecurity, Augmented Reality, Additive Manufacturing, Horizontal & Vertical Integration

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• Cyber security, Augmented Reality, Additive Manufacturing, Horizontal & Vertical Integration

Module 5: Overview of Pillar 9-11
• Autonomous Robot, Artificial Intelligence, New Business Model

Module 6: Key Benefits of Industry 4.0
• Business and operation & Best practices from the pioneers

Module 7: Organisation structure
• OT & IT convergence and New roles and responsibilities

Module 8: Summaries and Conclusions
• Next steps

Implementing a Data Warehouse using SQL

Module 1: Introduction to Data Warehousing
• Overview of Data Warehousing
• Considerations for a Data Warehouse Solution

Module 2: Planning Data Warehouse Infrastructure
• Considerations for Data Warehouse Infrastructure
• Planning Data Warehouse Hardware

Module 3: Designing and Implementing a Data Warehouse
• Data Warehouse Design Overview
• Designing Dimension Tables & Designing Fact Tables
• Physical Design for a Data Warehouse

Module 4: Creating an ETL Solution with SSIS
• Introduction to ETL with SSIS
• Exploring Data Sources & Implementing Data Flow

Module 5: Implementing Control Flow in an SSIS Package
• Introduction to Control Flow
• Creating Dynamic Packages
• Using Containers & Managing Consistency

Module 6: Debugging & Troubleshooting SSIS Packages
• Debugging an SSIS Package
• Logging SSIS Package Events
• Handling Errors in an SSIS Package

Module 7: Implementing a Data Extraction Solution
• Planning Data Extraction
• Extracting Modified Data

Module 8: Loading Data into a Data Warehouse
• Planning Data Loads
• Using SSIS for Incremental Loads
• Using Transact-SQL Loading Techniques

Module 9: Enforcing Data Quality
• Introduction to Data Quality
• Using Data Quality Services to Cleanse Data
• Using Data Quality Services to Cleanse Data

Module 10: Master Data Services
• Introduction to Master Data Services
• Implementing a Master Data Services Model
• Managing Master Data
• Creating a Master Data Hub

Module 11: Extending SQL Server Integration Services
• Using Scripts in SSIS
• Using Custom Components in SSIS

Module 12: Deploying and Configuring SSIS Packages
• Overview of SSIS Deployment
• Deploying SSIS Projects
• Planning SSIS Package Execution

Module 13: Consuming Data in a Data Warehouse
• Introduction to Business Intelligence
• Enterprise Business Intelligence
• Self-Service BI and Big Data