Microsoft Data Science

Cortana Intelligence Suite Workshop – Azure SQL Data Warehouse Focus

Training Overview

Welcome to the Cortana Intelligence Suite workshop – Azure SQL Data Warehouse Focus delivered by your Microsoft Data Science team. In this workshop you'll cover a series of modules that guide you from understanding an analytics workload, the Cortana Intelligence Suite Process, Massive Parallel Processing and loading a data warehouse using various tools. You'll also learn how to work through a real-world scenario using the Cortana Intelligence Suite tools, including the Microsoft Azure Portal, PowerShell, and Visual Studio, among others.

This course is designed to take approximately two days, depending on what is covered and how many of the labs are done in-class. All materials are provided regardless of the length of the course.

Note:

If you're getting these materials without classroom instruction, simply walk through the videos and other materials on the delivery site step-by-step, making sure you read and follow the links in the handouts for each topic.

Audience

Technical professionals (Data Scientists, Database professionals, Analysts, BI Professionals) who are familiar with building solutions but not familiar with the entire CIS Platform of products.

Prerequisites

There are a few things you need prior to coming to class:

- A subscription to Microsoft Azure (this may be provided through your company or as part of your invitation – you **must** have this enabled *prior to class* – you will be using Azure throughout the course, for all labs, work and exercises)
    - o You can use your MSDN subscription – https://azure.microsoft.com/en-us/pricing/member-offers/msdn-benefits/
    - o Your employer may provide Azure resources to you, but make sure you check to see if you can deploy assets and that they know you'll be using their subscription in the class.
    - o Optionally, you may receive instructions in your class invitation.
- Your workstation should have the following Software Installed:
    - o Visual Studio installed – the Community Edition (free) is acceptable – Version 2015 preferable (https://www.visualstudio.com/en-us/products/visual-studio-community-vs.aspx)
    - o Azure SDK and Command-line Tools installed (https://azure.microsoft.com/en-us/downloads/)
    - o Azure Storage Explorer (http://go.microsoft.com/fwlink/?linkid=698844&clcid=0x409)

- o Power BI Desktop Installed (https://powerbi.microsoft.com/en-us/desktop/)A background in data technologies, such as working with Relational and Non-Relational data processing systems
  - o Install the Microsoft R Client: http://aka.ms/rclient/download with the R tools for Visual Studio
  - o SQL Server 2016 Management Studio
  - o SQL Server 2015 Visual Studio
  - o Azure PowerShell SDK
  - o Azure PowerShell ISE
- It's also a good idea to have a general level of predictive and classification Statistics, and a basic understanding of Machine Learning

Syllabus

Course Session

Each Training Module guides you through a logical progression with hands-on tasks in do-verb form. Each day is broken up into 1-4 hour Modules, where you will learn and perform labs as a group and individually.

NOTE: The workbooks you receive as part of the classes contain many resources to lead you through the course, and provide a rich set of references that you can use to learn much more about these topics. If the links do not resolve properly, type the link address in manually in your web browser. If the links have changed or been removed, simply enter the title of the link in a web search engine to find the new location or a corollary reference.

We'll cover the following concepts and technologies in this course, and you'll have the following skills when you complete all of the labs and class activities:

Modules in the complete course

1. CIS overview and how Azure SQL Data Warehouse fits in to CIS
2. Introduction to Azure SQL Data Warehouse
3. Working with Tables, Indexes and Statistics
4. Loading data into Azure SQL Data Warehouse
5. Managing Security and Administration.
6. Workshop recap (Extended Class)

Concepts delivered

1. The Data Science Process, CIS Platform components, Tools installation and overview
2. Azure Platform as a Services Capabilities
3. Massively Parallel Processing
4. Azure SQL Data Warehouse Table Geometries
5. Colunmstore Indexing
6. PolyBase and Windows Azure Blob Storage
7. Administration concepts

Technologies covered

1. The Data Science Process, Azure Portal, ADC Interface, Visual Studio Interface (and RTVS), PowerShell Interface, SQL Server Management Studio
1. Azure SQL Data Warehouse
2. Azure Data Catalog, Azure Storage, Techniques for discovery
3. Azure Data Factory, HDInsight

4. Cortana Intelligence Process, Cortana Intelligence Suite Platform

Skills taught

1. Understand the CIS Process (General level), Understand CIS Components (General Level), Set up and configure the development environment
2. Understand how to create an Azure SQL Data Warehouse using various tools.
3. Understand SQL Data Warehouse and its constructs, Implement loading activities into Azure SQL Data Warehouse.
4. Manage the security and administration of an Azure SQL Data Warehouse

Live Deliveries: Follow-up Q&A with MS architects and trainers