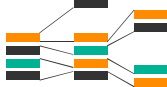




Cortana Intelligence Suite Workshop – Microsoft R for SQL Professionals

Training Overview



Welcome to the Microsoft R workshop delivered by your Microsoft Data Science team. In this workshop you'll cover a brief introduction to the R Language and/or a brief tutorial on SQL, the Microsoft R platform options, the advantages and architectures of Microsoft R, how to design and implement Microsoft R, and a comprehensive example using SQL Server with R Services.

This course is designed to take approximately one day. All materials are provided for follow-on self-study.

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.

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)
 - You can sign up for a free account here (but don't use it until the class starts, and don't sign up more than a week in advance of the class) – <https://azure.microsoft.com/en-us/pricing/free-trial/>
 - Or you can use your MSDN subscription – <https://azure.microsoft.com/en-us/pricing/member-offers/msdn-benefits/>
 - 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.
 - Optionally, you may receive instructions in your class invitation.
- We'll be using the Data Science Virtual Machine in Azure for the course. It has all of the tools you will need to work with the materials. Make sure you're able to use the Remote Desktop Protocol (RDP) from your system to be able to work through the labs.
- If you would also like to work with some of the tools locally (you still need an Azure subscription for this class), you can optionally obtain:
 - A laptop that you can install software on
 - Visual Studio installed – the Community Edition (free) is acceptable – Version 2015 preferable (<https://www.visualstudio.com/en-us/products/visual-studio-community-vs.aspx>) - RStudio is also allowed, but not covered.
- It's also a good idea to have a general level of predictive and classification Statistics, and a basic understanding of Machine Learning. A brief overview of these technologies is covered for the concepts presented.

Syllabus

Course Session



Each Training Module guides you through a logical progression with hands-on tasks in do-verb form. Each module is 1-2 hours long, with labs. 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.*

When you complete this course, you will be able to perform the following tasks in the areas indicated, based on the length of the course presented:

Modules in the complete course

1. The Team Data Science Process and a Cortana Intelligence Suite Overview
2. The R Programming Environment
3. The Microsoft R Platform and Architecture
4. R Client Options
5. R Coding Basics
6. Operationalizing your Microsoft R Solution
7. Deploying and Accessing a SQL Server R Solution
8. Workshop recap

Concepts delivered

1. The Data Science Process, CIS Platform components, Tools installation and overview
2. The R language and its environment and use
3. How Microsoft R differs from CRAN R and the deployment and platform options
4. Accessing the Microsoft R environment, both locally and server-based
5. How to deliver and release a complete server-based solution in Microsoft R
6. Using SQL Server R Services to integrate an R solution and RDBMS data

Technologies covered

1. The Data Science Process, Azure Portal, Visual Studio Interface (and RTVS)
2. Cortana Intelligence Process, Cortana Intelligence Suite Platform
3. Open-source and Microsoft R
4. Statistical processing of data
5. R clients and server environments
6. Visual Studio R Tools
7. Transact-SQL Stored Procedures with embedded R code

Skills taught

1. Understand the CIS Process (General level)
2. Understand CIS Components (General Level)
3. Set up and configure the development environment
4. Plan, set up and configure a server-based environment
5. Install, configure and use Microsoft R for solutions
6. R Basic Coding

7. Code and operationalize a Microsoft R Server Solution

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