DP100 - Designing and Implementing a Data Science Solution on Azure

Course ID #: 1414-200-00-W

Hours: 21

Course Content

Course Description:

Gain the necessary knowledge about how to use Azure services to develop, train, and deploy, machine learning solutions. The course starts with an overview of Azure services that support data science. From there, it focuses on using Azure's premier data science service, Azure Machine Learning service, to automate the data science pipeline. This course is focused on Azure and does not teach the student how to do data science. It is assumed students already know that.

Target Student:

This course is aimed at data scientists and those with significant responsibilities in training and deploying machine learning models.

Prerequisites:

Before attending this course, students must have:

- Azure Fundamentals
- Understanding of data science including how to prepare data, train models, and evaluate competing models to select the best one.
- How to program in the Python programming language and use the Python libraries: pandas, scikit-learn, matplotlib, and seaborn.

Topics:

Module 1: Doing Data Science on Azure

The student will learn about the data science process and the role of the data scientist. This is then applied to understand how Azure services can support and augment the data science process.

Lessons

- Introduce the Data Science Process
- Overview of Azure Data Science Options
- Introduce Azure Notebooks

Module 2: Doing Data Science with Azure Machine Learning service

The student will learn how to use Azure Machine Learning service to automate the data science process end to end.

Lessons

- Introduce Azure Machine Learning (AML) service
- Register and deploy ML models with AML service

Module 3: Automate Machine Learning with Azure Machine Learning service

In this module, the student will learn about the machine learning pipeline and how the Azure Machine Learning service's AutoML and HyperDrive can automate some of the laborious parts of it.

Lessons

- Automate Machine Learning Model Selection
- Automate Hyperparameter Tuning with HyperDrive

Module 4: Manage and Monitor Machine Learning Models with the Azure Machine Learning service

In this module, the student will learn how to automatically manage and monitor machine learning models in the Azure Machine Learning service.

Lessons

- Manage and Monitor Machine Learning Models