Trainer Preparation Guide for DP100: Designing and Implementing Data Science Solutions on Microsoft Azure

Design of the Course

This course is designed for data scientists with a fundamental knowledge of Azure, existing familiarity with Python, and experience of training machine learning models using common frameworks such as:

- Scikit-Learn

- PyTorch

- TensorFlow

The course is <u>not</u> designed to teach students how to become data scientists, but rather it's designed to teach existing data scientists how to leverage Azure Machine Learning for data science operations.

Required Materials to Teach This Course

To teach this course, you need the following materials:

- Course Handbook

- Microsoft PowerPoint files

Prerequisite Knowledge to Teach This Course

To present this course, you must have the following knowledge and skills:

- Expertise with Python and Scikit-Learn

- Some knowledge of machine learning principles – including deep learning.

- Deep knowledge of Azure Machine Learning

- Basic knowledge of containers and related Azure services

You can use the following learning paths on Microsoft Learn to help you prepare to teach the course successfully:

- *Create machine learning models*

- *Use visual tools to create machine learning models with Azure Machine Learning*

- *Build and operate machine learning solutions with Azure Machine Learning*

- *Administer containers in Azure*

Preparation Tasks

Complete the following tasks to prepare for this course.

Exams

To identify your technical proficiency with the content of this course, we highly recommend that you pass the following exams:

- Exam DP-100: Designing and Implementing a Data Science Solution on Azure

Technical Preparation

- This course requires access to Azure to be able to complete the demonstrations and labs. Therefore, you need to request Microsoft Learning Azure Passes for you and your students. Students then need to register and activate their pass prior to the class starting. You should ensure that you request Microsoft Learning Azure Passes at least two weeks before the class starts to allow sufficient time to acquire them.

Course Timing

The following schedule is an estimate of the course timing. Your timing might vary. Not every student will finish every lab. Use your judgment to set a reasonable time to move on to the next module.

This schedule provides about six hours of training per day. Each day starts at 9:00 A.M. and ends at 5:00 P.M., and includes two 15-minute breaks and one hour for lunch. Each day also includes time to review the previous day's topics and to answer questions from the students.

Day 1

Start	End	Module
9:00	9:30	Introduction
9:30	10:30	Module 1: Getting Started with Azure Machine Learning
10:30	10:45	Break
10:45	11:30	Module 1: Getting Started with Azure Machine Learning (*continued*)
11:30	12:30	Module 2: Visual Tools for Machine Learning
12:30	1:30	Lunch
1:30	2:30	Module 2: Visual Tools for Machine Learning (*continued*)
2:30	3:15	Module 3: Running Experiments and Training Models
3:15	3:30	Break
3:30	5:00	Module 3: Running Experiments and Training Models (*continued*)

Day 2

Start	End	Module
9:00	9:15	Day 1 review
9:15	10:15	Module 4: Working with Data (*continued*)
10:15	10:30	Break
10:30	12:00	Module 4: Working with Data (*continued*)
12:00	1:00	Lunch
1:00	2:45	Module 5: Working with Compute
2:45	3:00	Break
3:00	5:00	Module 6: Orchestrating Machine Learning Workflow

Day 3

Start	End	Module
9:00	9:15	Day 2 review
9:15	10:45	Module 7: Deploying and Consuming Models
10:45	11:00	Break
11:00	12:30	Module 8: Training Optimal Models
12:30	1:30	Lunch
1:30	3:00	Module 9: Responsible Machine Learning
3:00	3:15	Break
3:15	5:00	Module 10: Monitoring Models