DP-100T01 Designing and Implementing a Data Science Solution on Azure

Category: AI, Data & Analytics | **Vendor:** Microsoft Technical

Duration: 32.00 hours (4 days) **26.0 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format:	Instructor Led - Online
Certification:	Microsoft Certified: Azure Data Scientist Associate
Related Exam:	DP-100

Course Overview

Learn how to operate machine learning solutions at cloud scale using Azure Machine Learning. This course teaches you to leverage your existing knowledge of Python and machine learning to manage data ingestion and preparation, model training and deployment, and machine learning solution monitoring with Azure Machine Learning and MLflow.

About This Course

Learn how to operate machine learning solutions at cloud scale using Azure Machine Learning. This course teaches you to leverage your existing knowledge of Python and machine learning to manage data ingestion and preparation, model training and deployment, and machine learning solution monitoring with Azure Machine Learning and MLflow.

Who Should Attend

This course is designed for data scientists with existing knowledge of Python and machine learning frameworks like Scikit-Learn, PyTorch, and Tensorflow, who want to build and operate machine learning solutions in the cloud.

Prerequisites & Entry Requirements

General Prerequisites:

- Creating cloud resources in Microsoft Azure.
- Using Python to explore and visualize data.
- Training and validating machine learning models using common frameworks like Scikit-Learn, PyTorch, and TensorFlow.
- Working with containers
- AI-900T00: Microsoft Azure AI Fundamentals is recommended, or the equivalent experience.

Learning Outcomes

Upon successful completion of this course, participants will be able to:

Learn how to operate machine learning solutions at cloud scale using Azure Machine Learning. This course teaches you to leverage your existing knowledge of Python and machine learning to manage data ingestion and preparation, model training and deployment, and machine learning solution monitoring in Microsoft Azure.

Detailed Course Outline

1 - Explore Azure Machine Learning workspace resources and assets

- Create an Azure Machine Learning workspace
- Identify Azure Machine Learning resources
- Identify Azure Machine Learning assets
- Train models in the workspace

2 - Explore developer tools for workspace interaction

- Explore the studio
- Explore the Python SDK
- Explore the CLI

3 - Make data available in Azure Machine Learning

- Understand URIs
- Create a datastore
- Create a data asset

4 - Work with compute targets in Azure Machine Learning

- Choose the appropriate compute target
- Create and use a compute instance
- Create and use a compute cluster

5 - Work with environments in Azure Machine Learning

- Understand environments
- Explore and use curated environments
- Create and use custom environments

6 - Find the best classification model with Automated Machine Learning

- Preprocess data and configure featurization
- Run an Automated Machine Learning experiment
- Evaluate and compare models

7 - Track model training in Jupyter notebooks with MLflow

- Configure MLflow for model tracking in notebooks
- Train and track models in notebooks

8 - Run a training script as a command job in Azure Machine Learning

- Convert a notebook to a script
- Run a script as a command job
- Use parameters in a command job

9 - Track model training with MLflow in jobs

- Track metrics with MLflow
- View metrics and evaluate models

10 - Perform hyperparameter tuning with Azure Machine Learning

- Define a search space
- Configure a sampling method
- Configure early termination
- Use a sweep job for hyperparameter tuning

11 - Run pipelines in Azure Machine Learning

- Create components
- Create a pipeline
- Run a pipeline job

12 - Register an MLflow model in Azure Machine Learning

- Log models with MLflow
- Understand the MLflow model format
- Register an MLflow model

13 - Create and explore the Responsible AI dashboard for a model in Azure Machine Learning

- Understand Responsible AI
- Create the Responsible AI dashboard
- Evaluate the Responsible AI dashboard

14 - Deploy a model to a managed online endpoint

- Explore managed online endpoints
- Deploy your MLflow model to a managed online endpoint
- Deploy a model to a managed online endpoint
- Test managed online endpoints

15 - Deploy a model to a batch endpoint

- Understand and create batch endpoints
- Deploy your MLflow model to a batch endpoint
- Deploy a custom model to a batch endpoint
- Invoke and troubleshoot batch endpoints

16 - Introduction to Azure AI Foundry

- What is Azure AI Foundry?
- How does Azure AI Foundry work
- When to use Azure AI Foundry

17 - Explore and deploy models from the model catalog in Azure AI Foundry portal

- Explore the language models in the model catalog
- Deploy a model to an endpoint
- Improve the performance of a language model

18 - Get started with prompt flow to develop language model apps in the Azure AI Foundry

- Understand the development lifecycle of a large language model (LLM) app
- Understand core components and explore flow types
- Explore connections and runtimes
- Explore variants and monitoring options

19 - Build a RAG-based agent with your own data using Azure AI Foundry

- Understand how to ground your language model
- Make your data searchable
- Build an agent with prompt flow

20 - Fine-tune a language model with Azure AI Foundry

- Understand when to fine-tune a language model
- Prepare your data to fine-tune a chat completion model
- Explore fine-tuning language models in Azure AI Studio

21 - Evaluate the performance of generative AI apps with Azure AI Foundry

- Assess the model performance
- Manually evaluate the performance of a model
- Assess the performance of your generative AI apps

22 - Responsible generative AI

- Plan a responsible generative AI solution
- Identify potential harms
- Measure potential harms
- Mitigate potential harms
- Operate a responsible generative AI solution

□□ Certification Path

Microsoft Certified: Azure Data Scientist Associate

Exam: DP-100

Frequently Asked Questions

Q: What delivery options are available for DP-100T01 Designing and Implementing a Data Science Solution on Azure?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: What certification does this course prepare me for?

The DP-100T01 Designing and Implementing a Data Science Solution on Azure course helps prepare you for the Microsoft Certified: Azure Data Scientist Associate certification path.

Q: Which exam does this course prepare me for?

This course prepares you for the DP-100 official exam. You can take this exam at any exam center across United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online wherever you are located.

Q: How many CPD hours does this course provide?

The 4-day DP-100T01 Designing and Implementing a Data Science Solution on Azure course provides up to 26.0 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the DP-100T01 Designing and Implementing a Data Science Solution on Azure training?

The training takes place over 4 day(s), with each day lasting approximately 32.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for DP-100T01 Designing and Implementing a Data Science Solution on Azure?

Yes, we provide corporate training, dedicated training, and closed classes for DP-100T01 Designing and Implementing a Data Science Solution on Azure. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: Why choose Nexus Human for DP-100T01 Designing and Implementing a Data Science Solution on Azure?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your DP-100T01 Designing and Implementing a Data Science Solution on Azure training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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