



Python for Data Science

Course description

In today's data-driven world, Python has become the most widely used language for data science. This course is designed to equip you with the practical skills needed to harness the power of Python for data analysis, visualization, and machine learning. From basic Python syntax to working with large datasets, you will learn to use popular libraries like Pandas, NumPy, and Scikit-learn. With hands-on exercises and real-world projects, this course ensures that you not only understand Python but can apply it to solve complex data challenges efficiently.

Whether you are an aspiring data scientist or a professional looking to upskill, this course offers a comprehensive learning experience to kickstart or enhance your career in data science.

- Course level: Intermediate
- Duration: 2 days

Course objectives

In this course, you will:

- Develop a solid foundation in Python programming with an emphasis on data analysis and manipulation.
- Learn how to clean, transform, and explore data using Pandas and NumPy libraries.
- Create informative and aesthetically pleasing visual representations of data to communicate insights effectively.

- Perform hypothesis testing, statistical analysis, and draw meaningful inferences from your data.
- Build, train, and validate machine learning models using Scikit-learn, applying them to real-world problems.
- Discover techniques for managing and analyzing large datasets, optimizing your workflow for scale.

Intended audience

This course is intended for:

- Aspiring Data Scientists and Data Analysts.
- Professionals looking to transition into data science roles.
- Developers interested in expanding their data manipulation skills.
- Anyone keen on working with large datasets and machine learning.

Prerequisites

- Basic programming knowledge (preferably in Python).
- Familiarity with fundamental mathematics (algebra, probability).
- Understanding of basic statistical concepts.
- Interest in data analytics and problem-solving.

Course outline

Module 1: Introduction to Python for Data Science

- Python basics and essential libraries for data science.
- Data types, functions, and control structures.

Module 2: Data Manipulation with Pandas and NumPy

- Loading, cleaning, and transforming data.
- Working with data frames and arrays.

Module 3: Data Visualization

- Creating visual representations of data with Matplotlib and Seaborn.
- Plotting graphs, charts, and statistical distributions.

Module 4: Statistics and Hypothesis Testing

- Descriptive statistics and data distributions.
- Performing hypothesis testing on datasets.

Module 5: Machine Learning with Scikit-learn

- Introduction to machine learning algorithms.
- Building and evaluating models like regression, classification, and clustering.

Module 6: Working with Large Datasets

- Tools and techniques for handling big data.
- Best practices for scaling data workflows.

Your course overview ends here.
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About CloudThat

Established in 2012, CloudThat is an award-winning company and the first in India to offer cloud training and consulting services for individuals and enterprises worldwide. Recently, it won Google Cloud's New Training Partner of the Year Award for 2025, becoming the first company in the world in 2025 to hold awards from all three major cloud giants: AWS, Microsoft, and Google. CloudThat notably won consecutive AWS Training Partner of the Year (APJ) awards in 2023 and 2024 and the Microsoft Training Services Partner of the Year Award in 2024, bringing its total award count to an impressive 12 awards in the last 8 years.

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