

AD141 Python Programming with Red Hat

Course description

Python programming for beginners

Python is a popular programming language used by system administrators, data scientists, and developers to create web applications, custom Red Hat Ansible Automation modules, perform statistical analysis, and train AI/ML models. This course introduces the Python language and teaches fundamental concepts like control flow, loops, data structures, functions, file I/O, regular expressions, parsing JSON, and debugging. This course is based on Python 3 and RHEL 9.0.

Outline for this course

An Overview of Python 3

- Introduction to Python and setting up the developer environment

Basic Python Syntax

- Explore the basic syntax and semantics of Python

Language Components

- Understand the basic control flow features and operators

Collections

- Write programs that manipulate compound data using lists, sets, tuples and dictionaries

Functions

- Decompose your programs into composable functions

Modules

- Organize your code using Modules for flexibility and reuse

Classes in Python

- Explore Object Oriented Programming (OOP) with classes and objects

Exceptions

- Handle runtime errors using Exceptions

Input and Output

Implement programs that read and write files

Data Structures

Use advanced data structures like generators and comprehensions to reduce boilerplate code

Regular Expressions

Use powerful regular expressions to manipulate textual data

Parsing JSON

Read and write JSON data

Debugging

Debug Python programs using the Python debugger (pdb)