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PYTHON PROGRAMMING WITH RED HAT (AD141)

Course Code: 821716

Learn to program in Python.

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.

Course content summary

- Basics of Python syntax, functions and data types
- How to debug Python scripts using the Python debugger (pdb)
- Use Python data structures like dictionaries, sets, tuples and lists to handle compound data
- Learn Object-oriented programming in Python and Exception Handling
- How to read and write files in Python and parse JSON data
- Use powerful regular expressions in Python to manipulate text
- How to effectively structure large Python programs using modules and namespaces
- How to use third-party libraries using the pip CLI tool.

Technology considerations

- Internet access is required.
- A cloud based RHEL workstation will be provided. Optionally, students can install Python on their own workstation and run lab exercises locally, however Red Hat will not troubleshoot local environment issues.

What You'll Learn

As a result of attending this course, you will be able to program in Python. You will be able to achieve this through learning and demonstrating the following skills:

- Quickly prototype and experiment with using Pythons easy to read syntax, dynamic typing and powerful data types
- Read and write files and JSON data
- Structure large programs using modules and Object Oriented Programming

- Handle errors using Exceptions and troubleshoot applications using the Python debugger
- Manipulate text data using powerful regular expressions and the standard library String functions

Impact on the organization

- Python is the language of choice for engineering and operations teams in the domain of AI/ML, data science, scientific computing, system administration scripts, and modern cloud-native microservices development. With its simple and readable syntax, its large and powerful standard library, and enormous ecosystem of third party libraries, Python allows organizations to experiment, prototype and bring solutions to market quickly and efficiently.
- This course provides a thorough introduction to Python and teaches the syntax, semantics, idioms, tools and libraries to implement Python programs.

Who Needs to Attend

- System administrators and DevOps personnel who want to use Python to automate operating system tasks
- Developers from other programming languages who want to learn Python for writing applications
- AI/ML, data scientists, and engineers who want to use Python for data analysis and machine learning

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VIRTUAL CLASSROOM LIVE	$4,752 CAD	5 Day

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ON-DEMAND	$4,039 CAD

On-Demand Outline

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)

Visit us at www.globalknowledge.com or call us at 1-866-716-6688.

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