

Python for Security: Files, Regex & Classes

Learn to write Python scripts covering data structures, files, functions, exception handling, classes and regular expressions.

13

MODULES

77

TOPICS

COURSE OVERVIEW

This course introduces the Python environment and core language features, including variables, strings, numbers and flow control. It then covers sequences, file handling, dictionaries and sets, functions and sorting techniques. Later modules address error and exception handling, modules and packages, object-oriented programming with classes, and pattern matching with regular expressions.

WHO THIS COURSE IS FOR

Python Developers

Security Analysts

Software Engineers

Systems Administrators

Automation Engineers

LEARNING OBJECTIVES

- Describe the Python environment and available editors and IDEs
- Apply variables, built-in functions and type conversions
- Implement flow control using conditional expressions and loops
- Manipulate sequences such as lists, tuples and list comprehensions
- Read and write text and binary files
- Handle exceptions using try, except, else and finally
- Build classes with constructors, methods and properties
- Apply regular expressions for searching, matching and replacing text

13 Modules, 77 Topics

01

An Overview of Python

TOPICS

What is python? · An overview of Python · What is python? · Python Timeline · Advantages/Disadvantages of Python · Getting help with pydoc

02

The Python Environment

TOPICS

Starting Python · Using the interpreter · Running a Python script · Python scripts on Unix/Windows · Editors and IDEs

03

Getting Started

TOPICS

Using variables · Built-in functions · Strings · Numbers · Converting among types · Writing to the screen · Command line parameters

04

Flow Control

TOPICS

About flow control · White space · Conditional expressions · Relational and Boolean operators · While loops · Alternate loop exits

05

Sequences

TOPICS

- About sequences
- Lists and list methods
- Tuples
- Indexing and slicing
- Iterating through a sequence
- Sequence functions, keywords, and operators
- List comprehensions
- Generator Expressions
- Nested sequences

06

Working with Files

TOPICS

File overview · Opening a text file · Reading a text file · Writing to a text file · Reading and writing raw (binary) data · Converting binary data with struct

07

Dictionaries and Sets

TOPICS

About dictionaries · Creating dictionaries · Iterating through a dictionary · About sets · Creating sets · Working with sets

08

Functions

TOPICS

Defining functions · Parameters · Global and local scope · Nested functions · Returning values

09

Sorting

TOPICS

The sorted () function · Alternate keys · Lambda functions · Sorting collections

10

Errors and Exception Handling

TOPICS

Syntax errors · Exceptions · Using try/catch/else/finally · Handling multiple exceptions · Ignoring exceptions

11

Modules and Packages

TOPICS

The import statements · Module search path · Creating modules and Using packages · Function and Module aliases

12

Classes

TOPICS

About o-o programming · Defining classes · Constructors · Methods · Instance data · Properties · Class methods and data

13

Regular Expressions

TOPICS

RE syntax overview · RE Objects · Searching and matching · Compilation flags · Groups and special groups · Replacing text · Splitting strings

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

Visit koenig-solutions.com

✉ info@koenig-solutions.com