

KOENIG SOLUTIONS · COURSE OUTLINE

Python Automation Bootcamp: Streamline Your Workflow with Code

Learn to automate repetitive tasks with Python, from file handling and web scraping to spreadsheets, PDFs, email and GUI control.

32 Hours

DURATION

14

MODULES

53

TOPICS

COURSE OVERVIEW

The “Automation with Python” course is a comprehensive program that focuses on leveraging the power of Python to automate repetitive tasks and enhance productivity. Through hands-on projects and practical examples, participants will learn various automation techniques, including input validation, file manipulation, web scraping, working with different data formats, and GUI automation. This course equips learners with the necessary skills to automate workflows, save time, and optimize efficiency using Python.

WHO THIS COURSE IS FOR

This course is suitable for:

Python developers who want to enhance their automation skills and streamline their workflows

IT professionals and system administrators seeking to automate routine tasks and improve productivity

Data analysts and researchers looking to automate data processing and analysis workflows

Professionals from various domains who want to leverage Python automation for increased efficiency

Individuals with basic Python knowledge who are interested in learning automation techniques

PREREQUISITES

Participants should have:

- Basic understanding of Python programming, including syntax, data types, and control flow.
- Familiarity with Python libraries and modules.
- Proficiency in writing and executing Python scripts.

LEARNING OBJECTIVES

- The objective of this course is to provide participants with the knowledge and skills required to automate tasks using Python
- By the end of the course, learners will be able to design and implement automation scripts, effectively utilize Python libraries for automation, and optimize workflows to save time and increase productivity

14 Modules, 53 Topics

01

Introduction to Automation Using Python

TOPICS

Understanding automation and its benefits · Setting up Python environment for automation · Overview of automation libraries and tools

02

Input Validation

TOPICS

- Introduction to input validation
- PyInputPlus module for input validation
- Various keyword arguments for input validation
- Custom validation functions

03

Reading and Writing Files

TOPICS

Working with file paths · Reading and writing text files · Modifying files using glob patterns · Saving variables with the Shelve module · Using PPrint.Pformat() function

04

Organizing Files

TOPICS

Overview of the SHUTIL module · Walking a directory tree · Working with zip files

05

Debugging

TOPICS

Raising exceptions for error handling · Assertions for debugging and testing · Logging for tracking program execution · Introduction to Mu's debugger

06

Web Scraping

TOPICS

- Basics of web scraping
- Parsing HTML using the BeautifulSoup (BS4) module
- Extracting data from websites
- Handling dynamic web content

07

Working with Excel Spreadsheets

TOPICS

Installing and using the OpenPyXL module · Opening, reading, and modifying Excel files · Working with columns and rows in spreadsheets

08

Working with Google Sheets

TOPICS

- Setting up and using EZ sheets
- Working with spreadsheet objects and attributes
- Reading and writing columns and rows
- Creating and deleting sheets

09

Working with PDF and Word Documents

TOPICS

Extracting text from PDF documents · Encrypting and decrypting PDF files · Creating PDF and Word documents · Converting Word documents to PDF

10

Working with CSV Files and JSON Data

TOPICS

- Using the CSV module for reading and writing CSV files
- Working with reader and writer objects
- Introduction to JSON and working with JSON data

11

Timekeeping, Task Organization, and Program Starting

TOPICS

Understanding the time module · Working with datetime objects · Multithreading for task organization · Launching external programs from Python

12

Sending Email and Text Messages

TOPICS

- Sending and receiving emails with the Gmail API
- Connecting to SMTP and sending SMTP messages
- Retrieving and deleting emails with IMAP
- Sending text messages using SMS gateways and Twilio

13

Manipulating Images

TOPICS

Fundamentals of computer images · Working with image data types in Python · Drawing shapes and text on images

14

Efficient GUI Automation: Streamlining Tasks with Keyboard and Mouse Control

TOPICS

- Installing and using the PyAutoGUI module
- Controlling mouse movements and interactions
- Working with the screen and image recognition
- Controlling the keyboard and setting up GUI automation scripts
- Displaying message boxes for user interaction

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.

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