

Python 101 for Hackers

Learn Python with a focus on concepts & modules important for hacking.

Course Overview

The Python 101 for Hackers course teaches an introduction to Python programming and concepts, with a focus on techniques, modules and examples which are useful for a hacker. No prior Python programming knowledge is required to be successful in this introductory course.

Students should take this Python 101 for Hackers course if they are interested in:

- Understanding fundamental Python programming concepts, required to automate common hacking and bug bounty related tasks
- Learning how to identify and mitigate Python programming errors which may occur when attempting to execute code snippets or proof of concept (PoC) scripts
- Bridging the gap between generic programming concepts and practical hacking applications such as password cracking, web login brute forcing or exploitation of SQL injections

System Requirements

- Patience and a willingness to learn
- A computing environment (Windows, Linux, Mac) with at least 8GB of RAM and 20GB of disk space
- Prior virtualization (Virtual Box) knowledge preferred

Python 101 for Hackers Course Objectives

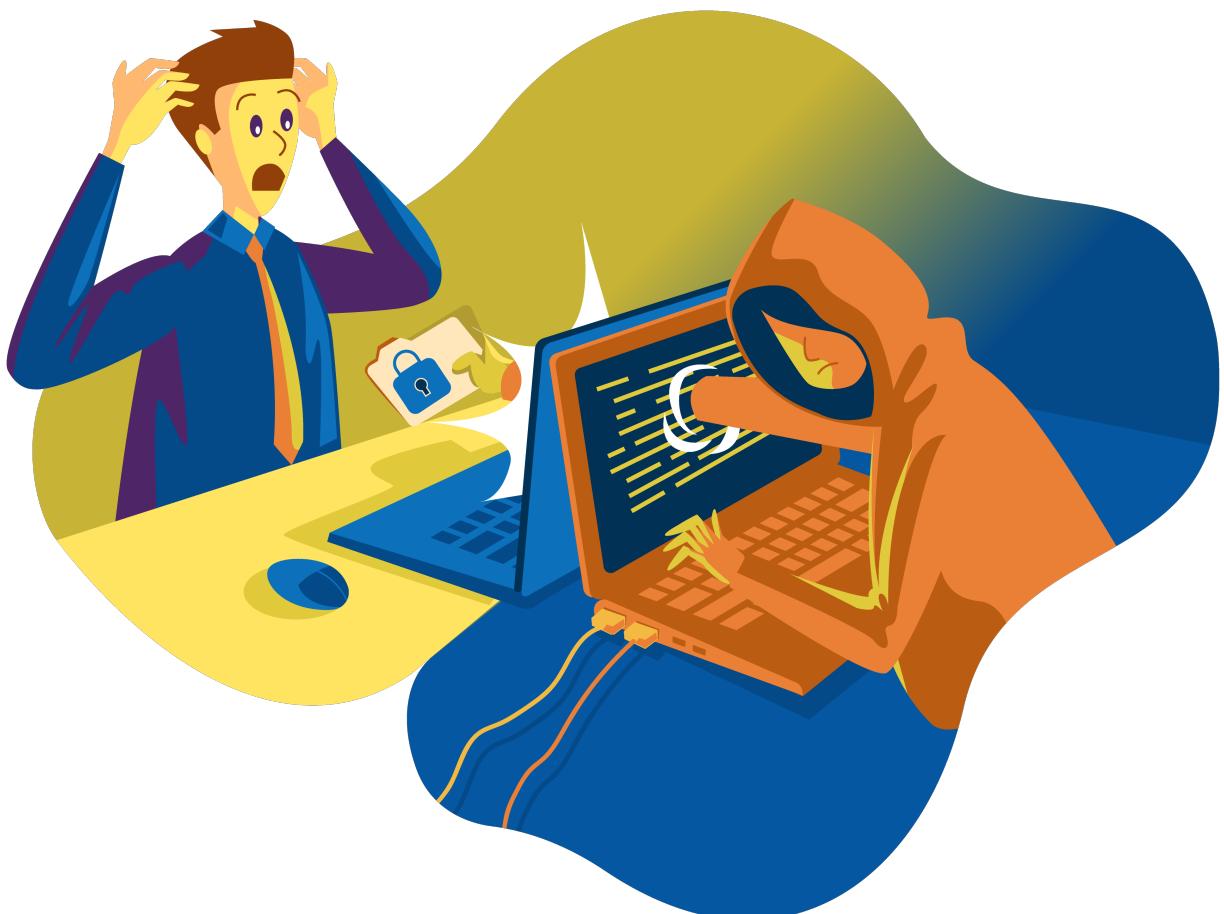
What will I learn?

The following concepts will be taught in this course:

- The difference between Python2 and Python3, and how to leverage both as hacking and automation tools
- How to install, setup and configure a Python environment in Kali Linux with Virtual Box
- Fundamental programming concepts: variables, data types, string formatting, booleans, operators, tuples, lists, dictionaries, sets conditionals, functions and loops
- Python programming concepts useful for solving hacking and automation tasks: reading files, writing files, handling user input, exception and error handling, comprehensions and lambdas
- How to leverage and extend Python using common and hacking focused

modules

- Practical examples demonstrating how to perform SSH login brute forcing, SHA256 password cracking, web login form brute forcing and SQL injection exploitation using Python
- Understanding the importance of documenting and commenting your work and recommendations to continue mastering Python and programming moving forward



Who Should Take Python 101 for Hackers?

Students should take the course if they are interested in:

- Understanding fundamental Python programming concepts, required to automate

- common hacking and bug bounty related tasks
- Learning how to identify and mitigate Python programming errors which may occur when attempting to execute code snippets or proof of concept (PoC) scripts
- Bridging the gap between generic programming concepts and practical hacking applications such as password cracking, web login brute forcing or exploitation of SQL injections

Python 101 for Hackers Course Curriculum

- 5.5 Hours

Introduction

- ▶ Welcome and course introduction(5:35)
 - ≡ Course Discord
 - ▶ What is Python?(2:00)
 - ▶ Why learn Python as a hacker?(2:42)
 - ▶ Python2 vs Python3(3:05)

Setup

- ▶ How to install VirtualBox(3:33)
- ▶ How to install Kali Linux(9:56)
- ▶ The Python interpreter(3:32)
- ▶ How to run a Python script(5:07)
- ▶ How to install Sublime(3:10)
- ▶ Python syntax(8:29)

Python 101

▶ Variables & data types(10:32)

▶ Numbers(6:48)

▶ String formatting(21:29)

▶ Booleans & operators(17:13)

▶ Tuples(9:54)

▶ Lists(12:50)

▶ Dictionaries(5:40)

▶ Sets(6:42)

▶ Conditionals(14:08)

▶ Loops(9:17)

▶ Reading and writing files(8:05)

▶ User input(4:22)

▶ Exceptions and error handling(8:55)

▶ Comprehensions(8:54)

▶ Functions and code reuse(18:25)

▶ Lambdas(6:06)

Extending Python

▶ The Python package manager(7:09)

▶ Python virtual environments(5:51)

▶ Introduction to sys(12:13)

▶ Introduction to requests(18:38)

- ▶ Introduction to pwntools(12:15)

Automating with Python

- ▶ Project #1 - SSH login brute forcing(7:27)
- ▶ Project #2 - SHA256 password cracking(8:21)
- ▶ Project #3 - Web login form brute forcing(7:33)
- ▶ Project #4 - Exploiting a SQL injection(16:48)
- ▶ Project #5 - Exploiting a restricted SQL injection(15:04)

Closing

- ▶ The importance of comments(3:38)
- ▶ Wrap up and next steps(1:45)





About the Instructor: Riley Kidd

Riley has technical security consultancy experience – leading and building teams to deliver projects and outcomes for clients. He has created and facilitated technical trainings across secure coding, python for hackers, offensive operations and Capture The Flag competitions. Riley has created technical educational content across YouTube and his personal Capture The Flag platform – 247CTF.

Riley holds a number of certifications including OSCP, OSCE, OSED CEH, CISA, CISSP, CRTO, CREST CRT and CREST CCT. He has also completed a Bachelor of Software Engineering degree with honours from the Australian National University.

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