

Python Exploit Writing

Module 1: Python – Basic Fundamental

- Introduction to Python
- Data Types and variables
- Statement Documentations and help
- String Revisited
- Control Flow and Data structure
- Functions ,Functional Programming and File Handling
- Accessing the network and Internet
- Exception Handling
- Modular Programming
- Object Oriented Programming
- Modules, Packages and Distribution
- Configure Python in Linux and Unixes
- Configure Python in Windows
- How to use Python in Mobiles: iPhone and Androids
- Python Program Portability
- Python Framework and IDEs

Module 2: Managing files ,directory and Security

- Input/output file system in Python
- Creating Managing File and Directory Access
- use of Multithreading and Concurrency
- how ,what and why Inter Process Communication (IPC)
- how to set Permissions and Controls.

Module 3: Creating Sniffers and packet injector

- An Introduction to Raw Socket basics
- Python Database access
- Porting Python code
- Socket Programming with Python
- Servers and Clients architecture
- Creating Sniffers(wired and wireless)

- Creating packet injector

Module 4: Web Application Security

- Introduction to web server and Application server
- Client Side scripting

- Intro to web application and penetration testing in web application
- HTML and XML file analysis
- Web Browser Equality
- Attacking Web Services and Countermeasure
- how and why to use Application Proxies and Data Mangling
- SQL and XSS attacks on web Application
- Intro to Buffer overflow and CSRF

Module 5: Exploitation Writing and Analysis Automation

- Exploit Writing Implementation
- Immunity Debuggers and Libs
- creating plugins in Python
- Binary data analysis
- Exploit analysis Automation

Module 6: Malware Analysis and Reverse Engineering

- Basics of Process Debugging
- Pydbg and its applications
- Analyzing live applications
- Setting breakpoints, reading memory etc.
- In-memory modifications and patching

Module 7: Setting Attack Task Automation

- Task Automation with Python
- Libraries and Applications

Module 8: Conclusion and Checklist

- Course consolidation
- Interesting project ideas to pursue