

## **Automate Cybersecurity Tasks with Python**

**Provider:** IBM (Coursera, Cybersecurity Analyst Professional Certificate)

**Completion Date:** July 29, 2025

### **Overview**

This course focused on using Python to automate common cybersecurity tasks, including string operations, regex for pattern matching, and file handling for parsing and updating security logs. It emphasized writing reusable scripts to improve efficiency in security analysis workflows.

### **Key Topics Covered**

- Python fundamentals: variables, strings, lists, loops
- Regular expressions for detecting patterns in log data
- File input/output operations for reading and writing security logs
- Iterating through data structures to filter and update lists
- Writing modular functions to encapsulate security tasks

### **Practical Applications**

- Parsed a log file to extract relevant security data
- Appended missing entries into security files
- Removed malicious or unauthorized IP addresses from allow lists
- Wrote a complete `update_file()` function to automate file maintenance
- Captured and documented outputs through screenshots for reproducibility

### **Personal Reflection**

This course strengthened my ability to use Python for practical cybersecurity scenarios. By building scripts to parse logs, filter data, and update files, I gained confidence in automating routine tasks and applying programming to real-world security problems.