



Blue Team Level 1

Course Syllabus



Table of Contents

Introduction	3
Domain 1: Security Fundamentals	4
Domain 2: Phishing Analysis	5-6
Domain 3: Threat Intelligence	7-8
Domain 4: Digital Forensics	9-10
Domain 5: SIEM	11
Domain 6: Incident Response	12



Introduction

Why did we make BTL1?

At the time of release (June 2020) there was a huge imbalance of training content, heavily favouring red team (offensive) over blue team (defensive). We wanted to create a modern, practical, and realistic blue team certification to advance the skills of aspiring or established defenders around the world.

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Domain 1: Security Fundamentals

Introduction

- Introduction to Security Fundamentals
- Blue Team Roles

Soft Skills

- Section Introduction, Soft Skills
- Communication
- Teamwork
- Problem Solving
- Time Management
- Motivation
- Mental Health

Security Controls

- Section Introduction, Security Controls
- Physical Security
- Network Security
- Endpoint Security
- Email Security
- Activity) End of Section Review

Networking 101

- Section Introduction, Networking 101
- Network Fundamentals
- The OSI Model
- Network Devices
- Network Tools
- Ports and Services
- Activity) Conducting a Port Scan With Nmap
- Activity) End of Section Review

Management Principles

- Section Introduction, Management Principles
- Risk
- Policies and Procedures
- Compliance & Frameworks



Domain 2: Phishing Analysis (1/2)

PA1) Introduction

- Section Introduction, Emails and Phishing
- How Electronic Mail Works
- Anatomy of an Email
- What is Phishing?
- Impact of Phishing
- Further Reading Material
- Phishing Analysis Glossary
- Activity) End of Section Review

PA2) Types of Phishing Emails

- Section Introduction, Phishing Emails
- Reconnaissance
- Spam
- False Positives
- Credential Harvester
- Social Engineering
- Vishing and Smishing
- Whaling
- Malicious Files
- Video) Types of Phishing Attacks
- Activity) Categorising Phishing Emails
- Activity) End of Section Review

PA3) Tactics and Techniques

- Section Introduction, Tactics and Techniques
- Spear Phishing
- Impersonation
- Typosquatting and Homographs
- Sender Spoofing
- HTML Styling
- Attachments
- Hyperlinks
- URL Shortening
- Use of Legitimate Services
- Business Email Compromise
- Video) Tactics and Techniques
- Activity) Reporting on Tactics Used
- Activity) End of Section Review

PA4) Investigating Emails

- Section Introduction, Investigating Emails
- Artifacts we Need to Collect
- Manual Collection - Email Artifacts
- Manual Collection - Web Artifacts
- Manual Collection - File Artifacts
- Video) Collecting Artifacts - Manual
- Automated Collection With PhishTool
- Video) Collecting Artifacts - Automated
- Activity) Manual Artifact Extraction
- Activity) End of Section Review



Domain 2: Phishing Analysis (2/2)

PA5) Analyzing Artifacts

- Section Introduction, Analyzing Artifacts
- Visualization Tools
- URL Reputation Tools
- File Reputation Tools
- Malware Sandboxing
- Video) Manual Artifact Analysis
- Artifact Analysis with PhishTool
- Video) Artifact Analysis with PhishTool
- Activity) End of Section Review

PA6) Taking Defensive Actions

- Section Introduction, Defensive Measures
- Preventative: Marking External Emails
- Preventative: Email Security Technology
- Preventative: Spam Filter
- Preventative: Attachment Filtering
- Preventative: Attachment Sandboxing
- Preventative: Security Awareness Training
- Reactive: Immediate Response Process
- Reactive: Blocking Email Artifacts
- Reactive: Blocking Web Artifacts
- Reactive: Blocking File Artifacts
- Reactive: Informing Threat Intelligence
- Activity) End of Section Review

PA8) Lessons Learned

- Section Introduction, Lessons Learned
- Identifying New Tactics
- Response Improvements

PA9) Phishing Challenge

- Section Introduction, Phishing Response
- Video) Phishing Response Walkthrough
- Phishing Response Brief
- Activity) Phishing Response

PA7) Report Writing

- Section Introduction, Report Writing
- Email Header, Artifacts, Body Content
- Analysis Process, Tools, Results
- Defensive Measures Taken
- Activity) Report Writing
- Activity) Report Writing Contd.
- Activity) End of Section Review



Domain 3: Threat Intelligence (1/2)

TI1) Introduction

- Section Introduction, Threat Intelligence
- Threat Intelligence Explained
- Why Threat Intelligence can be Valuable
- Types of intelligence
- The Future of Threat Intelligence
- Further Reading
- Threat Intelligence Glossary

TI2) Threat Actors and APTs

- Section Introduction, Actors
- Common Threat Agents
- Motivations
- Actor Naming Conventions
- What are APTs?
- Tools, Techniques, Procedures
- Activity) Threat Actor Research
- Activity) End of Section Review

TI3) Operational Intelligence

- Section Introduction, Operational Intelligence
- Precursors Explained
- Indicators of Compromise Explained
- MITRE ATT&CK Framework
- Lockheed Martin Cyber Kill Chain
- Attribution and its Limitations
- Pyramid of Pain
- Activity) End of Section Review

TI4) Tactical Intelligence

- Section Introduction, Tactical Intelligence
- Threat Exposure Checks Explained
- Watchlists/IOC Monitoring
- Public Exposure Checks Explained
- Threat Intelligence Platforms
- Malware Information Sharing Platform
- Activity) Deploying MISP
- Activity) End of Section Review



Domain 3: Threat Intelligence (2/2)

TI5) Strategic Intelligence

- Section Introduction, Strategic Intelligence
- Intelligence Sharing and Partnerships
- IOC/TTP Gathering and Distribution
- OSINT vs Paid-For Sources
- Traffic Light Protocol (TLP)
- Activity) End of Section Review

TI6) Global Malware Campaigns

- Section Introduction, Global Campaigns
- Malware Used by Threat Actors
- Global Campaign: Trickbot
- Global Campaign: Sodinokibi
- Global Campaign: Magecart
- Global Campaign: Emotet
- Activity) End of Section Review



Domain 4: Digital Forensics (1/2)

DF1) Introduction

- Section Introduction, Digital Forensics
- What is Digital Forensics?
- Digital Forensics Process
- Further Reading
- Threat Intelligence Glossary
- Activity Download List

DF2) Forensics Fundamentals

- Section Introduction, Forensics Fundamentals
- Introduction to Data Representation
- Activity) Data Representation
- Hard Disk Drive Basics
- SSD Drive Basics
- File Systems
- Activity) File Systems
- Digital Evidence and Handling
- Order of Volatility
- Metadata and File Carving
- Activity) Metadata and File Carving
- Memory, Pagefile and Hibernation File
- Hashing and Integrity
- Activity) Hashing and Integrity
- Activity) End of Section Review

DF3) Digital Evidence

- Section Introduction, Evidence Collection
- Equipment
- ACPO Principles of Evidence and Preservation
- Chain of Custody
- Disk Imaging: FTK Imager
- Live Forensics
- Live Acquisition: KAPE
- Evidence Destruction
- Activity) End of Section Review

DF4) Windows Forensics

- Section Introduction, Windows Investigations
- Windows Artifacts - Programs
- Activity) Windows Investigation 1
- Windows Artifacts - Browsers
- Activity) Windows Investigation 2
- Activity) End of Section Review



Domain 4: Digital Forensics (2/2)

DF5) Linux Forensics

- Section Introduction, Linux Investigations
- Linux Artifacts - Shadow and Passwd
- Activity) Password Cracking
- Linux Artifacts - /Var/Lib and /Var/Log
- Linux Artifacts - User Files
- Activity) End of Section Review

DF6) Volatility

- Section Introduction, Volatility
- What is Volatility?
- Volatility Walkthrough
- Activity) Volatility Exercise

DF7) Autopsy

- Section Introduction, Autopsy
- What is Autopsy?
- Installing Autopsy
- Autopsy Walkthrough
- Activity) Autopsy Exercise



Domain 5: Security Information and Event Management

SI1) Introduction

- Section Introduction, SIEM
- Security Information Management (SIM)
- Security Event Management (SEM)
- What is a SIEM?
- SIEM Platforms
- Further Reading
- SIEM Glossary
- Activity) End of Section Review

SI2) Logging

- Section Introduction, Logging
- What is Logging?
- Syslog
- Windows Event Logs
- Sysmon
- Other Logs
- Activity) Windows Event Log Analysis
- Activity) End of Section Review

SI3) Aggregation

- Section Introduction, Aggregation
- Log Aggregation Explained
- Activity) End of Section Review

SI4) Correlation

- Section Introduction, Correlation
- Normalization and Processing
- SIEM Rules
- Sigma Rules
- Regex
- Activity) Writing Sigma Rules
- Activity) End of Section Review

SI5) Using Splunk

- Section Introduction, Splunk
- Activity) Installing Splunk
- Activity) Installing BOTSV1 DatasetActivity
- Splunk Crash Course - Users and Roles
- Splunk Crash Course - Navigation

- Splunk Crash Course - Search Queries
- Splunk Crash Course - Creating Alerts
- Splunk Crash Course - Creating Dashboards
- Activity) Splunk Scenario One
- Activity) Splunk Scenario Two



Domain 6: Incident Response (1/2)

IR1) Introduction

- Section Introduction, Incident Response
- What is Incident Response?
- Why is incident Response Needed?
- Security Events vs Security Incidents
- Incident Response Lifecycle
- CSIRT and CERT Explained
- Further Reading
- Incident Response Glossary
- Activity) End of Section Review

IR3) Detection & Analysis

- Section Introduction, Detection and Analysis
- Common Events and Incidents
- Using Baselines and Behavioural Profiles
- Introduction to Wireshark (GUI)
- Introduction to Wireshark (Analysis)
- Activity) PCAP 1
- Activity) PCAP 2
- Activity) PCAP 3
- YARA Rules for Detection
- Activity) Hunting With YARA
- CMD and PowerShell For Incident Response
- Activity) End of Section Review

SI2) Preparation Phase

- Section Introduction, Preparation
- Preparation: Incident Response Plan
- Preparation: Incident Response Teams
- Preparation: Asset Inventory and Risk Assessments
- Prevention: DMZ
- Prevention: Host Defences
- Prevention: Network Defences
- Activity) Setting up a Firewall
- Prevention: Email Defences
- Prevention: Physical Defences
- Prevention: Human Defences
- Prevention: Snort
- Activity) Deploying Snort
- Activity) End of Section Review

IR4) Containment, Eradication, Recovery

- Section Introduction, C.E.R
- Incident Containment
- Taking Forensic Images
- Identifying and Removing Malicious Artifacts
- Identifying Root Cause and Recovery
- Activity) End of Section Review



Domain 6: Incident Response (2/2)

IR5) Lessons Learned & Reporting

- Section Introduction, Lessons Learned
- What Went Well?
- What can be Improved?
- Importance of Documentation
- Incident Response Metrics
- Reporting Format
- Report Considerations

IR6) MITRE ATT&CK

- Section Introduction, ATT&CK
- Initial Access
- Execution
- Persistence
- Privilege Escalation
- Defense Evasion
- Credential Access
- Discovery
- Lateral Movement
- Collection
- Command and Control
- Exfiltration
- Impact
- Activity) ATT&CK Navigator
- Activity) End of Section Review



Blue Team Level 1

Thank You!

We hope you have enjoyed reading our course syllabus, and we hope to see you in BTL1 soon!

If you have any questions, please email us at contact@securityblue.team.

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