

Course 4 resources and citations

Module 1: Detection foundations

Resources

Helpful resources and tips

- Google Docs Editors Help: Google Docs Help Center
- Google Docs Editors Help: Google Sheets Help Center
- Google Docs Editors Help: How to use Google Slides
- QWIKlabs Help: Common problems with labs/lab troubleshooting

Essential SecOps skills

- Google Cloud: Google on SecOps
- Google Cloud: Welcome to the Google Cloud Security Community
- YouTube: Google Cloud SecOps

Al in SecOps: Red teams

• Google: Why red teams play a central role in helping organizations secure Al systems

Log types: A breakdown

- Google Cloud: Sample audit log entry
- Google Cloud: Samples for Google Workspace Login Audit

Alert and log optimization

Google Cloud: Alerting overview



• Google Cloud Whitepaper: Google Cloud security foundations guide

Guide to event threat detection

- Google Cloud: Overview of Event Threat Detection
- Google Cloud: Query findings in the Google Cloud console

Determine the difference between normal activity and an incident

- Google Cloud: Configuring Security Command Center
- Google Cloud: Findings Security
- Google Cloud: IAM & Admin
- Google Cloud: Logs explorer

Citations

SecOps and its components

- Google Cloud. (n.d.). <u>Cloud Logging</u>.
- Google Cloud. (n.d.). <u>Cloud Monitoring</u>.
- Google Cloud. (n.d.). *Identity and Access Management (IAM)*.
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 <u>management: Recommendations of the National Institute of Standards and Technology</u>
 (Special Publication 800-92). National Institute of Standards and Technology.
- Google Cloud. (2024, January 22). <u>Overview of Web Security Scanner</u>.
- Google Cloud. (n.d.). <u>Security Command Center</u>.



Essential SecOps skills

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- Google Cloud. (2024, January 22). *Vulnerability findings*.

Vulnerability management techniques

- Angafor, G. N., Yevseyeva, I., & He, Y. (2020). <u>Game-based learning: A review of tabletop</u> <u>exercises for cybersecurity incident response training</u>. *SECURITY AND PRIVACY*, 3(6), e126.
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Vulnerability scanning, penetration testing, and tabletop exercises

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Al in SecOps: Red teams

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Incident detection basics

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Phases of incident response and management

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 <u>incident handling guide</u> (Special Publication, 800-61, Revision 2). National Institute of
 Standards and Technology.
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More about incident response phases

Google Cloud. (2022, September). <u>Data incident response process</u>.

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- Google Cloud. (n.d.). <u>Security</u>.
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- Chuvakin, A. A. (2013). Logging and Log Management: the Authoritative Guide to Dealing With Syslog, Audit Logs, Events, Alerts and Other It Noise. Syngress Media Inc.
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Log types: A breakdown

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Alerts and notifications

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Alert and log optimization

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Guide to event threat detection

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- Google Cloud. (2024, January 22). Work with findings in the Google Cloud console.



Module 2: Detection in practice

Resources

Lockheed Martin's Cyber Kill Chain® in practice

• Lockheed Martin: Cyber Kill Chain

Guide to false positive analysis

• Google Cloud: Best practices for using service accounts

Explore false positives through incident detection

Google Cloud: Findings – Security

loCs for threat detection

- Google Cloud: How to hunt the cloud: Lessons and experiences from years of threat hunting
- Google Cloud: Overview of Event Threat Detection
- Google Cloud: Strategic Threat Hunting with SOAR and Threat Intel

Query tools: RegEx and YARA-L

Google Cloud: Creating a custom regex detector

Citations

Introduction to Lockheed Martin's Cyber Kill Chain®

- Hornetsecurity. (n.d.). Cyber Kill Chain.
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Lockheed Martin's Cyber Kill Chain® in practice

MITRE ATT&CK. (n.d.). <u>Cloud Matrix</u>.

Guide to false positive analysis

Google Cloud. (2024, January 22). <u>Service accounts overview</u>.



Introduction to security monitoring

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Tools for proactive security monitoring

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Indicators of compromise (IoCs)

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Essentials of threat hunting

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- Kaplan, D. (2022, September 12). Threat hunting. Chronicle Blog.
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Introduction to query tools

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- Google Cloud. (2024, January 23). Build queries by using the Logging query language.
- Google Cloud. (2024, January 23). Logging query language.

Query tools: RegEx and YARA-L

- Google Cloud. (2024, January 22). <u>Creating a custom regex detector</u>.
- Google Cloud. (2024, January 22). <u>Yara-L best practices</u>.



Module 3: Incident response management and attack mitigation

Resources

Guide to log queries, exports, and analysis

• Google Cloud: Query syntax

Analyze audit logs using BigQuery

- Google Cloud: Welcome to BigQuery studio!
- Google Cloud: Stream findings to BigQuery for analysis
- Google Cloud: Quotas and limits

Documentation in practice

• Google Cloud: T-Systems Sovereign Cloud Powered by Google Cloud

Incident response partners

- Google Cloud Chronicle: Welcome to Chronicle
- Mandiant: Cyber threat defense solutions
- MITRE ATTt&CK
- Virustotal

Playbooks' role in incident response

- Google Cloud: Chronicle documentation
- NIST: NIST Cybersecurity Framework

Citations

The importance of evidence preservation

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- Cichonski, P., Millar, T., Grance, T., & Scarfone, K. (2012, August). <u>Computer security</u> <u>incident handling guide</u> (Special Publication 800-61 Revision 2). National Institute for Standards and Technology.
- Connectwise. (n.d.). *Tier 1 vs. tier 2 vs. tier 3 cybersecurity*.
- Google Cloud. (2022, September). <u>Data incident response process</u>.

Digital evidence preservation: Techniques and best practices

- Digicert. (n.d.). What is an electronic timestamp?
- Guttman, B., White, D. R., & Walraven, T. (2022, September). <u>Digital evidence</u>
 <u>preservation</u> (Interagency Report 8387). National Institute of Standards and Technology.
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How security teams preserve evidence

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- Google Cloud. (n.d.). <u>Chronicle documentation</u>.
- Google Cloud. (2024, January 22). Cases overview.
- Google Cloud. (2024, January 22). Create Entities (Mapping & modeling).
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 Insider's guide to incident response: Expert tips.
- Cybersecurity & Infrastructure Security Agency. (2020, September 24). <u>Technical</u> approaches to uncovering and remediating malicious activity.
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Coordination for incident response

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- Google Cloud. (2024, January 23). Routing and storage overview.



Documentation fundamentals

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- Connectwise. (n.d.). *Tier 1 vs. tier 2 vs. tier 3 cybersecurity*.
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Elements of successful documentation

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 </u>

Documentation in practice

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Security orchestration with playbooks

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- Nyre-Yu, M. (2020). <u>Identifying expertise gaps in cyber incident response: Cyber defender needs vs. technological development</u>. (SAND2020-5902C). Sandia National Lab.
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- Trustradius. (n.d.). Chronicle SOAR.



Incident response orchestration vs. automation

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- CloudBolt Software. (n.d.). <u>Comparing cloud automation and orchestration processes</u>.
- Cyware Labs. (2021, March 5). <u>What is the difference between security orchestration</u> and security automation? Security orchestration and response.

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- Nichols, M. (2023, December 7). What is SOAR and how does it improve threat detection and remediation? Red Scan.
- Team ZCySec. (n.d.). <u>9 SOAR playbook examples for SOC processes</u>. ZCybersecurity.

Module 4: Incident recovery

Resources

System recovery steps and scenarios

- Dark reading: Homepage
- Infosecurity magazine: Homepage
- National Institute of Standards and Technology (NIST): Computer Security Resource
 Center
- SecurityWeek: Homepage
- SysAdmin, Audit, Network and Security (SANS) Institute: Homepage



Guide to backups and VM recovery

Google Cloud: Backup and DR Service overview

Recover VMs with Google Backup and DR Service

- Google Cloud: Backup and DR Service overview
- Google Cloud: Backup/recovery appliance types
- Google Cloud: Create a production to snapshot policy
- Google Cloud: Supported regions

Disaster recovery planning in Google Cloud: Build a DRP

- <u>DevOps: Cloud disaster recovery best practices</u>
- Google Cloud: Backup and DR Service documentation
- Google Cloud: Disaster recovery planning guide
- Medium: Disaster recovery on Google Cloud for data (Part 1)
- TechTarget: Cloud disaster recovery (cloud DR)

Disaster recovery planning in Google Cloud: Implement a DRP

- DevOps: Cloud disaster recovery best practices
- Google Cloud: Backup and DR Service documentation
- Google Cloud: Disaster recovery planning guide
- Medium: Disaster recovery on Google Cloud for data (Part 1)
- TechTarget: Cloud disaster recovery (cloud DR)



Create and manage effective BCDR plans

- Google Cloud: Cloud Architecture Center
- Google Cloud: Disaster recovery planning quide
- Google Cloud: Site reliability engineering (Sre)

Interview tip: End responses with positive takeaways

• Interview Warmup

Citations

Recovery plans in action

- Alabama Department of Labor. (n.d.). <u>Unemployment Insurance Program disaster</u>
 <u>recovery plan</u> [White Paper].
- Cybersecurity & Infrastructure Security Agency. (n.d.). <u>Online toolkit: Partnering to</u>
 safeguard k-12 organizations from cybersecurity threats.
- Github. (n.d.). Playbook: Ransomware.
- Google Cloud. (2023, November 22). <u>Disaster recovery planning guide</u>.
- National Cyber Security Center. (n.d.) NCSC CAF guidance.
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Information recovery and system restoration

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 <u>recovery plan</u> [White Paper].
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System recovery steps and scenarios

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 Computer Weekly.
- ISO. (2012). ISO/IEC 27037:2012: Information technology Security techniques -Guidelines for identification, collection, acquisition, and preservation of digital evidence.
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Business continuity and disaster recovery (BCDR) basics

- AWS. (n.d.). <u>Business continuity plan (BCP)</u>.
- Bartock, M., Cichonsk, J., Souppaya, M., Smith, M., Witte, G., & Scarfone, K. (2016, December). <u>Guide for cybersecurity event recovery</u> (Special Publication 800-184). National Institute of Standards and Technology.
- Elephant Drive. (n.d.). <u>Ultimate guide for beginners: Data backup and recovery</u> explained.
- Google Cloud. (n.d.). <u>Backup and disaster recovery</u>.



- Swanson, M. (2010). <u>Contingency planning guide for federal information systems</u> (Special Publication 800-34, Revision 1) [PowerPoint Slides]. National Institute of Standards and Technology.
- Vergadia, P. (2019, October 28). <u>Disaster recovery on Google Cloud: An overview</u>.
 Google Cloud Community.

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