

# Course 4 resources and citations

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## 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](#)

AI in SecOps: Red teams

- [Google: Why red teams play a central role in helping organizations secure AI 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.). [Cloud Logging](#).
- Google Cloud. (n.d.). [Cloud Monitoring](#).
- Google Cloud. (n.d.). [Identity and Access Management \(IAM\)](#).
- Joint Task Force. (2013, April). [Security and privacy controls for federal information systems and organizations](#) (Special Publication 800-53 revision 4). National Institute of Standards and Technology.
- Kent, K., & Souppaya, M. (2006, September). [Guide to computer security log management: Recommendations of the National Institute of Standards and Technology](#) (Special Publication 800-92). National Institute of Standards and Technology.
- Google Cloud. (2024, January 22). [Overview of Web Security Scanner](#).
- Google Cloud. (n.d.). [Security Command Center](#).

## Essential SecOps skills

- Lange, K., (2023, May 31). [What Is SecOps? Security Operations defined](#). *Splunk Blog*.
- Google Cloud. (2024, January 22). [Vulnerability findings](#).

## Vulnerability management techniques

- Angafor, G. N., Yevseyeva, I., & He, Y. (2020). [Game-based learning: A review of tabletop exercises for cybersecurity incident response training](#). *SECURITY AND PRIVACY*, 3(6), e126.
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- Rehberger, J. (2020). *Cybersecurity Attacks – Red Team Strategies*. Packt Publishing Ltd.
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## Vulnerability scanning, penetration testing, and tabletop exercises

- Google Cloud. (2024, January 22). [About Patch](#).
- Google Cloud. (2024, January 22). [Overview of Web Security Scanner](#).
- Google Cloud. (2024, January 22). [Rapid Vulnerability Detection overview](#).
- Google Cloud. (2024, January 22). [Vulnerability findings](#).

## AI in SecOps: Red teams

- Mandiant. (n.d.). [Red team assessment](#).
- Venables, P. (2023, July 26). [The Prompt: Insights from our AI Red Team's first report \(Q&A\)](#). Google Cloud Blog.

## Incident detection basics

- Evans, E. (2020, August 24). [Incident detection and response in Google Cloud Platform \(GCP\)](#). CSNP.
- Google Cloud. (2024, January 22). [Overview of Event Threat Detection](#).
- Google Cloud. (2024, January 23). [Alerting overview](#).
- Minherz. (2023, October 12). [Make actionable alerts using Google Cloud](#). Google Cloud - Community.
- New Relic. (2023, August 7). [Effective alerting in practice](#) [Whitepaper].

## Phases of incident response and management

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- Google Cloud. (2022, September). [Data incident response process](#).
- Mell, P., & Grance, T. (2011, September). [The NIST definition of cloud computing](#) (Special Publication 800-145). National Institute of Standards and Technology.
- Scarfone, K., & Mell, P. (2007, February). [Guide to intrusion detection and prevention systems \(IDPS\)](#) (Special Publication 800-94). National Institute of Standards and Technology.

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- Cichonski, P., Millar, T., Grance, T., & Scarfone, K. (2012, August). [Computer security incident handling guide](#) (Special Publication 800-61, Revision 2). National Institute of Standards and Technology.
- European Network and Information Security Agency (ENISA). (2010, December 20). [Good practice guide for incident management](#).
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- Verizon. (n.d.). [2023 Verizon Data Breach Investigations Report](#). Verizon Business.

## More about incident response phases

- Google Cloud. (2022, September). [Data incident response process](#).

## Intrusion detection systems

- Google Cloud. (n.d.). [Cloud Monitoring](#).
- Google Cloud. (n.d.). [Security](#).
- Khraisat, A., Gondal, I., Vamplew, P., & Kamruzzaman, J. (2019, July 17). [Survey of intrusion detection systems: Techniques, datasets and challenges](#). *Cybersecurity*, 2(1).

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- Google Cloud. (n.d.). [Security](#).
- Khraisat, A., Gondal, I., Vamplew, P., & Kamruzzaman, J. (2019, July 17). [Survey of intrusion detection systems: Techniques, datasets and challenges](#). *Cybersecurity*, 2(1).

## Logs for analysis and monitoring

- 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.
- Google Cloud. (n.d.). [Chronicle – Suite](#).
- Google Cloud. (n.d.). [Cloud Logging](#).
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- Google Cloud. (2024, January 23). [Cloud Audit Logs overview](#).
- Kent, K., & Souppaya, M. (2006, September). [Guide to computer security log management](#) (Special Publication 800-92). National Institute of Standards and Technology.

## Log types: A breakdown

- Cloud Identity Help. (n.d.). [Admin log events](#).
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- Google Cloud. (2024, January 23). [Cloud Audit Logs overview](#).
- Google Cloud. (2024, January 23). [Route logs to supported destinations](#).
- Google Cloud. (2024, January 23). [Routing and storage overview](#).

## Log management: The skills needed for success

- Chuvakin, A. A., Schmidt, K., & Phillips, C. (2012). *Logging and Log Management: The authoritative guide to understanding the concepts surrounding logging and log management*. Syngress Media Inc.
- Kent, K., & Souppaya, M. (2006, September). [Guide to computer security log management](#) (Special Publication 800-92). National Institute of Standards and Technology.
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## Alerts and notifications

- Alrashdi, I., Alqazzaz, A., Aloufi, E., Alharthi, R., Zohdy, M., & Ming, H. (2019, March 14). [AD-IoT: Anomaly detection of IoT cyberattacks in Smart City using machine learning](#). *IEEE 9th Annual Computing and Communication Workshop and Conference (CCWC)*, 0305–0310.
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- Spathoulas, G. P., & Katsikas, S. K. (2010). [Reducing false positives in intrusion detection systems](#). *Computers & Security*, 29(1), 35–44.

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- Manganaris, S., Christensen, M., Zerkle, D., & Hermiz, K. (2000). [A data mining analysis of RTID alarms](#). *Computer Networks*, 34(4), 571-577.

## Alert and log optimization

- Google Cloud. (2024, January 23). [Alerting overview](#).

## Guide to event threat detection

- Google Cloud. (2024, January 22). [Overview of Event Threat Detection](#).
- 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](#)

IoCs 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](#).
- Howard, R., & Olsen, R. (2020). [Implementing intrusion kill chain strategies](#). *Cyber Defense Review*.
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#### Lockheed Martin's Cyber Kill Chain® in practice

- MITRE ATT&CK. (n.d.). [Cloud Matrix](#).

#### Guide to false positive analysis

- Google Cloud. (2024, January 22). [Service accounts overview](#).

## Introduction to security monitoring

- Exabeam. (n.d.). [What is cloud security monitoring?](#)
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- Google Cloud. (2024, January 22). [Overview of Event Threat Detection](#).
- Sharif, A. (2023, March 14). [What is cloud monitoring?](#) CrowdStrike.
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- Blumira. (n.d.). [What is cloud security monitoring? A complete guide](#).
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## Tools for proactive security monitoring

- Google Cloud. (n.d.). [Security Command Center](#).
- Google Cloud. (2020, November 18). [Security talks: Improve your security posture with the security command center](#) [Video]. YouTube.
- Google Cloud. (2024, January 22). [Overview of Event Threat Detection](#).

## Indicators of compromise (IoCs)

- Cybersecurity & Infrastructure Security Agency. (n.d.). [\*Using indicators of compromise \(IOC\) for incident response\*](#) [Powerpoint slides].
- Cybersecurity & Infrastructure Security Agency. (2023, January 26). [\*Protecting against malicious use of remote monitoring and management software\*](#).
- Evans, E. (2020, August 24). [\*Incident detection and response in Google Cloud Platform \(GCP\)\*](#). CSNP.
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## Essentials of threat hunting

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- IBM. (n.d.). [\*What is threat hunting?\*](#)
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## IOCs for threat detection

- Daszczyszak, R., Ellis, D., Luke, S., & Whitley, S. (2019, March). [TTP-based hunting](#). MITRE.
- Mandiant. (2023). [M-Trends 2023](#).
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- National Institute of Standards and Technology. (n.d.). [Aggregation](#). Computer Security Resource Center.
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## Introduction to query tools

- Google Cloud. (2024, January 22). [Overview of the YARA-L 2.0 language](#).
- 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). [Creating a custom regex detector](#).
- Google Cloud. (2024, January 22). [Yara-L best practices](#).

## 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 ATT&CK](#)
- [VirusTotal](#)

Playbooks' role in incident response

- [Google Cloud: Chronicle documentation](#)
- [NIST: NIST Cybersecurity Framework](#)

### Citations

The importance of evidence preservation

- Borkar, P. (2023, May 2). [Incident response: 6 steps and teams and tools that make them](#)

[happen](#). Exabeam.

- Cichonski, P., Millar, T., Grance, T., & Scarfone, K. (2012, August). [Computer security incident handling guide](#) (Special Publication 800-61 Revision 2). National Institute for Standards and Technology.
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- Google Cloud. (2022, September). [Data incident response process](#).

#### Digital evidence preservation: Techniques and best practices

- Digicert. (n.d.). [What is an electronic timestamp?](#)
- Guttman, B., White, D. R., & Walraven, T. (2022, September). [Digital evidence preservation](#) (Interagency Report 8387). National Institute of Standards and Technology.
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- Namer, A. (2021, August 18). [How to conduct live network forensics in GCP](#). Google Cloud Blog.
- Palter, J. (2021, April 19). [Preserving digital evidence the right way: Your 10-step guide](#). Real Time Networks Blog.
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## How security teams preserve evidence

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## Incident response in Google Cloud

- Google Cloud. (n.d.). [Chronicle SIEM](#).
- Google Cloud. (2022, September). [Data incident response process](#).
- Google Cloud. (2024, January 22). [Chronicle SOAR overview](#).
- Stubbs, J., Menn, J. & Bing, C. (2019, June 26). [Inside the West's failed fight against China's 'Cloud Hopper' hackers](#). Reuters.

## Incident response best practices with Chronicle SOAR

- Exabeam. (n.d.). [Incident response automation and security orchestration with SOAR](#).
- Google Cloud. (n.d.). [Chronicle documentation](#).
- Google Cloud. (2024, January 22). [Cases overview](#).
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- Red Hat. (2022, May 11). [What is SOAR?](#)



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- Kleitman, S., Law, M. K. H., & Kay, J. (2018, October 26). *It's the deceiver and the receiver: Individual differences in phishing susceptibility and false positives with item profiling*. PLoS One, 13(10). 10.1371/journal.pone.0205089.

## Coordination for incident response

- Google Cloud. (2022, September). [Data incident response process](#).
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## Guide to log queries, exports, and analysis

- Google Cloud. (2024, January 23). [Cloud Audit Logs overview](#).
- Google Cloud. (2024, January 23). [Routing and storage overview](#).

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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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- Cichonski, P., Millar, T., Grance, T., & Scarfone, K. (2012, August). [\*Computer security incident handling guide\*](#) (Special Publication 800-61 Revision 2). National Institute for Standards and Technology.
- Login. Gov handbook. (n.d.). [\*Incident response guide\*](#). U.S. General Services Administration.
- Google Cloud. (2022, September). [\*Data incident response process\*](#).
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## Documentation in practice

- Cloud.gov. (2023, December 11). [\*Security incident response guide\*](#).
- Google Cloud. (n.d.). [\*Google Cloud Armor\*](#).
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- Google Cloud. (2024, January 23). [Alerting overview](#).
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- Trustradius. (n.d.). [Chronicle SOAR](#).

## Incident response orchestration vs. automation

- Deacon-Smith, R. & Atamel, M. (2021, April 21). [Choosing the right orchestrator in Google Cloud](#). *Google Cloud Blog*.
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## Playbooks' role in incident response

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# 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

- [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 \(cloud DR\)](#)

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

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- Google Cloud. (n.d.). [What is disaster recovery?](#)
- MSP360. (2021, January 11). [Cloud disaster recovery: Planning and approaches](#). MSP360 Blog.

## System recovery steps and scenarios

- Fearn, N. (2023, December 5). [How to recover systems in the event of a cyber attack](#). Computer Weekly.
- ISO. (2012). [ISO/IEC 27037:2012: Information technology - Security techniques - Guidelines for identification, collection, acquisition, and preservation of digital evidence](#).
- National Institute of Standards and Technology. (n.d.). [Digital evidence](#).
- National Institute of Standards and Technology. (2020, September). [Security and privacy controls for information systems and organizations](#) (Special Publication 800-53, Revision 5).

## Business continuity and disaster recovery (BCDR) basics

- AWS. (n.d.). [Business continuity plan \(BCP\)](#).
- Bartock, M., Cichonsk, J., Souppaya, M., Smith, M., Witte, G., & Scarfone, K. (2016, December). [Guide for cybersecurity event recovery](#) (Special Publication 800-184). National Institute of Standards and Technology.
- Elephant Drive. (n.d.). [Ultimate guide for beginners: Data backup and recovery explained](#).
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- Swanson, M. (2010). [\*Contingency planning guide for federal information systems\*](#) (Special Publication 800-34, Revision 1) [PowerPoint Slides]. National Institute of Standards and Technology.
- Vergadia, P. (2019, October 28). [\*Disaster recovery on Google Cloud: An overview\*](#). *Google Cloud - Community*.

#### The role of BCDR tools

- Hanna, T. (n.d.). [\*The 15 best business continuity software and tools for 2024\*](#). Solutions Review.
- Moore, J., Bigelow, S.J., & Crocetti, P. (n.d.). [\*What is BCDR? Business continuity and disaster recovery guide\*](#). Techtarget.
- Rao, S. (2020, April, 23). [\*Disaster recovery and business continuity plan on Google Cloud\*](#). Unified Data Sciences.

#### BCDR in Google Cloud

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