

## Monitoring and Observability for Development and DevOps

### Module 2 Glossary: Monitoring Systems and Techniques

Welcome! This alphabetized glossary contains many of the terms in this course. This comprehensive glossary also includes additional industry-recognized terms not used in course videos. These terms are essential for you to recognize when working in the industry, participating in user groups, and participating in other certificate programs.

Term	Definition
Alerting	It helps developers quickly spot issues and pinpoint areas for improvement in their applications.
API	An application programming interface or API is a set of outlined rules that help various applications communicate with each other.
Alert manager	A flexible metrics collection and alerting tool that can be combined with Prometheus.
Application monitoring	Process developers use to ensure their software performs as intended.
Application monitoring tools	Application monitoring tools, or application performance monitoring (APM) tools, systematically collect and analyze data to provide real-time insights into the behavior of your application.
Availability monitoring	Checks the uptime and downtime of your application by periodically sending requests to verify its responsiveness.
Bosun	An open-source alerting tool that has regular features capable of displaying simple graphs and creating alerts using a powerful expression language for alert rules and conditions.
Cabot	It doesn't collect any data but uses another method to access data by hooking into the APIs of the alerting tools and a pull (rather than a push) model for the data it requires to make alerting decisions.
Checkpoint	Computers that regularly attempt to interact with a web or network entity.
Distributed tracing	A technique used to track and observe application requests as they move through distributed systems or microservice environments.
DNS	Domain Name System or DNS is a distributed database system for managing host names and their associated Internet Protocol (IP) addresses.
Error monitoring	Captures stack traces and provides detailed information about the root cause of errors, enabling efficient debugging.
Grafana	A professional cross-platform, open-source data visualization and metrics analysis tool that provides time-series analytics, which can help you study, analyze, and monitor data metrics over time.
HTTP	Hypertext Transfer Protocol (HTTP) is an application-level protocol for distributed, collaborative, hypermedia information systems.
HTTPS	HTTPS stands for "Secure Hypertext Transfer Protocol" and is HTTP with a security feature.
Kibana	An open-source web application that is often used in conjunction with Elasticsearch, a powerful, highly scalable open-source search and analytics engine that allows storing, searching, and analyzing large volumes of data.
Log alerts	Use log analytics queries to evaluate resource logs at predefined intervals to see how your applications or services are and have been performing.
Log monitoring	Analyzes logs generated by your application, allowing you to gain insights into its behavior, detect patterns, trace specific events or transactions, and troubleshoot issues effectively.
Metric alerts	These are based on raw data collected by your monitoring system and provide information about the availability of resources on systems, applications, databases, and web servers.
Operational insight	Gives DevOps staff a deeper understanding of IT infrastructure and business systems.
Performance monitoring	Involves tracking metrics like response time, throughput, error rates, and resource utilization to ensure optimal performance.
Prometheus	An open-source monitoring and alerting solution built by a company called SoundCloud to monitor servers, virtual machines (or VMs), and databases.
PromQL	Prometheus provides a functional query language called PromQL (Prometheus Query Language), allowing users to select and aggregate time series data in real-time.
Real-user monitoring (RUM)	A passive monitoring technique relying on real users to collect performance data on user paths or transactions.
SaaS	SaaS, or software-as-a-service, is application software hosted on the cloud and used over an internet connection via a web browser, mobile app, or thin client.
Scripting	The ability to specify the precise actions of a test with synthetic monitoring enables you to walk through important application flows, such as a checkout flow or a sign-up flow, to evaluate the functionality and performance of the system.
SLAs	Service Level Agreements document the commitments that you plan to fulfill for customers.
Software-based agent	A computer program that carries out a wide range of tasks on a continuous and self-directed basis on behalf of a person or organization.
Splunk	A software platform that is a proprietary solution used to monitor, search, analyze, and visualize big data.
StatsAgg	It is an alerting and metrics aggregation platform that can act as a proxy for other systems.
Synthetic monitoring	Tracks anomalies and ensures that potential threats are stopped before they are a problem.
Synthetic monitoring tools	Solutions offered to verify the performance, availability, reachability, and reliability of a website or application at any time.
Synthetic traffic	Lightweight, non-intrusive, and secure traffic that emulates user behavior on the network.
Telemetry	System data that is automatically gathered and recorded for monitoring.
TSDB	A time series database or TSDB is a software system optimized for storing and serving time series about related time-value pairs.
User experience monitoring	Includes tracking user actions, session durations, conversion rates, and other relevant metrics to measure customer satisfaction.
Visual elements	Charts, graphs, timelines, and other illustrations.
Visualization	Graphical representation of information of data collected from your business infrastructure that helps you understand and maintain your application's performance.
Web transaction	An interaction between a client, commonly a web browser, and one or more databases as the backend of a multi-tier engineering.



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