Zabbix – Server and Service Monitoring

Course code: ZABBIX1

This course is intended for server administrators who want to deploy and run professional monitoring of their infrastructure using Zabbix. Participants will learn to monitor the availability and performance of operating systems, hardware, services, and network devices, from installing the Zabbix server through collecting metrics and detecting problems to notifications, visualization, and operational maintenance. The course emphasizes practical deployment in a real-world environment.

Who is the course for

This course is intended for server administrators working with Linux operating systems (RHEL, CentOS, Rocky, Debian/Ubuntu, etc.) as well as heterogeneous environments, who want to centrally monitor the operating system, hardware, running services, and network. It is also suitable for administrators who have so far relied only on native operating system tools and want to move to a comprehensive monitoring solution with historical data, graphs, and automated alerts.

What we teach you

Participants will learn to design a monitoring architecture and install all Zabbix components (server, database, web frontend, agent). They will be able to collect metrics in several ways (Zabbix agent, SNMP, agentless), define items and triggers for problem detection, use templates and automatic discovery, set up notifications and escalations, build clear dashboards and maps, and run the whole solution securely, back it up, and tune it for performance.

Required skills

Knowledge at the level of the LXI1, LXI2, and LXI3 courses.

Course outline

Introduction to Monitoring and Zabbix Architecture

- Monitoring principles: what to monitor and why (availability, performance, capacity, security)
- Quick overview of native OS tools (e.g., top, htop, atop) for monitoring processes, disks, memory, and network as a starting point
- Zabbix architecture: server, database, web frontend, agent, proxy
- Installing the Zabbix server and database (MySQL/MariaDB or PostgreSQL)
- Installing and configuring the web frontend
- Installing and registering the agent (Zabbix agent / agent 2), verifying server–agent communication
- Getting oriented in the web interface and adding the first host

Hosts, Items, Triggers: The Core of Data Collection and Problem Detection

- Hosts and host groups: defining monitored machines
- Items: keys, data types, collection intervals, and units
- Data collection methods: Zabbix agent (passive and active), SNMP, agentless (ICMP, TCP), IPMI, external scripts
- Triggers: expressions, thresholds, and severity levels
- Trigger dependencies and suppressing false alarms (hysteresis)
- Reviewing collected data: Latest data and simple graphs

Templates, Discovery, Visualization, and Notifications

- Templates: reusable sets of items and triggers, linking to hosts
- Low-level discovery (LLD): automatic monitoring of disks, filesystems, and network interfaces
- Network discovery and active agent autoregistration
- Actions, escalations, and notifications (email, webhooks – Slack, MS Teams)

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- Users, roles, and permissions
- Visualization: dashboards, graphs, and network maps

Operations, Maintenance, and Troubleshooting

- Scheduled maintenance and alert suppression during outages
- Backup and recovery (database and configuration)
- Performance and scaling: Zabbix proxy, housekeeping, database tuning
- Securing agent–server communication (PSK / TLS)
- Troubleshooting: logs, diagnosing failed data collection, tuning items and triggers
- Hands-on closing scenario: deploying a complete monitoring solution on a sample infrastructure

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