



DevOps Interview Questions and Answers

Introduction

Interviews in the world of DevOps assess a candidate's technical expertise, capacity for problem-solving, and cultural fit. To help you ace your interview, we'll present the top 20 DevOps interview questions and answers. Knowledge of DevOps is a must to fill the gap between development and operations by automating and integrating continuously. This guide tackles essential areas such as CI/CD Pipelines, Infrastructure as Code (IaC), and Containerization, so you can develop high-speed delivery systems.

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List of DevOps Interview Questions for Freshers

1. What is the need for DevOps?
2. What is version control?
3. What are containers?

4. Describe two-factor authentication.
5. How would you explain the concept of “infrastructure as code” (IaC)?
6. What is Test Driven Development (TDD)?
7. What are the foundational pillars of DevOps testing?
8. Define configuration management in DevOps.
9. What are the important KPIs of DevOps?
10. How can a build stage be scheduled or run in Jenkins?
11. What are the resources available in Puppet?
12. Define an Ansible role.

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DevOps Interview Questions and Answers for Freshers

1. What is the need for DevOps?

Companies need increased deployment frequency, a small failure rate of new releases, less lead time between fixes, quicker mean time to recovery if a new release crashes, etc. DevOps takes care of all these requirements and assists in providing perfect software delivery.

2. What is version control?

Version control is a system that records changes to a file or set of files over time. This helps to recall specific versions at a later point.

3. What are containers?

Containers are a type of lightweight virtualization. They offer isolation among processes.

4. Describe two-factor authentication.

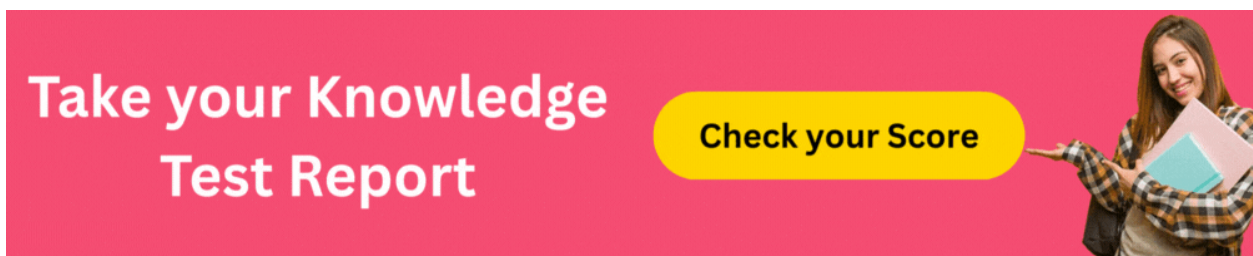
Two-factor authentication refers to a security process in which the user provides two means of identification. This is obtained from separate categories of credentials.

5. How would you explain the concept of “infrastructure as code” (IaC)?

Infrastructure as code is also sometimes termed a programmable infrastructure. The name suggests that the infrastructure is treated the same as any other code.

6. What is Test Driven Development (TDD)?

Test-driven development is a major agile and DevOps practice. It assists in quick iterations and continuous integrations. Test cases are at the core of the development process here. You can find out problems rapidly, and this helps in gracefully controlling risks.



7. What are the foundational pillars of DevOps testing?

The major pillars of DevOps testing are:

- Adopt testing early and ascertain production proactiveness every time.
- Make use of proven technologies and patterns.
- Utilize the proper rigor.

8. Define configuration management in DevOps.

Configuration management allows the management of multiple systems, standardizes resource configurations that manage IT infrastructure, and helps the administration and management of more than two servers to maintain the integrity of the entire infrastructure.

9. What are the important KPIs of DevOps?

There are three important KPIs in the meantime failure recovery, deployment frequency, and percentage of failed deployments. Mean time to failure recovery is the time taken to recover from the failure. Deployment frequency is the type of deployment that occurs. The percentage of failed deployments is the number of deployments.

10. How can a build stage be scheduled or run in Jenkins?

The build stage can be scheduled and executed in Jenkins in four ways: by source code management commits, completing after the other builds, scheduled to execute at a specified time, and requesting a manual build.

11. What are the resources available in Puppet?

Puppet has the basic units of configuration management, nodes like software services and packages, declaration resources that are written in the catalog, performance actions, and the desired state for the catalog to be executed.

12. Define an Ansible role.

An Ansible role contains an independent block of tasks, templates, and files that are embedded inside a playbook.

Learn DevOps from scratch with our [DevOps tutorial for beginners](#).

List of DevOps Interview Questions for Experienced

1. What are the advantages of DevOps?
2. What are design patterns?
3. What are white box and black box testing?
4. Which are the top DevOps tools? Which tools have you worked on?
5. What are the best practices for DevOps implementation?
6. What are the key components of DevOps?
7. How do you expect to be required to multitask as a DevOps professional?
8. What are the various phases in the lifecycle of DevOps?
9. Explain the role of AWS in DevOps.
10. Why should an SSL certificate be used in the Chef Tool?
11. How do you execute multiple containers using a single service?
12. How do you create a Docker container?
13. Define Nagios Network Analyzer.

Knowing the [DevOps salary for freshers and experienced professionals](#) will help you understand the demand in the job market.

DevOps Technical Interview Questions and Answers for Experienced

1. What are the advantages of DevOps?

Technical benefits:

- Continuous software delivery
- There is no need to worry about solving problems all the time
- Quicker resolution of problems.

Business benefits:

- Quick delivery of features
- A stable operating environment
- Sufficient time is present to add value
- Faster delivery of features
- More stable operating environments
- More time is available to add value.

2. What are design patterns?

The developers gain from design patterns since they provide solutions to problems they face. They give an example of how developers should adopt best practices.

Even an inexperienced developer can learn easily and rapidly through design patterns.

There are mostly 3 types of design patterns:

- **Creational:** addresses design issues
- **Structural:** provides an easy way to establish relationships between objects
- **Behavioral:** Provides an easy way for objects to interact with each other.

3. What are white box and black box testing?

- **In black box testing**, the tester is not aware of the internal structures of the application. In white box testing, the tester is aware of the designs and frames of the product.

- **White box testing** is performed at the unit and component levels of testing. Black box testing is performed at the acceptance and system levels of testing.

4. Which are the top DevOps tools? Which tools have you worked on?

The most famous DevOps tools are listed here:

- **Git:** Version Control System tool.
- **Selenium:** Continuous Testing tool.
- **Jenkins:** Continuous Integration tool.
- **Puppet, Chef, and Ansible:** Configuration Management and Deployment Tools.
- **Docker:** Containerization tool.
- **Nagios:** Continuous Monitoring tool.

5. What are the best practices for DevOps implementation?

DevOps implementation differs from one company to another. Nowadays, companies are trying to deliver the software more quickly.

- Every company has a vision and a goal. DevOps implementation should adhere to it. Change should be understood.
- There should be motivation for communication and coordination, specifically between development and operations.
- The core element is automation, which should be performed meticulously within the SDLC stages.
- CI and CD practices are the key factors of DevOps. Continuous integration of your code, continuous testing, and continuous delivery are the essential factors.
- Cultivating the habit of getting feedback from the end user should be taken up.

6. What are the key components of DevOps?

- **Continuous Integration:** Continuous integration is essential for the Agile process. Generally, developers take care of features within a sprint and commit their specific changes to the version control repository.

- **Continuous Testing:** The above goal of continuous integration, which is to get the application out to end users, is primarily enabling continuous delivery. This cannot be completed without a sufficient amount of unit testing and automation testing.
- **Continuous Delivery:** Being an extension of Continuous Integration Continuous delivery majorly assists in making the development process reach the end users as early as possible. This process goes through several stages of QA, Staging, etc. Later, it goes for delivery in the production system.
- **Continuous Monitoring:** There is a requirement to monitor the performance of an application as it is developed and deployed. Monitoring is also very essential since it will help in bringing out defects that would have been ignored earlier.

7. How do you expect to be required to multitask as a DevOps professional?

Concentrate on bridging communication gaps between Development and Operations teams.

Comprehend system design from the angle of an architect, software development from a developer's angle, and operations and infrastructure from the angle of an experienced systems administrator.

Execute-to be in a position to do what actually needs to be carried out.

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8. What are the various phases in the lifecycle of DevOps?

The lifecycle of DevOps contains the following phases:

- **Plan:** Plan for the type of application required to develop
- **Code:** Develop codes as per the project and end-user requirements

- **Build:** Build the application by integrating the codes
- **Test:** Test the developed application and rebuild if required
- **Integrate:** Integrate multiple codes collected from various programmers
- **Deploy:** Deploy the code into a cloud platform for further usage
- **Operate:** Operations will be informed of the code if necessary
- **Monitor:** The performance of the application is monitored, which ensures the changes made to the application meet the client's requirements.

9. Explain the role of AWS in DevOps.

AWS is performing the following role in DevOps:

- Flexible Services that provide a ready-to-use solution without the requirement of installing or configuring software.
- Built for scale, it manages a single instance through AWS services
- The secured environment uses AWS identity and access management (IAM) for setting user policies and permissions.

10. Why should an SSL certificate be used in the Chef Tool?

SSL certificates are implemented between the Chef server and the client to ensure each node can access proper data. Each node has a public and private key pair, and it is stored on the Chef server.

An SSL certificate will be sent to the server, and it will include the private key of the node. The server compares the public key to identify the node and provide access to the required data.

11. How do you execute multiple containers using a single service?

Docker-compose is used to create the possibility of running multiple containers on a single server. Every container executes in isolation to communicate with other nodes. All Docker Compose files are in YAML files.

12. How do you create a Docker container?

The user can develop a Docker image or access the existing Docker image from the Docker Hub. Docker creates a new container named MySQL from the existing image.

- The container layer of the file system is created on top of the image layer.
- The command for creating the Docker container is `Docker run -t -i MySQL`.
- The command for listing the running containers is `Docker ps`.

13. Define Nagios Network Analyzer.

Nagios Network Analyzer provides an in-depth look at security threats and traffic sources

- It offers a central view of bandwidth data and network traffic
- It enables the system administrator to collect high-level information on network health
- It allows the user to be proactive in abnormal behavior, resolving outages, and threats that affect critical business processes.

Conclusion

To ace a DevOps interview, you need to showcase your deep understanding of CI/CD automation, Infrastructure as Code (IaC), and site reliability. Employers seek engineers who can advance from simple scripting to orchestrate Kubernetes, Docker, and Cloud-native systems. Your skills in explaining the subtleties of monitoring, log aggregation, and security automation (DevSecOps) will demonstrate your worth in high-velocity delivery teams. As companies grow, your expertise in GitOps and Microservices will distinguish you as a high-level architect who can ensure the uptime and scalability of mission-critical systems.

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