

DEV OPS



# TOP INTERVIEW QUESTIONS

**YOU NEED TO KNOW**

# Top 50 Azure DevOps Interview Questions & Answers

## 1. What is Azure DevOps?

**Answer:** Azure DevOps is a cloud-based platform by Microsoft that provides development collaboration tools such as Azure Repos, Pipelines, Boards, Test Plans, and Artifacts to support the entire software development lifecycle.

## 2. What services are offered in Azure DevOps?

**Answer:** Azure DevOps includes:

- Azure Repos
- Azure Pipelines
- Azure Boards
- Azure Test Plans
- Azure Artifacts
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## 3. What is CI/CD in Azure DevOps?

**Answer:** CI/CD stands for Continuous Integration and Continuous Deployment. Azure Pipelines automate the process of building, testing, and deploying applications, enabling faster and more reliable software releases.

## 4. How do you set up a pipeline in Azure DevOps?

**Answer:** You can set up pipelines using YAML or the classic UI. Link your code repository, define build and release stages, configure triggers, and add testing and deployment tasks.

## 5. What is the difference between build and release pipelines?

**Answer:** Build pipelines compile and package the application, while release pipelines deploy the build artifacts to target environments.

## 6. What are agents in Azure DevOps?

**Answer:** Agents are the workers that run the jobs defined in pipelines. Microsoft provides hosted agents, or you can use self-hosted agents.

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## 7. What is the purpose of Azure Repos?

**Answer:** Azure Repos provides Git repositories or Team Foundation Version Control (TFVC) for source control, enabling collaboration and code versioning.

## 8. What is Azure Boards?

**Answer:** Azure Boards is an agile project management tool that helps teams track work with Kanban boards, backlogs, sprints, and queries.

## 9. What is Azure Artifacts?

**Answer:** Azure Artifacts allows you to create, host, and share packages (e.g., NuGet, npm, Maven) and manage dependencies in one place.

## 10. How does Azure DevOps support Agile development?

**Answer:** Azure Boards supports agile processes with backlogs, boards, sprints, and customizable workflows to plan, track, and discuss work across teams.

## 11. What is a YAML pipeline?

**Answer:** A YAML pipeline is a pipeline defined in a YAML file that lives in your code repository, making it easier to track and version pipeline configurations.

## 12. What is the use of variable groups in Azure DevOps?

**Answer:** Variable groups store and manage values that can be used across multiple pipelines, including secrets, and can be linked to Azure Key Vault.

# Top 50 Azure DevOps Interview Questions & Answers

## 13. What is a self-hosted agent?

**Answer:** A self-hosted agent is a build agent you set up and manage on your own infrastructure to gain more control over the build environment.

## 14. How do you implement IaC in Azure DevOps?

**Answer:** Use tools like ARM templates, Terraform, or Bicep within pipelines to define and deploy infrastructure as code.

## 15. What is a service connection?

**Answer:** A service connection allows Azure DevOps to connect to external services like Azure, Docker, or GitHub securely.

## 16. How do you handle secrets in pipelines?

**Answer:** Use secret variables or integrate Azure Key Vault to store and retrieve sensitive data securely during pipeline execution.

## 17. What are pull requests?

**Answer:** Pull requests are used to review and merge code changes between branches. Reviewers can comment, approve, or reject changes.

## 18. How do you enforce code quality in Azure DevOps?

**Answer:** Use branch policies, code reviews, build validations, static code analysis, and unit tests in your pipelines.

# Top 50 Azure DevOps Interview Questions & Answers

## 19. What is a deployment group?

**Answer:** A deployment group is a set of target machines where you can deploy builds using agents installed on each machine.

## 20. What is a release gate?

**Answer:** A release gate adds a control point in a release pipeline to evaluate conditions before continuing deployment to the next stage.

## 21. What are artifacts in a pipeline?

**Answer:** Artifacts are the output of build pipelines (e.g., binaries, packages) that can be consumed by release pipelines.

## 22. What is a retention policy?

**Answer:** Retention policies define how long pipeline runs, logs, and artifacts are retained before being automatically deleted.

## 23. How do you monitor Azure DevOps pipelines?

**Answer:** Use the pipeline dashboard, logs, run history, and integrations with Azure Monitor or Application Insights for advanced telemetry.

## 24. What is the difference between Hosted and Private agents?

**Answer:** Hosted agents are managed by Microsoft, while private (self-hosted) agents are managed by you and run on your own machines.

# Top 50 Azure DevOps Interview Questions & Answers

## 25. How do you rollback a deployment in Azure DevOps?

**Answer:** Redeploy a previous successful build or use deployment slots to swap back to the last known good configuration.

## 26. What are approval gates in release pipelines?

**Answer:** Approval gates require manual validation from designated users before deployment can proceed to the next stage.

## 27. What is the difference between Classic and YAML pipelines?

**Answer:** Classic pipelines use a visual designer, while YAML pipelines are defined in code for versioning and easier collaboration.

## 28. How do you integrate Azure DevOps with GitHub?

**Answer:** Use GitHub service connections and configure pipelines to trigger builds and deployments from GitHub repositories.

## 29. What are environments in Azure DevOps?

**Answer:** Environments represent deployment targets (e.g., Dev, QA, Prod) and help manage approvals, resources, and security.

## 30. What is a multi-stage pipeline?

**Answer:** A multi-stage pipeline combines build, test, and deploy stages into a single YAML pipeline file for end-to-end automation.



# Top 50 Azure DevOps Interview Questions & Answers

## 31. How do you secure a pipeline?

**Answer:** Implement permissions, use secret variables, restrict access to service connections, and audit logs for sensitive actions.

## 32. What is a pipeline trigger?

**Answer:** A trigger defines conditions that start a pipeline run automatically (e.g., on push, pull request, or schedule).

## 33. What are pipeline templates?

**Answer:** Templates are reusable YAML files that define steps or jobs, helping to standardize pipelines across projects.

## 34. What are conditional expressions in YAML?

**Answer:** Conditional expressions control the execution of pipeline steps based on variables, outcomes, or other logic.

## 35. What is an artifact feed?

**Answer:** An artifact feed is a centralized repository in Azure Artifacts for hosting packages and sharing them with teams.

## 36. How do you manage dependencies in Azure DevOps?

**Answer:** Use Azure Artifacts and lock file strategies to manage and version dependencies across projects.

## 37. What is the difference between a task and a job in a pipeline?

**Answer:** A task is an individual unit of work, while a job is a collection of tasks that runs on an agent.

# Top 50 Azure DevOps Interview Questions & Answers

## **38. How do you perform automated testing in Azure DevOps?**

**Answer:** Add test tasks in build/release pipelines or use Azure Test Plans for manual/exploratory testing.

## **39. How do you handle failed deployments?**

**Answer:** Use rollback strategies, notifications, and monitoring tools to respond quickly and restore stable states.

## **40. What is code coverage, and how is it tracked?**

**Answer:** Code coverage measures how much of your code is tested by unit tests. Use coverage tools integrated into pipelines.

## **41. How do you manage multiple environments?**

**Answer:** Use separate stages or environments in pipelines with approval workflows and environment-specific variables.

## **42. What is artifact staging?**

**Answer:** Artifact staging is the process of saving build outputs to be used in later pipeline stages or releases.

## **43. What is a build validation policy?**

**Answer:** It ensures that code changes pass a build before being merged into the main branch.

## **44. How do you implement blue-green deployments?**

**Answer:** Deploy to two identical environments (blue and green), then switch traffic to the new version after testing.



# Top 50 Azure DevOps Interview Questions & Answers

## 45. What is a pipeline cache?

**Answer:** Pipeline caching stores dependencies or intermediate files to speed up subsequent pipeline runs.

## 46. How do you handle monorepos in Azure DevOps?

**Answer:** Use path filters, pipeline conditions, and modular pipeline templates to handle monorepo builds.

## 47. What is a job strategy in YAML?

**Answer:** Job strategy defines how jobs run (e.g., matrix builds, parallel execution) for efficient pipeline design.

## 48. How do you implement canary releases?

**Answer:** Deploy gradually to a subset of users or servers and monitor before full rollout.

## 49. What is the difference between Azure DevOps and GitHub Actions?

**Answer:** Azure DevOps offers a full suite of tools; GitHub Actions is more lightweight and integrated into GitHub.

## 50. What certifications are available for Azure DevOps?

**Answer:** Microsoft offers the AZ-400: Designing and Implementing Microsoft DevOps Solutions certification for DevOps engineers.

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