



Cloud Development

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Today's Agenda

- 01 A quick look at the past & present
The 2000's
- 02 Cloud Development
Demystifying the cloud
- 03 What is your role to play
A deep dive into job roles
- 04 Trends and Technologies
What's next
- 05 Q&A
There are no stupid questions

Blast to the past: the early 2000's

- There were no smartphones!
- The most expensive Apple personal computer had a 2.0 GHz 64-bit processor, 8GB max memory, and a top storage capacity of 160 GB.
- Stack overflow did not exist!
- Laptops were costly and no software engineer had them as a workstation.
- Dial-up modems were still in use
- WWW was in its infancy



Back to the future: 2024

- 15 major releases of the iPhone and the existence of smartwatches!
- The average engineer's mobile phone is more powerful than a desktop computer in the past – and I can write code on it!
- A plethora of knowledge for engineers on the web – and stack overflow is now AI-powered
- Every software engineer has a laptop! And they cost only as much as a mobile phone back in the day!
- Lightning-fast internet speeds!



Cloud Development

Cloud development refers to building, testing, deploying, and running software services in the cloud. These applications built in a cloud environment are called cloud software. Cloud development is also known as cloud-based development or in-cloud development.



What is cloud development

Cloud-native development

Cloud-native applications are optimized to run on the cloud smoothly. Cloud-native development is based on dividing software applications into smaller services that can be used wherever needed. This ensures accessibility, scalability, and flexibility in cloud-native applications.

Cloud-based development

Cloud-based software development finds a balance between cloud-native and cloud-enabled applications. They offer the availability and scalability of cloud services while not requiring the complete redesign of applications.

This cloud development method allows businesses to leverage cloud benefits in some of their services while not changing the whole software application code.

Cloud-enabled development

Cloud-enabled development is the migration of traditional software onto the cloud platform. The cloud-enabled applications are built on on-premises hardware and resources in a monolithic fashion.

The cloud-enabled apps are unable to reach the maximum scalability and resource-sharing that is possible with cloud applications. This is because their legacy code is changed or refactored to work with the virtual cloud resources, but the underlying architecture remains the same.

Benefits of Cloud Engineering

- Cloud developers can automate multiple developments and testing routines.
- A cloud developer can easily refactor and improve the code without disrupting the production environment. It adds more agility to the development process.
- Technologies like containers and microservices allow cloud engineers to develop more scalable software solutions.
- Development approaches like DevOps allow cloud app developers, IT personnel, and customers to continuously improve the software product.
- The whole process is more cost-effective, efficient, and secure as compared to the on-premises software development.



Challenges of Cloud Engineering

- because technologies are new and emerging, you require a skilled team of developers to integrate cloud services into your software product or to build cloud-based products from scratch.
- Migration of legacy software to the cloud platforms can pose serious compatibility issues. You will require a team with experience in moving already-built software architecture to the cloud model.
- Businesses that should follow stringent laws and regulations may face difficulties in following compliance procedures in cloud solutions.
- A cloud environment can pose serious security threats and vulnerabilities if not built right.



What is your role to play?

Cloud Architect



Cloud Administrator



Cloud broker



Cloud Developer



Cloud Consultant



Data Engineer



DevOps Engineer



UI Developer



Security Engineer



Data analysts



Cloud Data Engineer



Cloud Roles Compared



Designing And Implementing Cloud...



Developing And Effectively Managi...



Development operations Engineer



Digital Skills Officer



System Engineer



Automation



Data Scientist



Front-end web development



Modifying And Improving Existing S...



QA Engineer



Site Reliability Engineer



Technical Account Manager



A few key roles - 1

Cloud Engineering

Software Engineer

Software engineers apply engineering principles and knowledge of programming languages to build software solutions for end users. Software engineers design and develop computer games, business applications, operating systems, network control systems, and middleware—to name just a few of the many career paths available.

- A good understanding of programming languages
- a firm grasp of databases
- proficient at coding software programs/apps that can function well in multi-tenant environments where several clients share infrastructure resources simultaneously!

DevOps Engineer

The expectations of a DevOps Engineer vary significantly. In some cases, they're expected to perform tasks similar to those of a Cloud Engineer or a Site Reliability Engineer; in other cases, they're responsible for the delivery and operation of software systems and building and deploying CI/CD pipelines.

Coding level? High. The DevOps Engineer will write a lot of infrastructure as code and build and deploy pipeline configurations. However, they won't write a lot of application code.

For beginners? Depends. It can be challenging to land a job as DevOps Engineer when you're a beginner, but it's possible if you build the right skillset.

A few key roles - 2

Cloud Engineering

Security Engineer

Securing the cloud is one of the most critical aspects of cloud-based solutions.

- analyze the existing cloud architecture and provide improved security measures wherever necessary.
- You will also be responsible for inspecting risk assessment
- analyzing threats and providing security to the cloud data.

For this job role, excellent coding skills with advanced threat detection techniques will bring you to the number one spot. Other than that, you need to have sound knowledge of Linux and Windows systems.

Some of the skills that are required from the cloud security engineer are networking, containerization, visualization, web services, networking, APIs, etc.

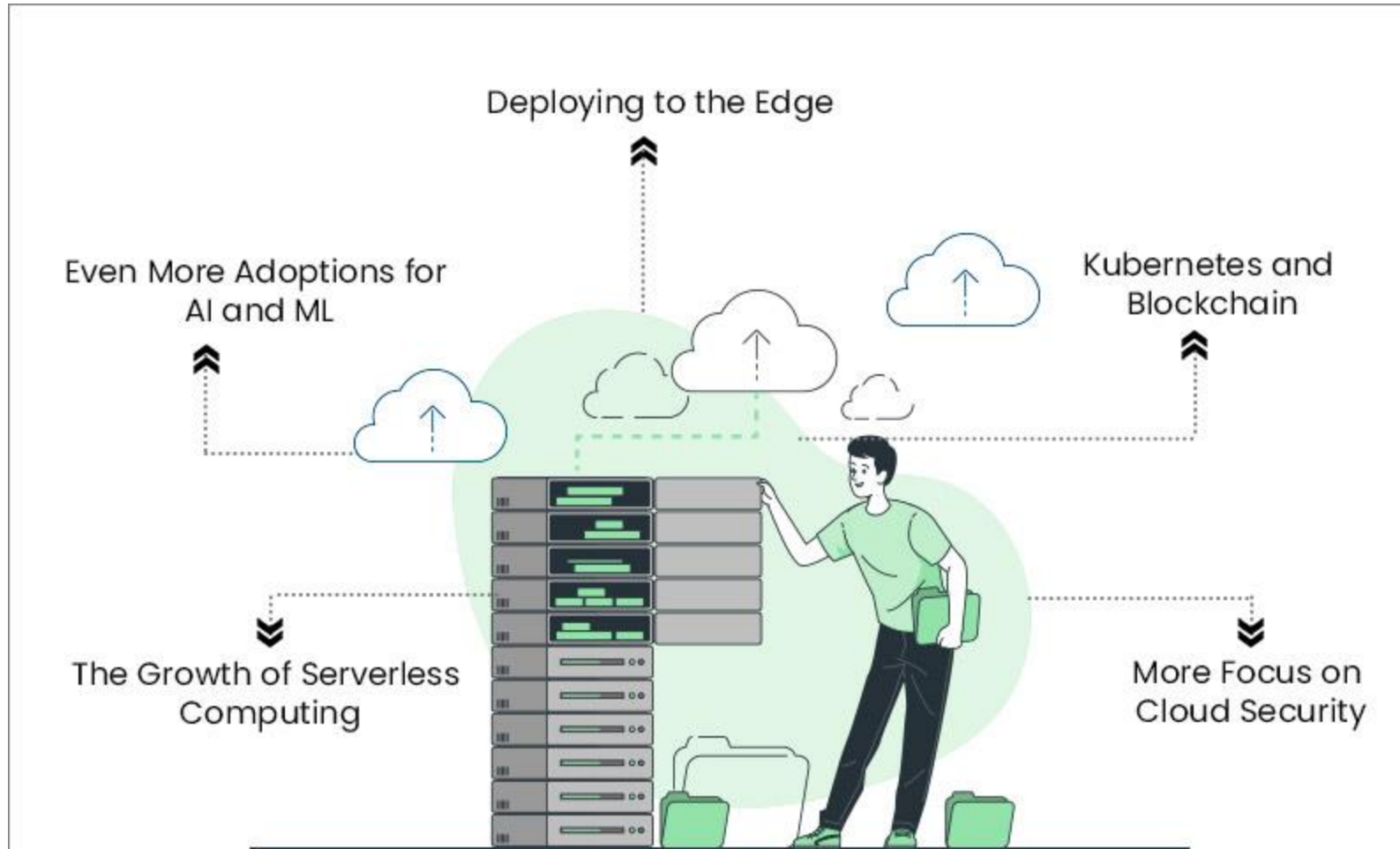
Quality Engineer

A QA engineer oversees the testing and quality management of software before and during the release of the product or application. To find and identify bugs and possible problems with new software, they plan and perform testing at different stages of the development process.

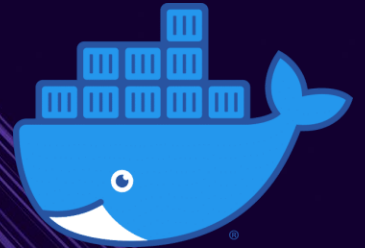
- Advising the development team
- Oversight of test automation
- Involvement in development tasks to make sure the test scenarios are identified
- Leading authority on testing and quality

Coding skills and advanced knowledge about how to integrate different testing tools with standard developer tools are very important. You might even be asked to have knowledge on different OS depending on the type of product you are involved in.








































Top Trends in Cloud Development



Tech Stack



The tech stack

Mobile Apps	   Flutter  React Native  Xamarin  ionic
Web Frontend	    Bootstrap  jQuery  ANGULAR  React  Vue.js  BACKBONE.JS  ELECTRON
Web Backend	  Express  METEOR  GO  RAILS  Microsoft .NET  .NET Core  Java  php  python™  django
Databases	  Microsoft SQL Server™  PostgreSQL  mongoDB  OrientDB™  Cassandra  DynamoDB  neo4j  elastic  redis 
Cloud/ Integration	 amazon web services™  Google Cloud Platform  Microsoft Azure  DigitalOcean  HEROKU



Thank you!

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