

DEVOPS & CLOUD

DEVOPS IS THE COMBINATION OF
“DEVELOPMENT” AND “OPERATIONS” .
BY RAHUL & SHALINI

What is DevOps?

DevOps is the combination of cultural philosophies, practices, and tools that increases an organization's ability to deliver applications and services at high velocity

Development and operations teams are no longer “siloes.” These two teams are merged into a single team where the engineers work across the entire application lifecycle, from development and test to deployment to operations.

What is cloud computing ?

Cloud Computing refers to manipulating, configuring, and accessing the applications online. It offers online data storage, infrastructure and application. Cloud Computing is both a combination of software and hardware based computing resources delivered as a network service.

Back-up and restore data, Improved collaboration ,Excellent accessibility, Low maintenance cost, Mobility, Services in the pay-per-use model, Unlimited storage capacity, Data security.

The three types of cloud services are

Infrastructure as a Service | IaaS-It is a computing infrastructure managed over the internet. The main advantage of using IaaS is that it helps users to avoid the cost and complexity of purchasing and managing the physical servers.

Platform as a Service | PaaS-PaaS cloud computing platform is created for the programmer to -develop, test, run & manage the applications.

Software as a Service | SaaS-SaaS is also known as "on-demand software". It is a software in which the applications are hosted by a cloud service provider. Users can access these applications with the help of internet connection and web browser.

Devops pipelines: CI/CD is the backbone of a DevOps methodology, bringing developers and IT operations teams together to deploy software.

Continuous integration (CI) is a practice in which developers can check their code into a version-controlled repository several times per day. Automated build pipelines are triggered by these checks which allows fast and easy to locate error detection.

Small changes are easy to integrate into large codebases.

More comfortable for other team members to see what you have been working.

Fewer integration issues allowing rapid code delivery.

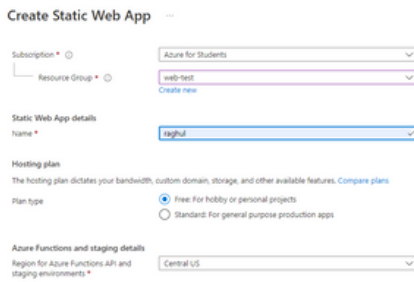
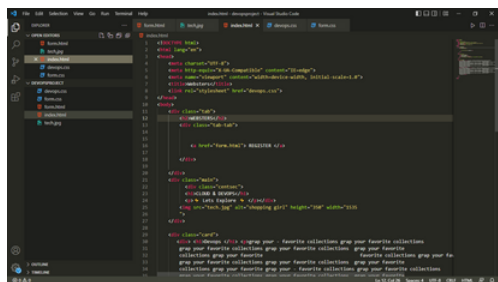
Bugs are identified early, making them easier to fix, resulting in less debugging work.

Continuous delivery (CD) is the process that allows operation engineers and developers to deliver bug fixes, features, and configuration change into production reliably, quickly, and sustainably. Continuous delivery offers the benefits of code delivery pipelines, which are carried out that can be performed on demand.

Faster bug fixes and features delivery.

CD allows the team to work on features and bug fixes in small batches, which means user feedback received much quicker. It reduces the overall time and cost of the project.

PROJECT DEMO



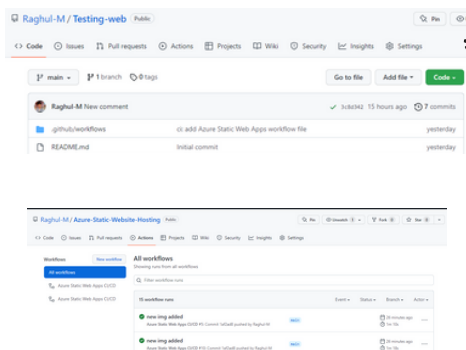
⚙️ frontend part of the application created by using html,css& js

⚙️ creating a static website in azure,add custom domain for your application

⚙️ Choose the source as Github and then authorize and link your github account , then choose the repository and branch what we create in your github.

⚙️ It takes less than 2 mins to deploy ,after deployment it shows go to resource .then click go to resource and it shows all the data of your static web app and the default URL for your web app.

GITHUB ACTIONS



⚙️ By default while creating your webapp using github as deployment model it enables github ACTIONS CI/CD and .gitworkflows which contains all CI/Cd changes we made to your site.

OUTPUT



Hi ⚡ I'm karthi M

Connect With me on [raghul.tech](#)



Hi ⚡ I'm Raghul M

Connect With me on [raghul.tech](#)

⚙️ Make changes in your source code and commit it >> then go to the actions of the repository to see the status , It takes less two mins to commit change in your actual web app. Changes made by developers are reflected automatically with rapid speed.

BENIFITS OF DEV OPS

Speed

Move at high velocity so you can innovate for customers faster, adapt to changing markets better, and grow more efficient at driving business results. The DevOps model enables your developers and operations teams to achieve these results.

Rapid Delivery

Increase the frequency and pace of releases so you can innovate and improve your product faster. The quicker you can release new features and fix bugs, the faster you can respond to your customers' needs and build competitive advantage.

Reliability

Ensure the quality of application updates and infrastructure changes so you can reliably deliver at a more rapid pace while maintaining a positive experience for end users

Scale

Operate and manage your infrastructure and development processes at scale. Automation and consistency help you manage complex or changing systems efficiently and with reduced risk.

Improved Collaboration

Build more effective teams under a DevOps cultural model, which emphasizes values such as ownership and accountability. Developers and operations teams collaborate closely, share many responsibilities, and combine their workflows.

Security

Move quickly while retaining control and preserving compliance. You can adopt a DevOps model without sacrificing security by using automated compliance policies, fine-grained controls, and configuration management techniques.