



Introduction to Software Development



Web-Development

WEB APPLICATION



VS

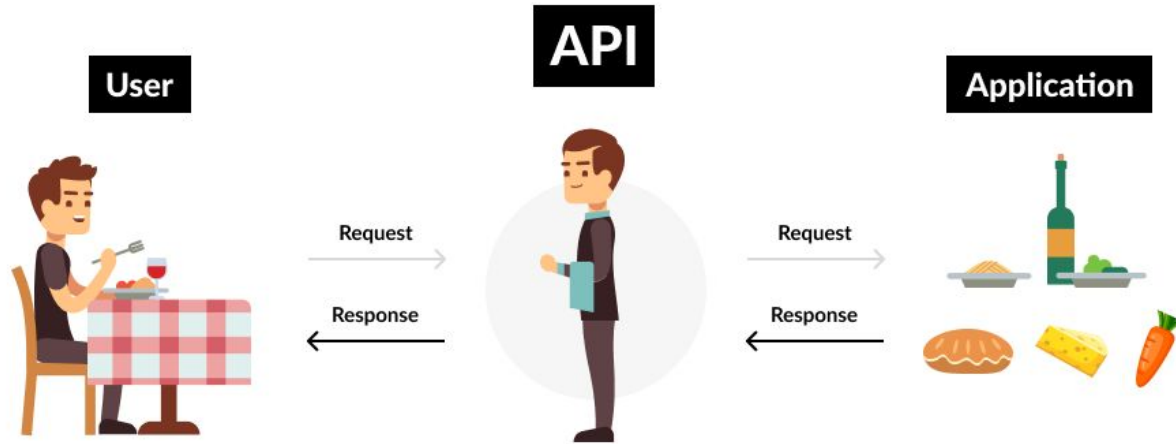
WEBSITE

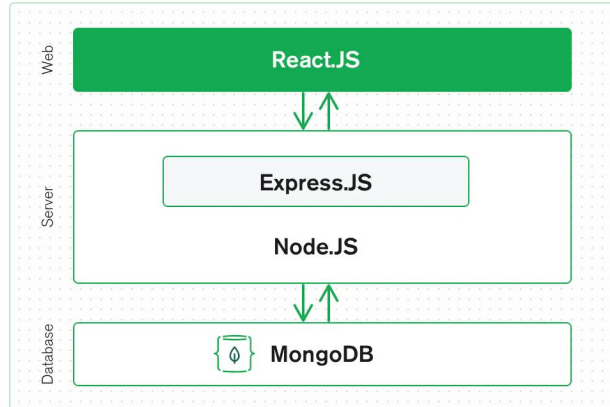
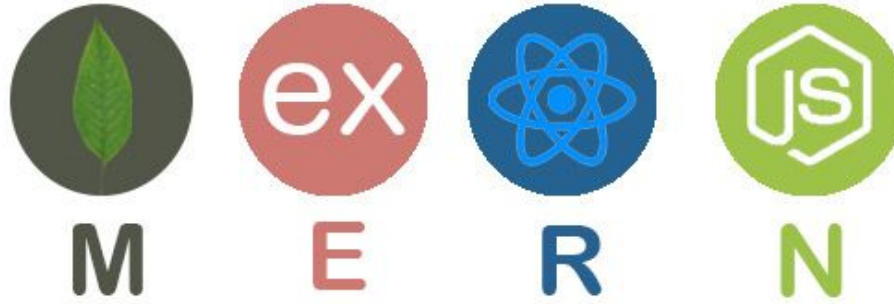


What is Full-Stack Development?



API

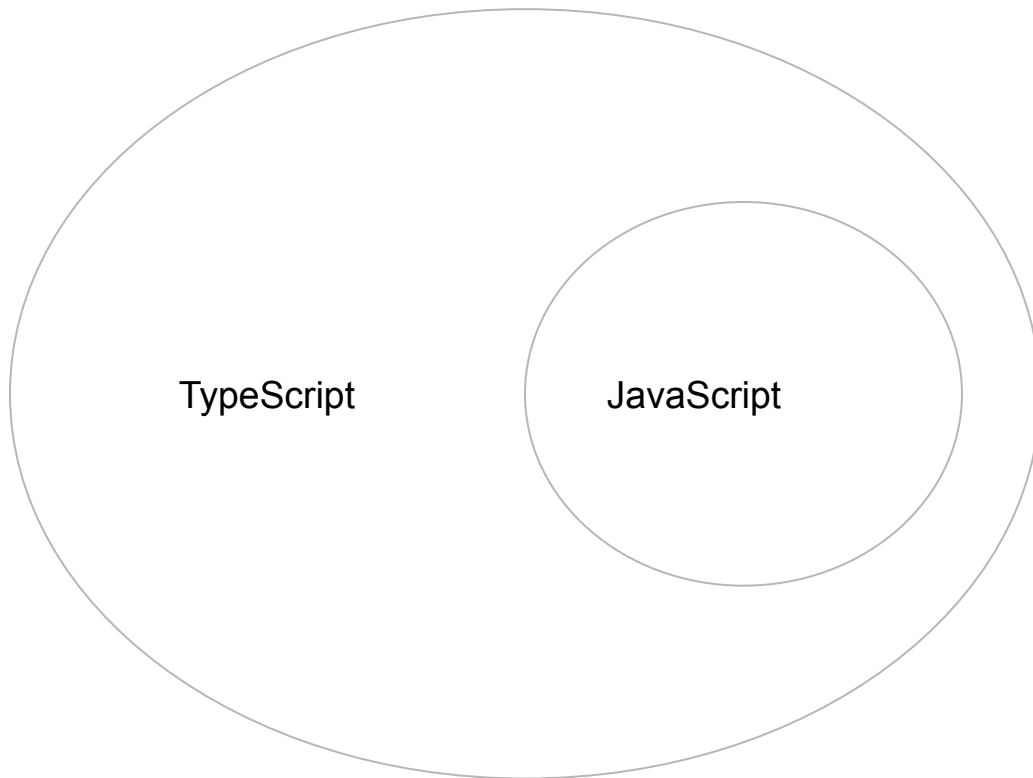






M E A N

What is Typescript ?



JavaScript

```
JavaScript + No-Library (pure JS)  Tidy
1  var myVar = "Shashank";
2  console.log(myVar);
3  myVar = 123 ;
4  console.log(myVar);
```

Console (beta) 2

"Running fiddle"

"Shashank"

123

>_

TypeScript

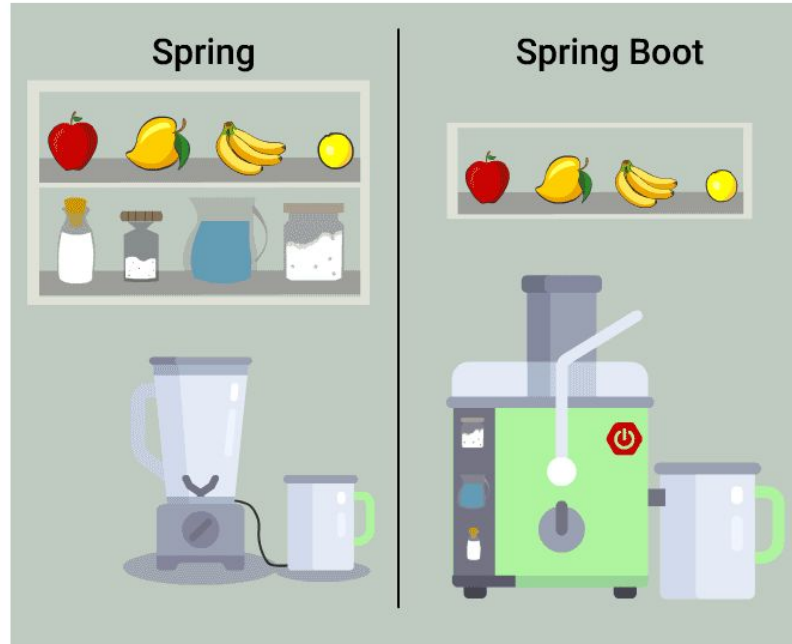
```
10  var myVar = "Shashank";
11  console.log(myVar);
12  myVar = 123;
```

input.tsx 1 of 1 problem

Type 'number' is not assignable to type 'string'. (2322)

```
13  console.log(myVar);
```

What is Spring?



Django



Why Django?

- 01 Implemented in Python
- 02 Fully loaded
- 03 Scalable
- 04 Secure
- 05 Rapid development



python™

django

Why Flask?

- 01 Flexible framework
- 02 Light weight
- 03 Single application
- 04 Less complex
- 05 Slightly better performance (single app)

NETFLIX



Uber



Flask
web development,
one drop at a time

SEO – Search Engine Optimization

On-Page SEO

- Meta Tags
- Alt Tags
- Header Tags

Off-Page SEO

- Backlinks
- Social Media Marketing
- Brand Mentions



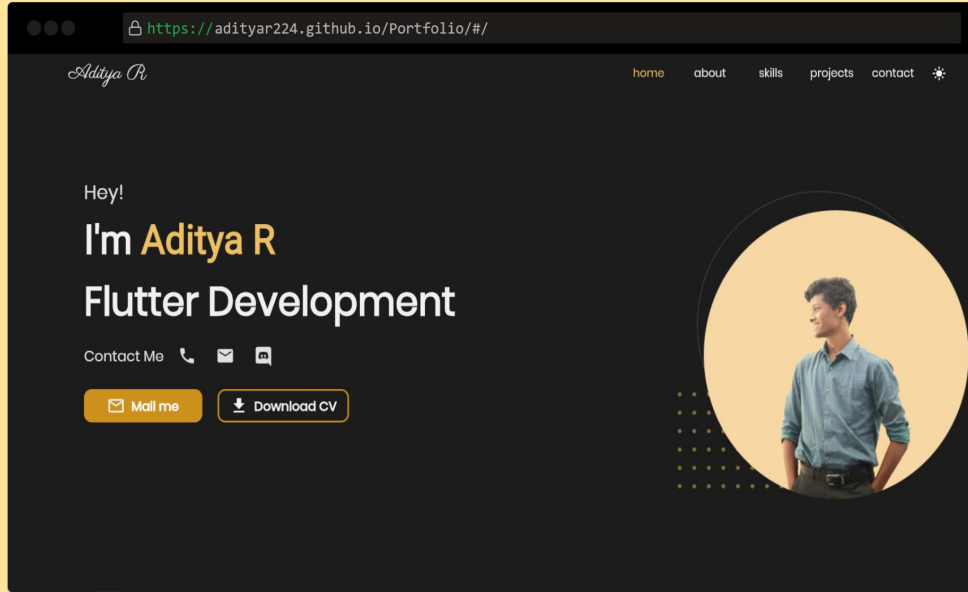
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INTRODUCTION TO APP DEV

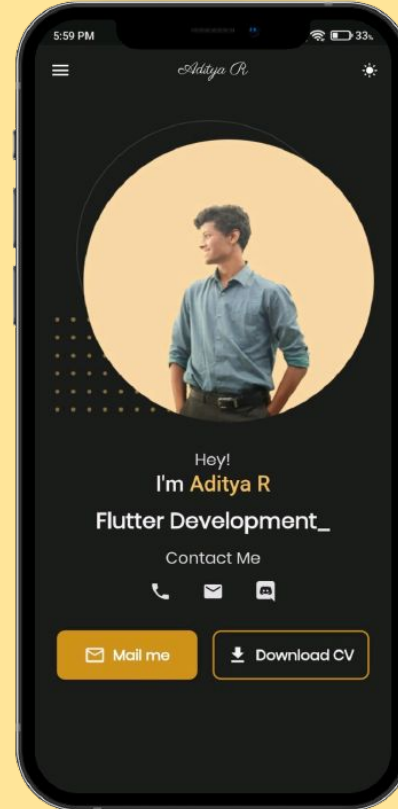
Android, Ios, Flutter and React Native

EXAMPLE

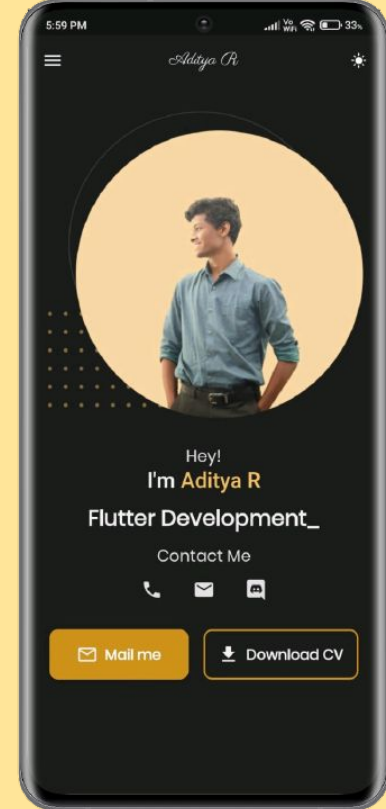
WEBSITE



IOS

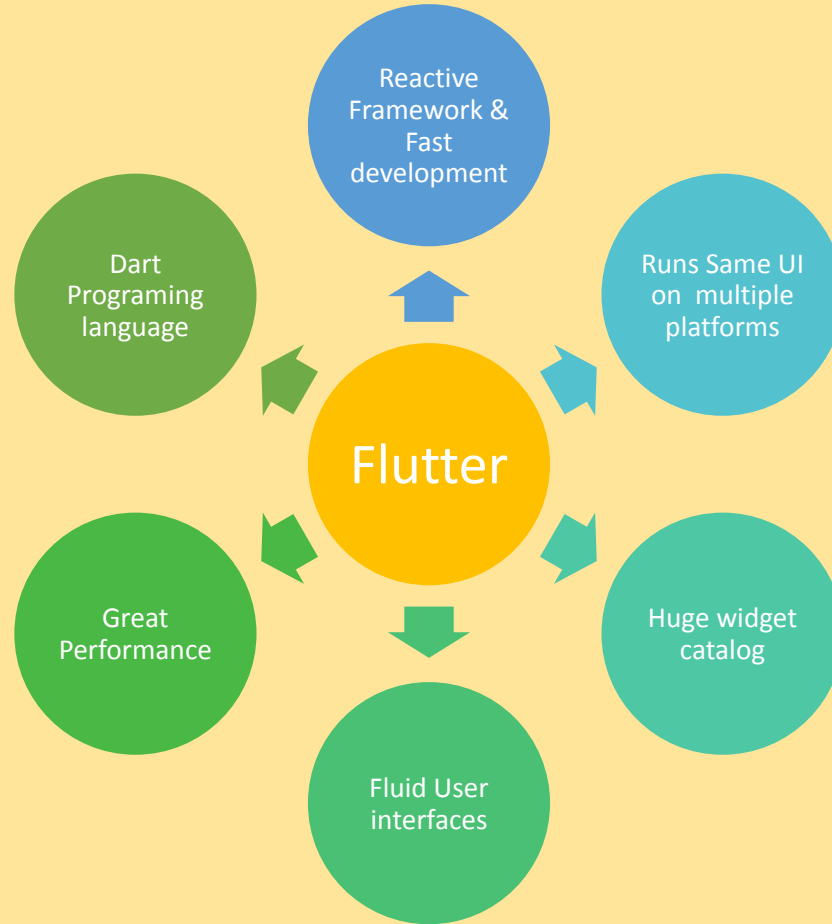


ANDROID



> ALSO RUNS ON WINDOWS, MACOS AND LINUX(BETA)

WHAT IS FLUTTER ?



WHY FLUTTER IS THE FUTURE AND IT'S ADVANTAGES

- Single codebase for every platform
- Requires Less Testing
- Hot Reload and Faster Development
- Wide number of open source package
- Native App Like Performance
- Low development cost
- Best suited for MVP

SOME FUN FACTS

- Over 100,000 apps have launched since the technology was first introduced.
- According to research, Dart is the fastest growing language between 2018 and 2019. They estimate the total usage of massive 532% growth over the last two years.

SOME POPULAR FLUTTER APPS



iOS Development



Introducing Swift

- ▶ Leverage tools like Swift, SwiftUI and Xcode 🔧
- ▶ Build great native apps 📱
- ▶ There are a few pre-requisites 💻



WEEK 4



WEEK 5

WEEK 6

React Native



Why React Native?


- ▶ Universal - JS Based ⚡
- ▶ Great for web developers 🔥
- ▶ Quick start on App development 🏃
- ▶ Hybrid development 🤝
- ▶ Widely used 🌍






Open Source





Why Open Source?



- Collaborating with different people
 - Different backgrounds, experience levels, while same platform
- Learning new skills
 - Work out of comfort zone
- Learning how the real world pipeline works
 - DevOps, Testing, Formatting, etc
- Open for everyone
 - No bias, even beginners can contribute

Examples:

Major Libraries:

- Tensorflow (<https://github.com/tensorflow/tensorflow>)
- Pytorch (<https://github.com/pytorch/pytorch>)
- NumPy (<https://github.com/numpy/numpy>)
- scikit-learn (<https://github.com/scikit-learn/scikit-learn>)

Try contributing to these:

- The Algorithms (Python, JS, etc) (<https://github.com/TheAlgorithms/Python>)

Issues - Open for beginners to contribute

(<https://github.com/tensorflow/tensorflow/issues?q=is%3Aissue+label%3A%22good+first+issue%22>)

✕ Clear current search query, filters, and sorts

23 Open ✓ 136 Closed

Author ▾Label ▾Projects ▾Milestones ▾Assignee ▾Sort ▾

• Execute C++ based GTest unit tests from a python wrapper

enhancement

good first issue

module: ci

triaged

🔗 1

💬 10

#64067 opened on 27 Aug by malfet

• torch.scatter_: support index.size(d) > src.size(d)

enhancement

good first issue

module: scatter functions

triaged

🔗 1

💬 20

#63265 opened on 14 Aug by ekhahniiii

• Jitted function cannot be pickled

good first issue

oncall: jit

OSS contribution wanted

🔗 1

💬 3

#61210 opened on 3 Jul by twoertwein

• Enhanced torch.chunk and torch.split

enhancement

good first issue

triaged

💬 13

#60531 opened on 23 Jun by nmichlo

• Generate special clear error messages for known common misuses in TorchScript

good first issue

module: bootcamp

OSS contribution wanted

triaged

💬 14

#58122 opened on 12 May by gmagogsfm

• Source location range issue for dictionary

good first issue

module: bootcamp

oncall: jit

OSS contribution wanted

💬 25

#55577 opened on 8 Apr by tugsbayasgalan

• [JIT] Provide an API to choose a different output stream for PYTORCH_JIT_LOG_LEVEL

days

good first issue

module: bootcamp

oncall: jit

OSS contribution wanted

🔗 1

💬 11

Open Source Pipeline

- Good first issues
- Get assigned
- Fork
- Branch
- Work
- Commit
- Push
- PR

(More info in second session)

Open Source Programs

- Google Summer Of Code
- MLH Fellowship
- Hacktoberfest
- Outreachy
- FOSSASIA Codeheat and many more.



Google Summer of Code

- a. Program organized by Google!
- b. Duration: 10 weeks. generally, applications open and the program takes place in the months of March - July
- c. Eligibility: Any Student! (Refer the GSOC website: <https://summerofcode.withgoogle.com>)
- d. Stipend: \$1500 - 1,10,000 INR



- a. Program organized by Major League Hacking - MLH. This program is generally for people to kick start their career in tech. You will be assigned to a pod of fellows where you contribute code and involve in building software.
- b. Duration: 12 weeks
- c. Eligibility: Anyone over the age of 18
- d. Need-based stipend upto \$5000 - 3,68,000 INR



- a. Conducted by Digital Ocean and this program is generally for people who wish to get started with Open Source
- b. Anyone that runs an open-source project on GitHub or GitLab and desires help from the community to improve their project can join Hacktoberfest.
- c. Duration: 1 month, October of every year
- d. Eligibility: Anyone
- e. A T-shirt for contributors who have made at least 4 merged pull requests

OUTREACHY

- a. A program for women as well as underrepresented communities
- b. Link: <https://www.outreachy.org/>
- c. Duration: 4 months. conducted twice a year
- d. Eligibility: Women and people from under-represented groups who face systematic bias
- e. Stipend: \$6000 - 4,41,000 INR



and Other Programs

- a. Program conducted by FOSSASIA. Winners are the ones who have made the highest number of contributions to the listed projects.
- b. Duration: 8 months
- c. Eligibility: Anyone
- d. Prizes for winners

Other Open Source programs:

https://docs.google.com/document/d/1Z0idqzodn_vLDyB5K88RoeviDZNAHeiogXl7UePFDvw/edit?usp=sharing

