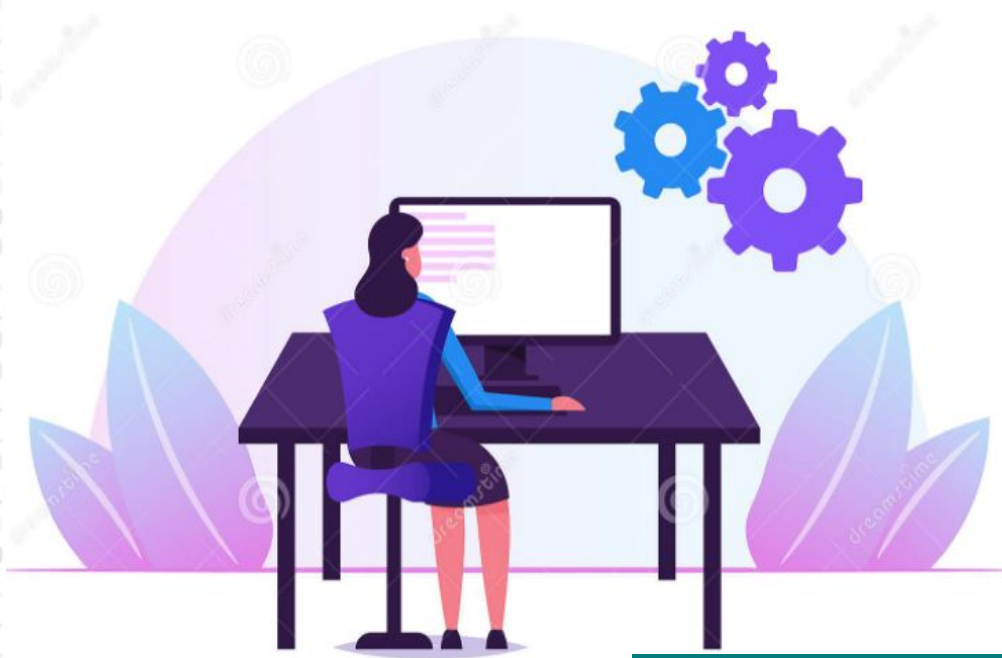


# Welcome!

- We'll start in a moment :)
- We may record tonight's event and plan to take screenshots for social media.
  - ***If you want to remain anonymous***, use your first name & keep video off.
- We'll introduce the hosts and break in-between for Q/A.
- We will make some time for Q&A at the end of the presentation as well.
- Online event best practices:
  - Mute yourself when you aren't talking.
  - Turn on your video if you feel comfortable!



# WWCode Digital + **Backend** **Backend Study Group**

March 25, 2021

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WOMEN WHO  
**CODE**

- Welcome from WWCode!
- Our mission: Inspiring women to excel in technology careers.
- Our vision: A world where women are representative as technical executives, founders, VCs, board members and software engineers.



Prachi Shah  
**Senior Software Engineer**  
**| Metromile**



Aditi  
**Full Stack Engineer**  
**| New Relic**



Elaine  
**Student Assistant**  
**| Lawrence Berkeley**  
**National Lab**

# CODE OF CONDUCT

**WWCode is an inclusive community**, dedicated to providing an empowering experience for everyone who participates in or supports our community, regardless of gender, gender identity and expression, sexual orientation, ability, physical appearance, body size, race, ethnicity, age, religion, socioeconomic status, caste, creed, political affiliation, or preferred programming language(s).

Our events are intended to inspire women to excel in technology careers, and anyone who is there for this purpose is welcome. We do not tolerate harassment of members in any form. Our [Code of Conduct](#) applies to all WWCode events and online communities.

Read the full version and access our incident report form at  
[womenwhocode.com/codeofconduct](https://womenwhocode.com/codeofconduct)





# Agenda

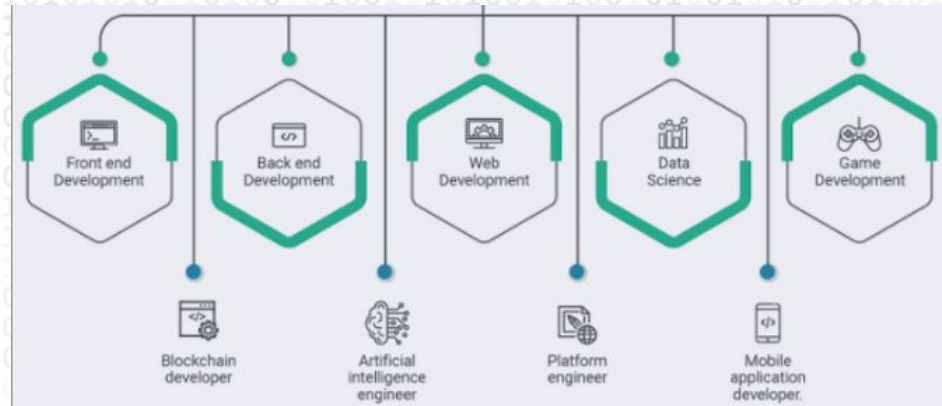
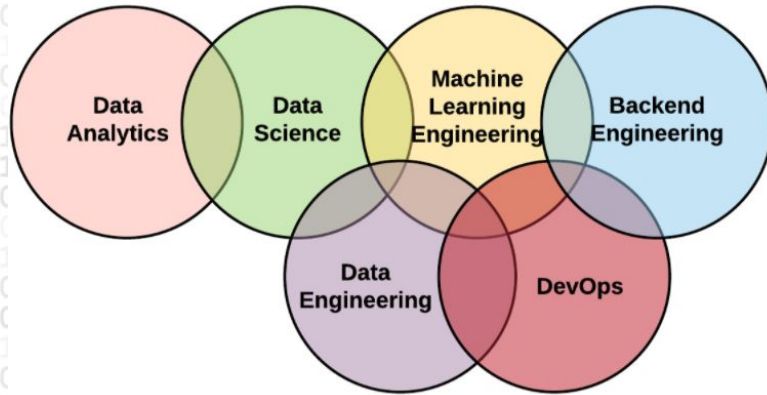
- First ever Backend Study Group session!
- Resources:
  - [GitHub](#)
  - Upcoming sessions:
    - [April 8, 2021](#)
    - [April 22, 2021](#)
  - [WWCode YouTube channel](#)
  - [Technical Tracks](#)
  - [Digital Events](#)
- Get updates – join the [Digital mailing list!](#)

# Backend Engineering

- What is Backend Engineering?
- Design, build and maintain server-side web applications.
- Common terms: Client-server architecture, networking, API, web frameworks, platform, micro-service, database engineering, web fundamentals, etc.
- Other domains: Front end engineering, full stack engineering, design & user experience, mobile development, devOps engineering, machine learning, etc. \*
- Examples: Amazon Online Shopping, Instagram, Weather website.

\* *Disclaimer: Roles and responsibilities can vary per company and industry.*

# Backend Engineering



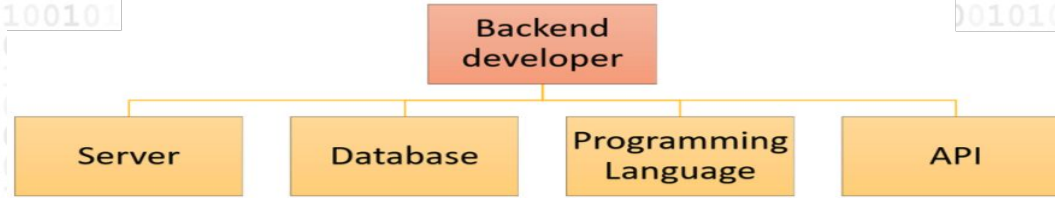


# Backend Engineering

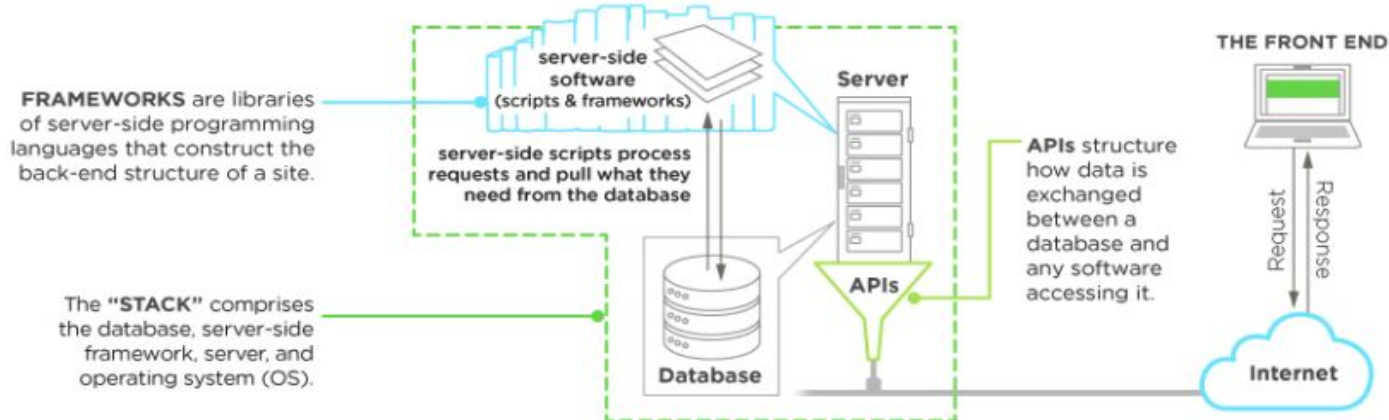
- Languages & frameworks & platforms: Java, Python, PHP, Scala, PostgreSQL, MongoDB, MySQL, Oracle, Cassandra, Spring Boot, Node.js, Ruby on Rails, Django, Flask, Express.js, AWS, Kubernetes, etc.
- Where to start?
  - Choose a language and framework.
  - Learn to serve content to the client.
  - Basic APIs, HTTP verbs and this-party integration.
  - CRUD and connection to database.
  - Security: Authentication (who) -- authorization (what).
  - Build an application/ product.
- Sub-domains: Application development, DBMS, systems design & architecture, networking, cloud computing, performance and scalability, security, IoT, distributed systems, etc.



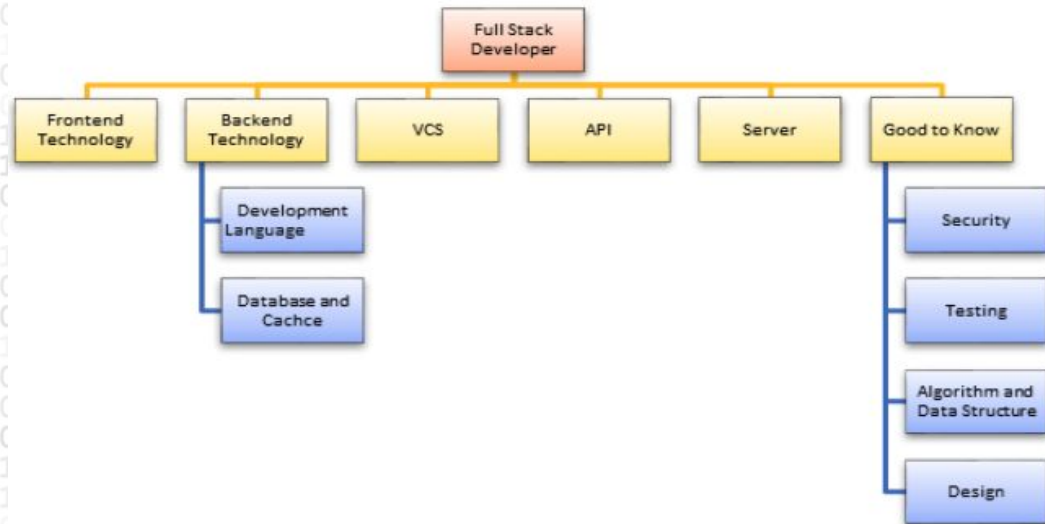
# Backend Engineering



## BACK-END DEVELOPMENT & FRAMEWORKS IN SERVER SIDE SOFTWARE



# Backend Engineering



## Front End

- Markup and web languages such as HTML, CSS and Javascript
- Asynchronous requests and Ajax
- Specialized web editing software
- Image editing
- Accessibility
- Cross-browser issues
- Search engine optimisation

## Back End

- Programming and scripting such as Python, Ruby and/or Perl
- Server architecture
- Database administration
- Scalability
- Security
- Data transformation
- Backup

# Backend Engineering

- Job prospects & demand:

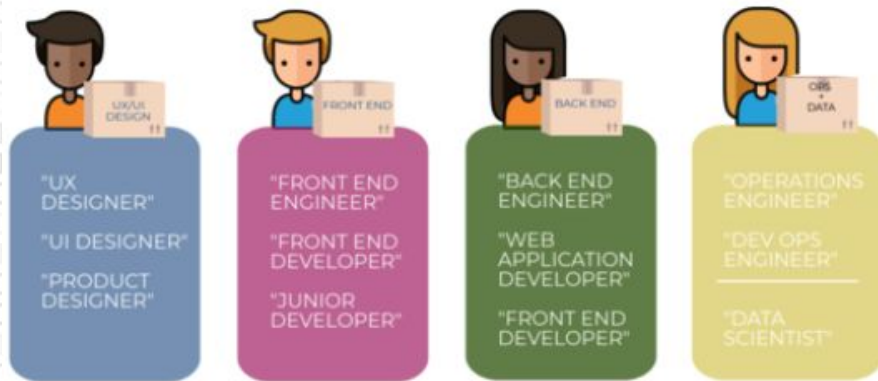
- Software Engineer/ Software Programmer/ Software Developer/ Backend Engineer/ Software Development Engineer.
- DevOps & infrastructure, DBMS admin, security engineer, architect, product engineer, cloud software engineer, etc.
- A day in the life of a backend / software engineer.
- Generalist vs. specialist. No one knows everything!
- Safe job \*
- Less count of women. Role does not last > 5 years. \*
- Career progression: Management/ leadership roles. May not code. Lots of decision making / resource management / architecture decisions / product scope.

- \* *Disclaimer:*

- *Depends on the company, team and responsibilities.*
- *As observed during relevant work experience.*



# Backend Engineering



## 3 TYPES OF DEVELOPERS

Frontend	Backend	Full-stack
learn	learn	learn
HTML, CSS, Javascript, Bootstrap, Foundation, Backbone frameworks	PHP, Python, Ruby, Server programme SQL/Oracle	All of the languages for both frontend and backend
do	do	do
The creation of user-friendly webpages, God of screen visuals and functionality, able to creatively solve user-centered issues	The building and maintaining of the web server, application and database, ensuring frontend operations are smooth	Mostly backend work, but are also adept at frontend languages to manipulate how the site looks on the user's end
are	are	are
Creative, imaginative, innovative and empathetic	Analytical, fast, composed, logical, detail oriented	Innovative, disciplined, multi-taskers

# Backend Study Group



**Q + A**

# Backend Study Group

- Resources:
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  - [Technical Tracks](#)
  - [Digital Events](#)
  - Get updates – join the [Digital mailing list!](#)
  - Have questions?
    - Contact us at: [contact@womenwhocode.com](mailto:contact@womenwhocode.com)
    - Join our [Slack](#) channel!

Thank you and see you soon!