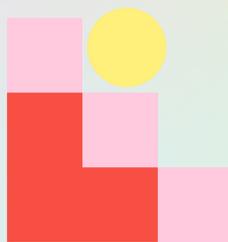


Syllabus

Backend Web Development Bootcamp

An immersive, online web development course to prepare you for
a successful career as a fullstack web developer



A rapidly changing tech landscape means the web development industry continues to grow quickly, and is expected to grow by at least **13%** in the next decade.

Table of Contents

3

Table of Contents

5

Backend Web
Development Curriculum

9

What Makes a
Software Engineer?

10

Program Structure

11

Program Pace and
Schedule

12

Contact Us

Overview

As a developer, you get to be the person that builds the next culture-shifting website or web application. A rapidly changing tech landscape means the web development industry continues to grow quickly, and is expected to grow by at least 13% in the next decade. The widespread need for developers across all industries means there's likely a job waiting for you wherever you want to live. And if you've got persistence, grit, curiosity, and a brain that likes to solve puzzles, web development could be the career for you.

During the time spent with Re:Coded's community, students learn to think, and build, like software engineers. In each curriculum module, students develop key skills through interactive labs, lectures, and close collaboration, showcasing progress through Portfolio Projects. While the bulk of the material covered occurs within the JavaScript and Node.js ecosystem, we carefully design our curriculum to prepare students to launch software engineering careers, independent of any specific language or technology. By the completion of the program, students have done so much more than simply build technical skills: they have contributed to real products with a team and built a portfolio that they can show to employers as they enter the job-search phase with the support of our Career Services team.

But we know that there's more to getting hired than having a great portfolio and technical knowledge. Our curriculum includes built-in career development, so you can enter the job market confident and prepared. You will get access to our Career Prep Curriculum throughout the bootcamp and upon graduation, you'll start working with our Career Services team to help you define your career plan, polish your resume and application materials, and practice your interviewing skills. You'll then work 1:1 with our Employer Partnership Managers to help match you with partners in our network. Finally, you'll be matched with an industry mentor and will have access to our alumni network who can help you build your professional network.

Common job titles of Re:Coded web development graduates include web developer, junior frontend developer, junior backend developer, and fullstack developer. Graduates have been hired at some of the top startups and companies across the region.

Backend Bootcamp

20 weeks | Full-time

Our Backend Web Development Curriculum was developed by our team of Re:Coded Trainers.

Bootcamp Launch

Meet Your Cohort, Class Structure & Expectations, Required Technology and Support

Week 1-4	JavaScript Fundamentals	Week 10	Testing
Week 5	Introduction to Backend	Week 11	Architecture and Best Practices
Week 6	Databases	Week 12	TypeScript
Week 7	CRUD and Data Models	Week 13	Cloud Computing
Week 8	Authentication and Security	Week 14	Revision Week
Week 9	Revision Week	Week 15-20	Capstone Projects

Week 1-4 [JavaScript Fundamentals](#)

Before learning the concepts of backend web development, students will spend a month getting familiar with fundamental concepts of the JavaScript programming language which includes basic syntax and data structures, working with array and object methods, ES6 syntax, asynchronous programming using promises and async/await and TypeScript fundamentals. For students that already have previous experience with JavaScript, this will serve as a preparatory week to solidify fundamentals before jumping into Node.js.

Week 5 [Introduction to Backend](#)

Writing backend code requires an intimate understanding of REST and the request-response lifecycle. Students will learn how to build and run a local server with API endpoints using Node.js and Express.js, handle GET, POST, and other HTTP requests, perform validations and return a structured response. Students will also learn basic server-side rendering, API building best practices and API documentation tools.

Week 6 [Databases](#)

Web applications that persist data between user visits inevitably use a database. Students will familiarize themselves with the relational and non-relational databases used in today's ecosystem and their query languages: MySQL, PostgreSQL, MongoDB, Elasticsearch. Students will also explore the advantages and disadvantages of each technology, understanding the appropriate use cases for each one.

Week 7 [CRUD and Data Models](#)

A high proportion of backend applications can be distilled into four simple operations: Create, Read, Update, and Delete. Students learn to connect their Express.js server to a MongoDB database using Mongoose.js, build a schema for the data collections, and implement models and controllers to perform CRUD operations.

Week 8 [Authentication and Security](#)

A website is often a personal experience, but to achieve that requires the concept of user authentication and API security. Students will learn to leverage existing frameworks such as Passport.js along with learning what's under the hood by implementing authentication using JWTs in API requests, managing sessions and cookies, understanding password hashing, and securing APIs.

Week 9 [Revision Week](#)

Week 10 [Testing](#)

No company can scale beyond a small project without automated testing. Students will learn about unit and integration testing, in addition to learning best practices surrounding writing clean, modular, and hermetic tests. This unit will emphasize not only writing tests as a means to verify robustness of code, but also utilizing test-writing as a developer mindset for writing safe code.

Week 11 [Architecture and Best Practices](#)

Students will go through a practical exploration of design patterns such as factory methods, singleton, state pattern along with architectural choices like websockets and microservices understanding the advantages and disadvantages of each approach in writing well-structured, error-free, maintainable code supporting complex features. Students will also familiarize themselves with the concepts of caching and job processing that contribute to the performance optimization and reliability of applications.

Week 12 [TypeScript](#)

Students learn to use TypeScript, an essential and marketable skill in today's JavaScript landscape. This variant of JavaScript provides type safety, allowing developers to write more scalable and understandable applications. Students apply their learning of TypeScript concepts using the Nest.js framework in comparison to Express.js.

Week 13 [Cloud Computing](#)

In the olden days, companies would keep physical computers on-premise in order to run a website. Today once your backend is ready to hit production, it is deployed on the cloud. Students will learn to deploy backends on cloud providers, such as Heroku and Amazon Web Services, utilize cloud-based DbaaS solutions like MongoDB Atlas along with exploring the use of Docker containers and proxy servers. On top of standard deployments, students gain insights into modern, scalable deployments such as Serverless functions.

Week 14 [Revision Week](#)**Week 15-20** [Capstone Project](#)

After completing the technical curriculum and learning phase, students will work in teams of 4 - 5 and apply their technical and soft skills to design and build a backend web application which they can showcase to prospective employers upon graduation.

While the linear progression of our curriculum is focused on building technical skills, our aim is to teach students how to become software engineers—which is distinct from simply knowing how to code. Students engage in a number of activities that hone their **communication and collaboration skills** and immerse themselves in the technical community, helping build the foundation needed to grow as software engineers in the future.

What makes a Software Engineer?



Portfolio Projects

At the conclusion of each program module, students build advanced Portfolio Projects to demonstrate both the technical skills they've gained in the module and their creativity. Portfolio Projects represent an opportunity for students to explore specific technologies that interest them while building a portfolio of fully functional web applications to impress employers.



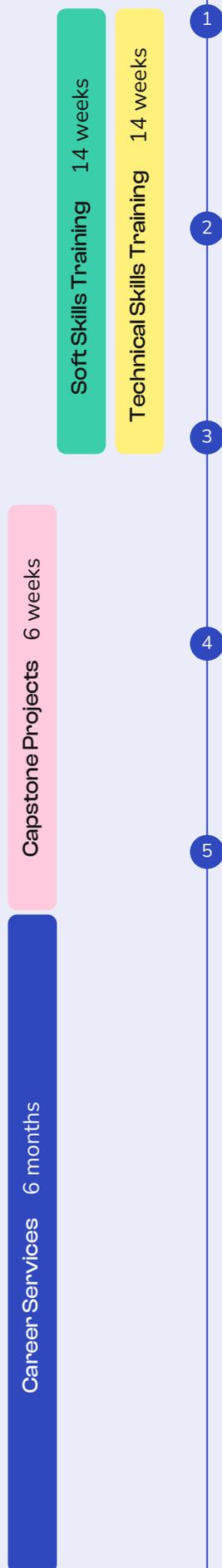
Technical Presentation

Students build their credibility as engineers by presenting their final Capstone Project in a Graduation Demo Day event, explaining the functionality of their web applications, what tools they used and why.



Active Github Profile

GitHub is the modern software engineer's resume. Students push every line of code they write at Re:Coded to GitHub through our learning platforms - Canvas and GitHub Classroom, giving them an extensive profile to show employers and fellow engineers.



Program Structure

Re:Coded's curriculum is built on three pillars:

- Technical Mastery
- Professional Skills
- Industry Fluency

Throughout the bootcamp and career services, students not only master technical skills but also core competencies such as perseverance, teamwork, and a growth mindset to succeed in the workforce.

Program Pace & Schedule

Full-Time
10:1 Student-Trainer Ratio

Length	20 weeks
Time Commitment	<ul style="list-style-type: none">• 25 hours per week of individual, self-paced work on online curriculum• 10 hours per week of live classes• 2-3 hours per week of trainer office hours
Admissions	Three-phase selection process: <ul style="list-style-type: none">• Application Form• Coding Challenge• Final Interview
Career Services Support	Students Receive: <ul style="list-style-type: none">• Access to Career Prep Curriculum• 1:1 Career Coaching Sessions• Profile Reviews (CV, LinkedIn, GitHub, Personal Website)• Mock Interviews• Employer matchmaking• Careers events and workshops
350+ Curriculum Hours	Students get access to Re:Coded's Backend Web Development curriculum hosted on our Learning Management System - Canvas
Live Classes	Students will have live classes three times per week with their assigned cohort
Assigned Cohort	Cohorts are made up of 20-25 students who will go through the 20-week program beginning to end together and work on group projects together.
Technical Mentorship	Students will be assigned industry expert technical mentors throughout the bootcamp.

Get in touch!

For more information, please check out our website at www.re-coded.com
or contact us at re-coded@re-coded.com

