

JAVASCRIPT DEVELOPMENT

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HELLO!

1. Pull changes from the `svodnik/JS-SF-8-resources` repo to your computer
2. Open the `starter-code` folder in your code editor

JAVASCRIPT DEVELOPMENT

INTRO TO CRUD AND FIREBASE

LEARNING OBJECTIVES

At the end of this class, you will be able to

- **Explain what CRUD is.**
- **Explain the HTTP methods associated with CRUD.**
- **Implement Firebase in an application.**
- **Build a full-stack app with create and read functionality.**

AGENDA

- **CRUD**
- **Firestore intro and setup**
- **Create**
- **Read**
- **Update**
- **Delete**

INTRO TO CRUD AND FIREBASE

WEEKLY OVERVIEW

WEEK 9

CRUD & Firebase / Deploying your app

WEEK 10

React / Final project lab

WEEK 11

Final project presentations

INTRO TO CRUD AND FIREBASE

HOMework REvIEW

ACTIVITY



KEY OBJECTIVE

- › Review Feedr project and show off your work

TYPE OF EXERCISE

- › Groups of 3-4

TIMING

10 min

1. Open Feedr sites on laptops and display them proudly!
2. Give feedback to your peers: "I like" and "I wish/wonder"
3. Share a challenge you ran into in your project and discuss how other group members may have worked with it.
4. Did you incorporate template literals in your project? Show your group how you did it!

EXIT TICKET QUESTIONS

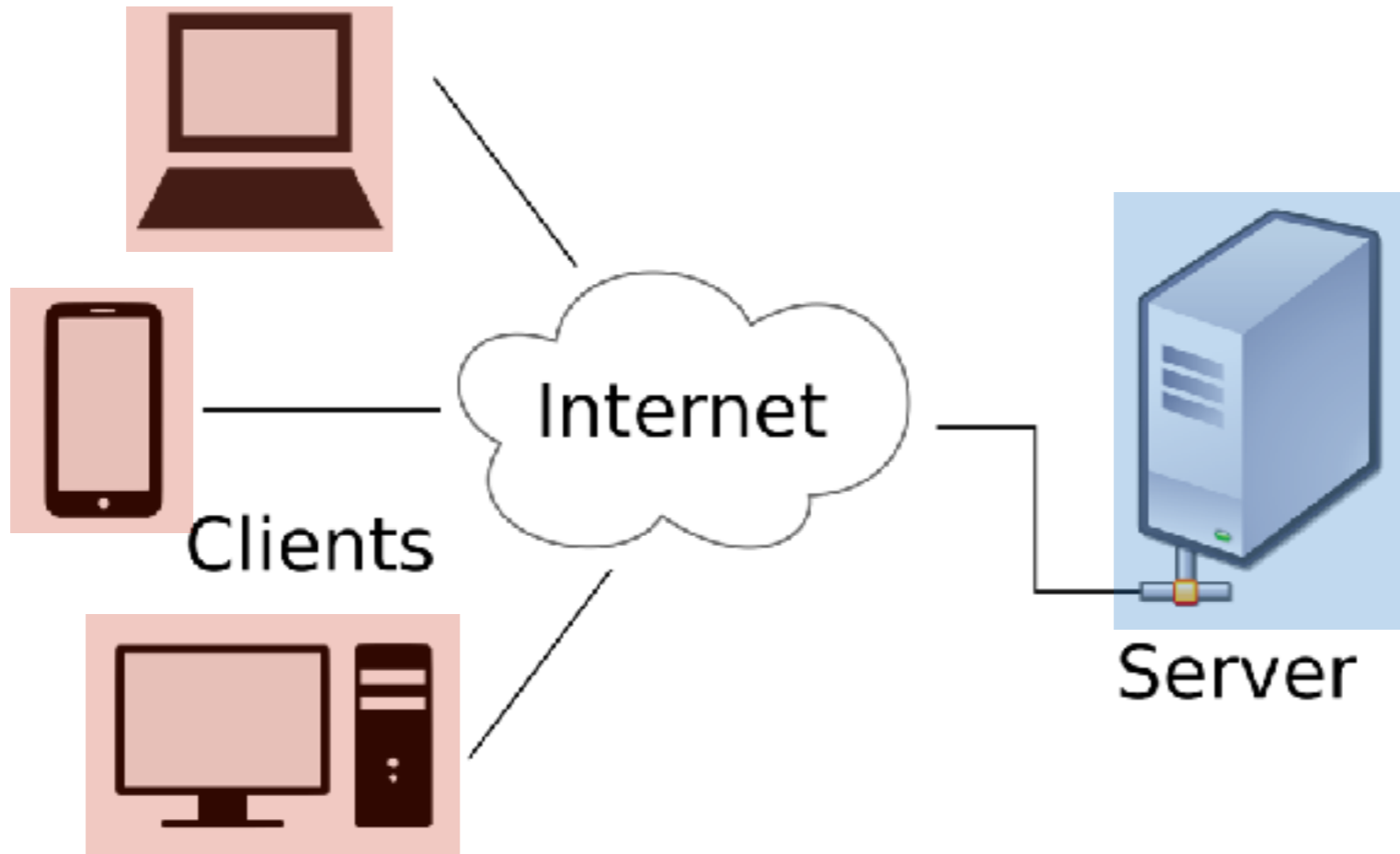
1. I think I understand why we'd use some of the content shown today, but not necessarily if it's utilized more in practice for bigger projects where multiple devs are collaborating on the same document?
2. When would I know to use a closure?
3. Why did `kind = newKind` work but not `this.kind = newKind`?

What are some apps that allow you to create, read, update, and delete data?

Back-end review

Front end

- HTML
- CSS
- JS



Back end

- JS
- Python
- Ruby
- PHP
- ...

CRUD

- Create
- Read
- Update
- Delete

CRUD and HTTP

CRUD action	HTTP verb
Create	POST
Read	GET
Update	PATCH/PUT
Delete	DELETE

EXERCISE — API METHODS



EXERCISE

KEY OBJECTIVE

- Identify API methods that let you implement CRUD functionality using a popular web service

TYPE OF EXERCISE

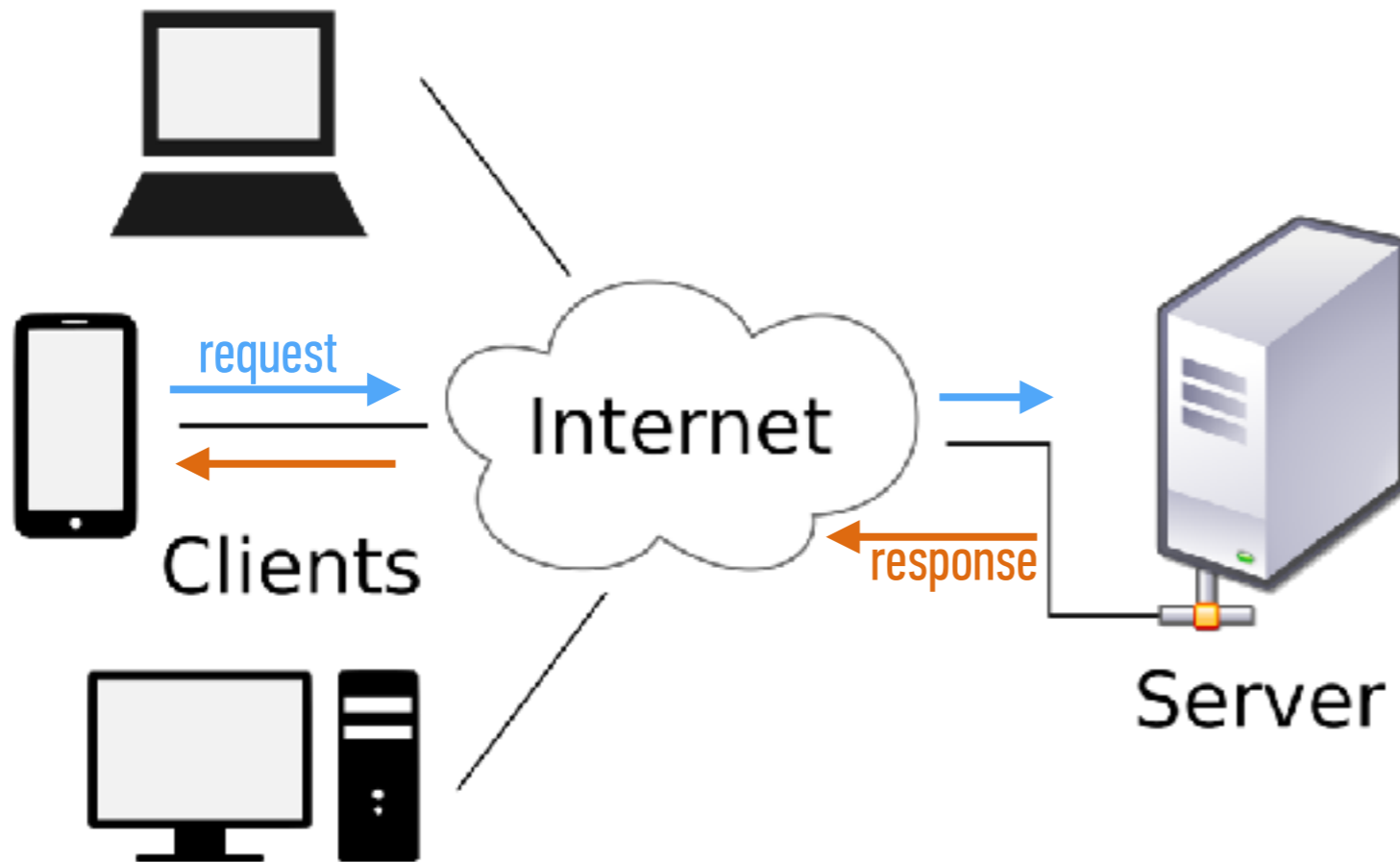
- Groups of 3

TIMING

5 min

1. Research your assigned API to see what HTTP methods a developer must use to perform at least one instance of create, read, update and delete. (If your API doesn't fully support CRUD, note any limitations.)
2. Further, define what exactly is being created, read, updated or deleted. For example, for Facebook what HTTP method on what endpoint must you ping in order to create a post in a feed?

THE CLIENT-SERVER MODEL WITH CRUD



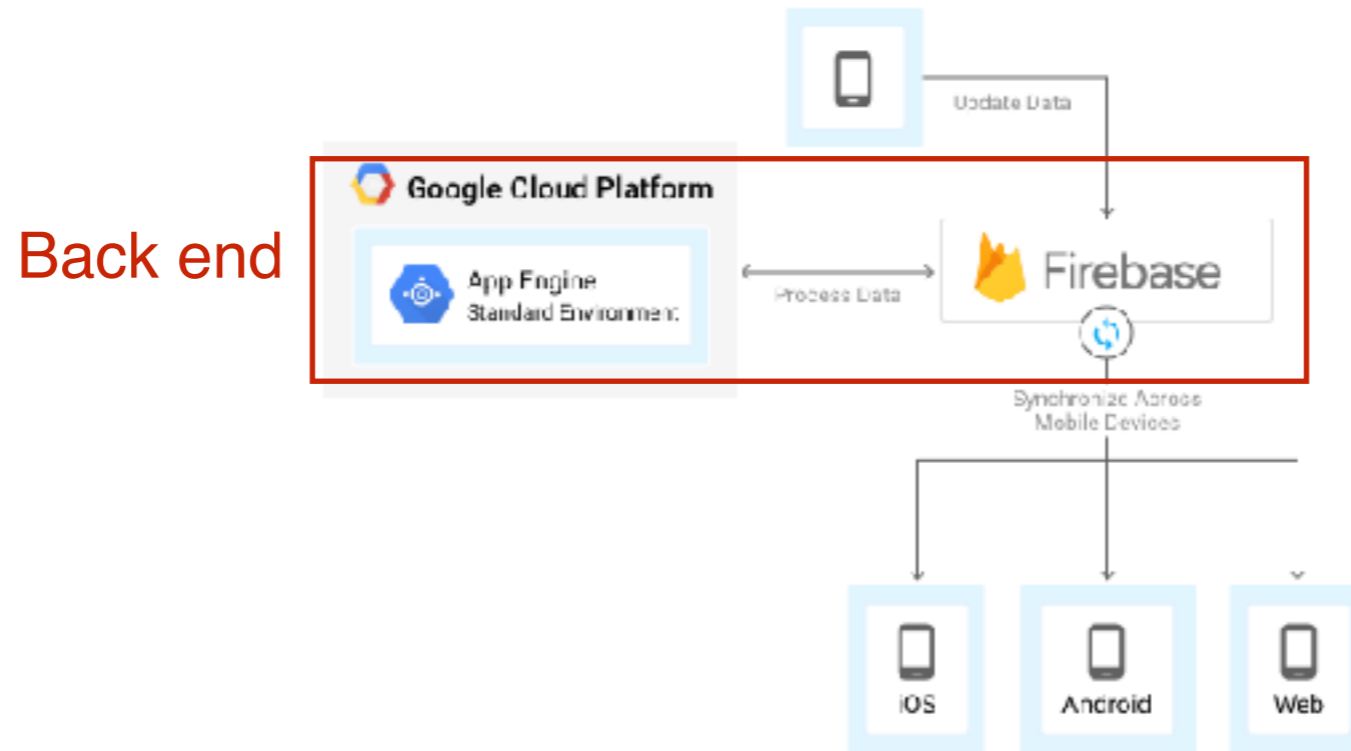
Stores HTML/CSS/JS code

- Accepts HTTP requests
- Generates HTTP responses

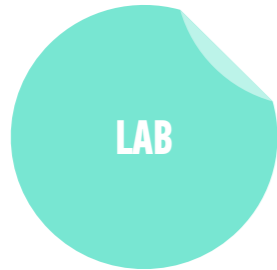
Stores database

- Provides create access
- Provides read access
- Provides update access
- Provides delete access

FIREBASE



LAB — PLAN A CRUD APP



KEY OBJECTIVE

- › Plan a full-stack app with full CRUD functionality

TYPE OF EXERCISE

- › Solo or in pairs

TIMING

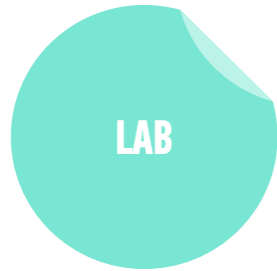
10 min

1. Come up with an idea for an app that implements CRUD. You'll build your app this week in class (this is not your final project). Your app must be able to Create, Read, Update and Delete data.
2. Build out your HTML, CSS, and JS files.
3. Use the Firebase dashboard to create your new app.
4. Get the URL key to initialize your app, and initialize your Firebase app utilizing the starter code.

CRUD and HTTP

CRUD action	HTTP verb	Firestore method
Create	POST	<code>push()</code>
Read	GET	<code>ref()</code>
Update	PATCH	<code>update()</code>
	PUT	<code>set()</code>
Delete	DELETE	<code>remove()</code>

LAB — IMPLEMENT CREATE FUNCTIONALITY



KEY OBJECTIVE

- Build the Create functionality of a full-stack app

TYPE OF EXERCISE

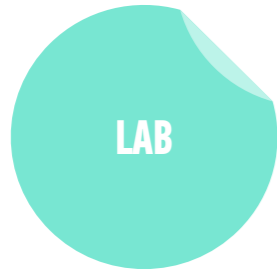
- Solo or in pairs

TIMING

20 min

1. Create a form
2. Get user input
3. Create a section in your database for your data
4. Save your data to the database
5. Change security rules to allow access without authentication
6. View your data in the Firebase dashboard

LAB — IMPLEMENT READ FUNCTIONALITY



KEY OBJECTIVE

- Build the Read functionality of a full-stack app

TYPE OF EXERCISE

- Solo or in pairs

TIMING

20 min

1. Examine the API documentation at <https://firebase.google.com/docs/reference/js/firebase.database.Reference>
2. Listen for changes (use `.ref()` and `.on()`)
 - <https://firebase.google.com/docs/reference/js/firebase.database.Reference#ref>
 - <https://firebase.google.com/docs/reference/js/firebase.database.Reference#on>
3. Add returned data to your front end using DOM manipulation

LAB — IMPLEMENT UPDATE FUNCTIONALITY



KEY OBJECTIVE

- › Build the Update functionality of a full-stack app

TYPE OF EXERCISE

- › Solo or in pairs

TIMING

20 min

1. Examine the API documentation at
 - › <https://firebase.google.com/docs/reference/js/firebase.database.Reference#update>
 - › <https://firebase.google.com/docs/reference/js/firebase.database.Reference#set>
2. Create a function to make updates to the database
3. Add calls to your new function when data is changed in your app

LAB — IMPLEMENT DELETE FUNCTIONALITY



KEY OBJECTIVE

- Build the Delete functionality of a full-stack app

TYPE OF EXERCISE

- Solo or in pairs

TIMING

10 min

1. Examine the API documentation at <https://firebase.google.com/docs/reference/js/firebase.database.Reference#remove>
2. Create a function to delete records from the database
3. Add calls to your new function when data is deleted in your app

Exit Tickets!

(Class #15)

LEARNING OBJECTIVES – REVIEW

- Explain what CRUD is.
- Explain the HTTP methods associated with CRUD.
- Implement Firebase in an application.
- Build a full-stack app with create and read functionality.

NEXT CLASS PREVIEW

Deploying your app

- Understand what hosting is.
- Identify a program's needs in terms of host providers.
- Ensure backward compatibility by using Babel to transpile code.
- Deploy to a web host.

Q&A