GENERAL ASSEMBLY

JAVASCRIPT DEVELOPMENT

Sasha Vodnik, Instructor

HELLO!

1. Pull changes from the `svodnik/JS-SF-7` repo to your computer
2. Open the `starter-code` folder in your code editor

OBJECTS AND JSON

LEARNING OBJECTIVES

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

- Identify likely objects, properties, and methods in real-world scenarios
- Create JavaScript objects using object literal notation
- Implement and interface with JSON data

AGENDA

- Homework submission & review
- Objects, properties, and methods
- Lab: Translate real world scenarios into objects
- Lab: Create objects
- JSON
- Lab: Work with JSON

HOMEWORK — PUSH CODE TO GITHUB

EXERCISE

KEY OBJECTIVE

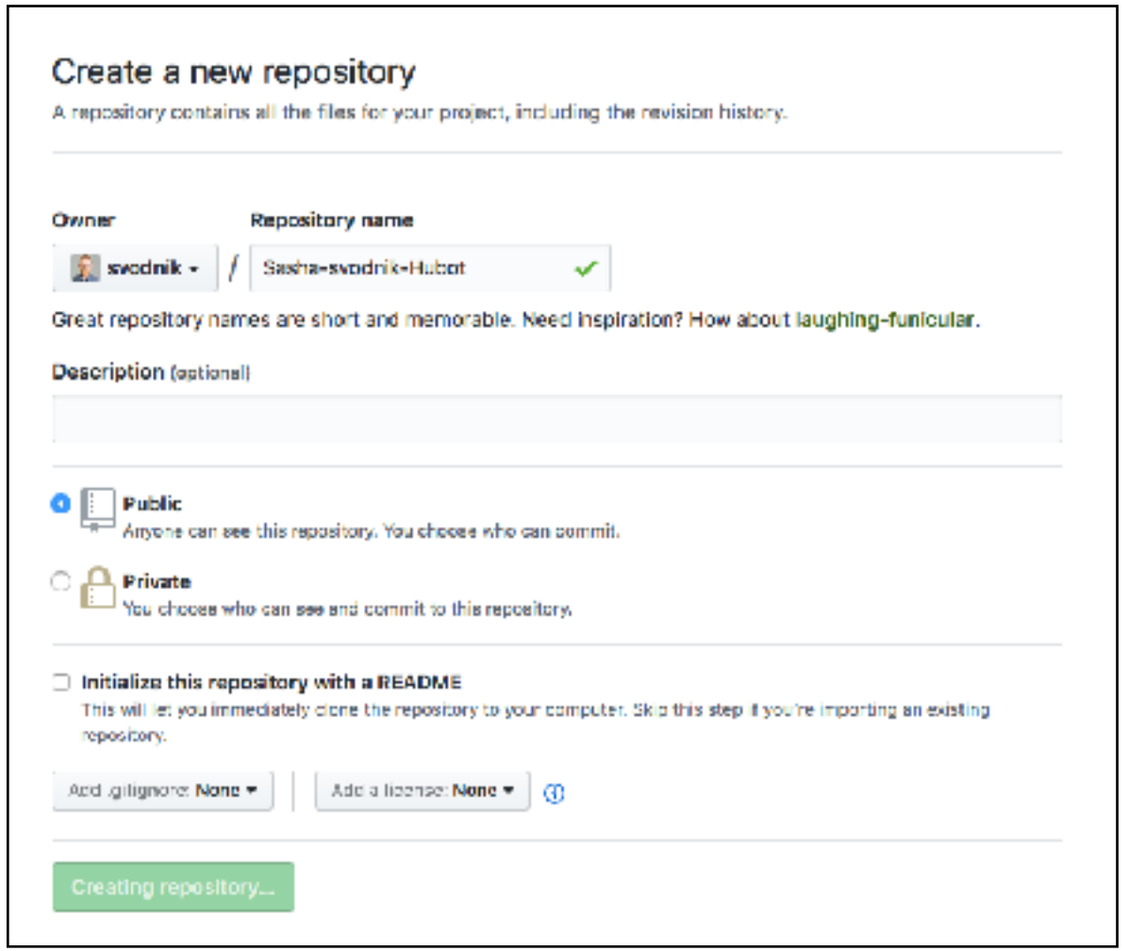
- Push your Hubot code to GitHub and submit it to the instructional team

TIMING

2 min

1. Create a new repo on github.com named `firstname-username-Hubot` (for instance, `Sasha-svodnik-Hubot`).
2. Use the 2 commands provided by GitHub to upload your existing Hubot repo to your new GitHub repo.
3. DM the URL of your new repo to Sasha and Larissa.

CREATING A GITHUB REPO FOR YOUR HUBOT



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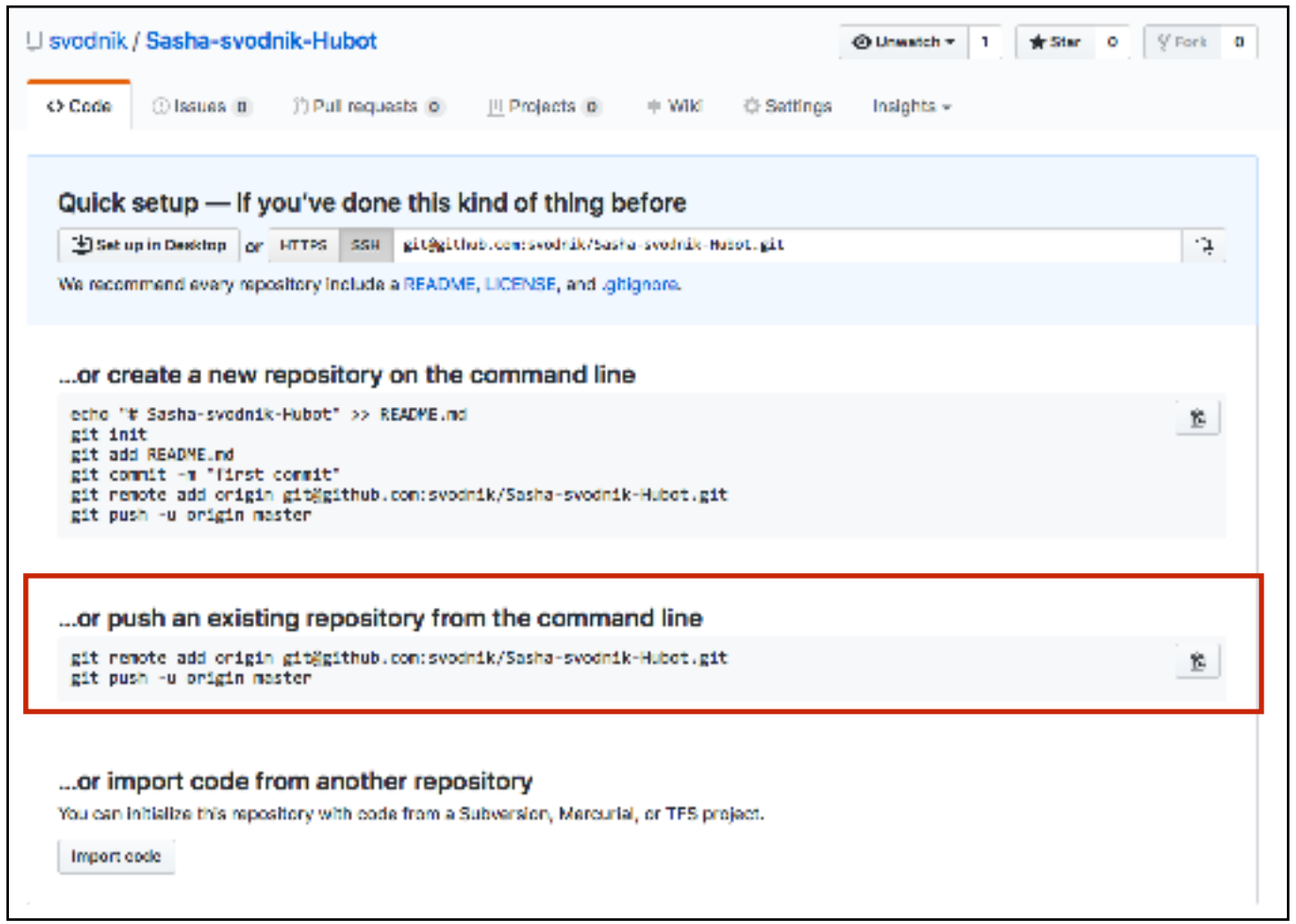

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HOMEWORK — GROUP DISCUSSION

EXERCISE

TYPE OF EXERCISE

- Groups of 3

TIMING

10 min

1. Pick someone to take notes for your group.
2. Show off your bot! What can it do?
3. Share a challenge you encountered, and how you overcame it.
4. If you tried something that didn't work, or wanted to add functionality but weren't quite sure how, brainstorm with your group how you might approach it.

Think about the item you've been assigned:

- List attributes (aspects that you can describe)
- List actions (things it can do)

WARMUP EXERCISE

EXERCISE

TYPE OF EXERCISE

- Pairs

TIMING

3 min

1. For the thing you've been assigned, make a list of attributes (descriptions) and actions (things it can do).

OBJECTS

OBJECTS

- Objects are a separate data type from the ones we've learned
- An object stores key-value pairs
- An object is not ordered (unlike arrays)

PROPERTIES

- Object properties are variables attached to a specific object.

PROPERTIES, KEYS, AND VALUES

- At its simplest, an **object** is a collection of properties
- A **property** is an association between a key and a value
  - **key**: name (often descriptive) used to reference the data
  - **value**: the data stored in that property
- A property is sometimes referred to as a key-value pair

METHODS

- A **method** is a function that is specified as part of an object.
- You call a method the same way you call a property — using dot notation
- The main difference between referencing properties and calling methods: when calling a method, you have to include `()` after the method name.
- To define a method, you assign a function to a named property.

EXERCISE — OBJECTS

EXERCISE

KEY OBJECTIVE

- Create JavaScript objects using object literal notation

TYPE OF EXERCISE

- Pairs (same pair as for previous exercise)

TIMING

3 min

1. On your desk or on the wall, write code to create a variable whose name corresponds to the thing you were assigned in the previous exercise (cloud, houseplant, nation, office chair, or airplane).
2. Write code to add a property to the object and specify a value for the property.
3. Write code to add a method to the object, and specify a value for the method (use a comment or console.log() statement for the function body).
4. BONUS: Rewrite your answers for 1-3 as a single JavaScript statement.

REAL WORLD SCENARIO

A user, browsing on a shopping website, searches for size 12 running shoes, and examines several pairs before purchasing one.

PRACTICE: REAL WORLD SCENARIOS & OBJECTS

EXERCISE — REAL WORLD SCENARIOS & OBJECTS

EXERCISE

KEY OBJECTIVE

- Identify likely objects, attributes, and methods in real-world scenarios

TYPE OF EXERCISE

- Groups of 2-3

TIMING

10 min

1. Read through your scenario together.
2. Identify and write down likely objects, attributes, and methods in your scenario. (Remember to consider implicit objects as well as explicit ones.)
3. Choose someone to report you results to the class.

PRACTICE: MONKEYS

LAB — OBJECTS

LAB

KEY OBJECTIVE

- Create JavaScript objects using object literal notation

TYPE OF EXERCISE

- Individual or pair

TIMING

20 min

1. Open `starter-code > 1-object-exercise > monkey.js` in your editor.
2. Create objects for 3 different monkeys each with the properties `name`, `species`, and `foodsEaten`, and the methods `eatSomething(thingAsString)` and `introduce`.
3. Practice retrieving properties and using methods with both dot notation and bracket syntax.

JSON

- A data format that's based on JavaScript
- Both easy for humans to read and write AND easy for programs to parse and generate
- Language-independent (NOT JavaScript-specific)

JSON RULES

- Property names must be double-quoted strings.
- Trailing commas are forbidden.
- Leading zeroes are prohibited.
- In numbers, a decimal point must be followed by at least one digit.
- Most characters are allowed in strings; however, certain characters (such as ', ", \, and newline/tab) must be 'escaped' with a preceding backslash (\ ) in order to be read as characters (as opposed to JSON control code).
- All strings must be double-quoted.
- No comments!

EXERCISE — REAL WORLD SCENARIOS & OBJECTS

EXERCISE

KEY OBJECTIVE

- Implement and interface with JSON data

TYPE OF EXERCISE

- Groups of 2-3

TIMING

3 min

1. Write JSON code that contains just one error.
2. Write your code on the wall.
3. When everyone's code is done, we will look at the code together as a class and practice identifying errors.

PRACTICE: JSON

LAB — JSON

LAB

KEY OBJECTIVE

- Implement and interface with JSON data

TYPE OF EXERCISE

- Individual or pair

TIMING

until 9:20

1. Open `starter-code > 3-json-exercise > app.js` in your editor.
2. Follow the instructions to write code that produces the stated output. Check your work after each step by opening index.html in your browser and viewing the output in the console.

LEARNING OBJECTIVES - REVIEW

- Identify likely objects, attributes, and methods in real-world scenarios
- Create JavaScript objects using object literal notation
- Implement and interface with JSON data

NEXT CLASS PREVIEW

Intro to the DOM

- Identify differences between the DOM and HTML.
- Explain the methods and use the DOM in JavaScript.

Exit Tickets!

Q&A