

Web Development and Version Control

CSCI 39549

August 29, 2018

Class Overview

- *Intros*
- *Course Objective*
- *Syllabus Review*
- *Git Intro*
- *Git Exercise*
- *Python Code Exercise*
- *Break (10 mins)*
- *Flask Tutorial*

Introductions

Arylee McSweaney



Baruch
COLLEGE

MEC **Etsy**

Rebecca Sliter



ThoughtWorks[®]

KICKSTARTER

Etsy

Who are you?

- . Name*
- . Level*
- . What You Expect from the Course*



What Will I learn here?



Course objective

Experience agile engineering by simulating a real-world environment where students build out iterations on features, commit code to Github, learn about how teams operate, and deliver a working product.

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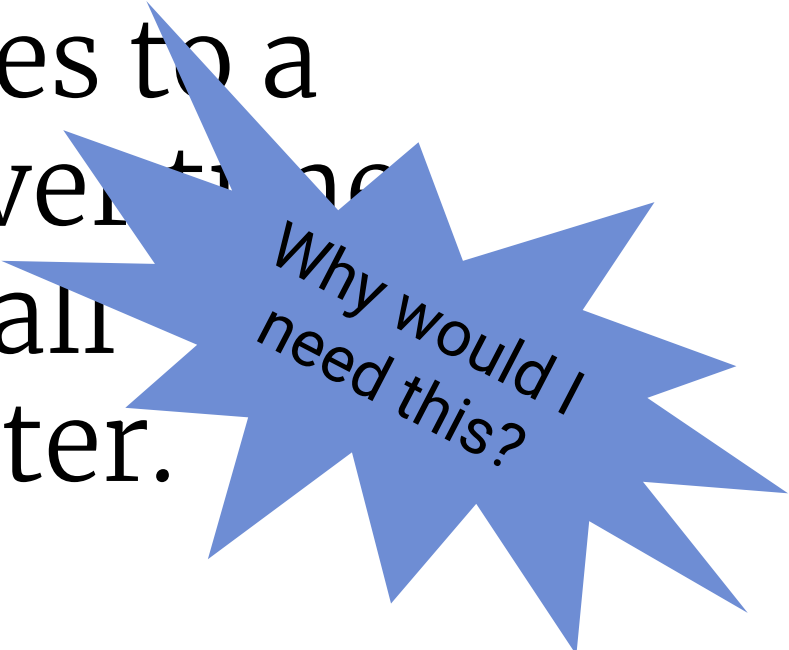
Syllabus Review

Online syllabus: <https://github.com/rsliter/hunter-agile-web-development>

Version Control

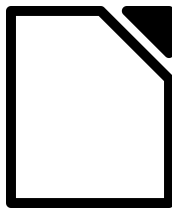
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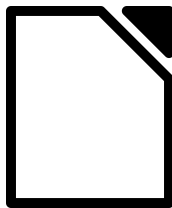
Why would I
need this?

Why Do I Need Version Control?

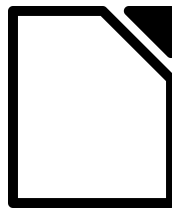


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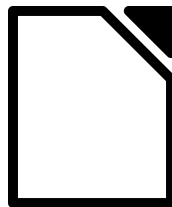


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Git



How Git works



Git is a tool for tracking changes to a file system.

Each individual change made is called a **commit**.

How Git works



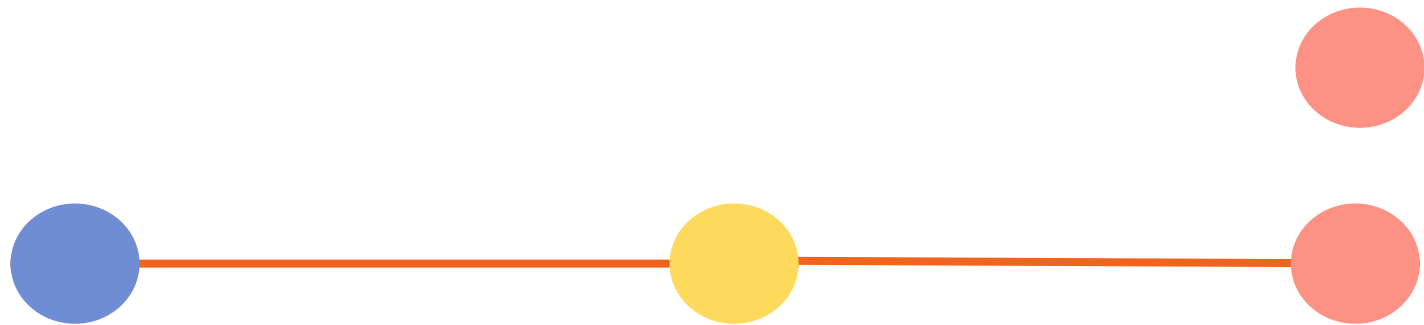
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This is called a **repository**.

How Git works



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Commits can be made by multiple people, and added to the historical log of changes.

This is called a **repository**.

Commits are made on your personal copy of Git.

When you're ready to share that commit with others, you **push** it to the repository.

How Git works



On your computer

```
git clone https://github.com/rsliter/hunter-agile-web-development.git
```


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```
git clone https://github.com/rsliter/hunter-agile-web-development.git  
  
git log
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TODO: Add your name and Github username to ROSTER.md

```
git push origin master
```

Git Resources

Learn Online

<https://www.codecademy.com/learn/learn-git>

<https://www.atlassian.com/git>

Learn On the Go

<enki> app on ios/android

Programming in Python

On your computer

```
git clone https://github.com/rsliter/csci-39549-python-intro.git  
cd csci-39549-python-intro
```

On your computer

```
git clone https://github.com/rsliter/csci-39549-python-intro.git
```

```
cd csci-39549-python-intro
```

```
python calculator.py
```

On your computer

```
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cd csci-39549-python-intro  
  
python calculator.py
```



TODO: Add multiplication and division functions to the Calculator class

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If you're stuck, check out docs.python.org

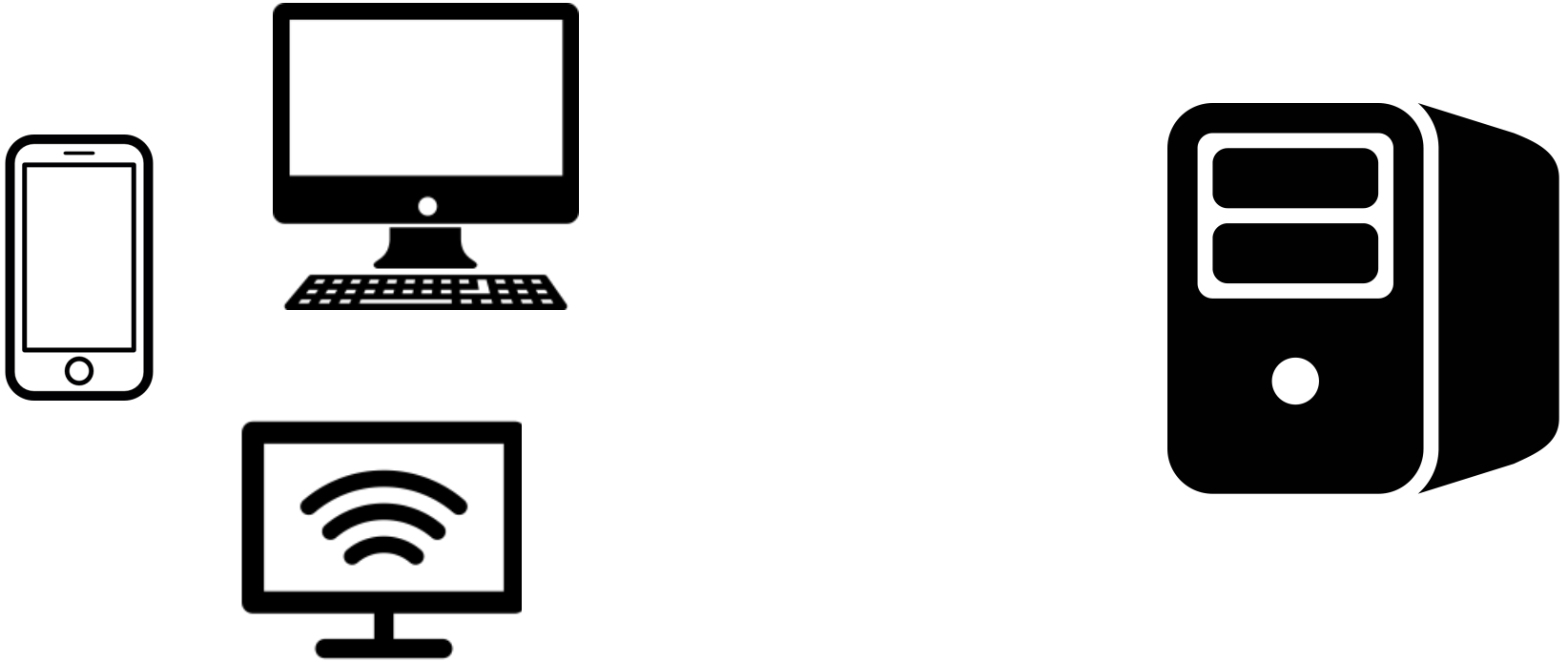
10-minute Break

Web Development

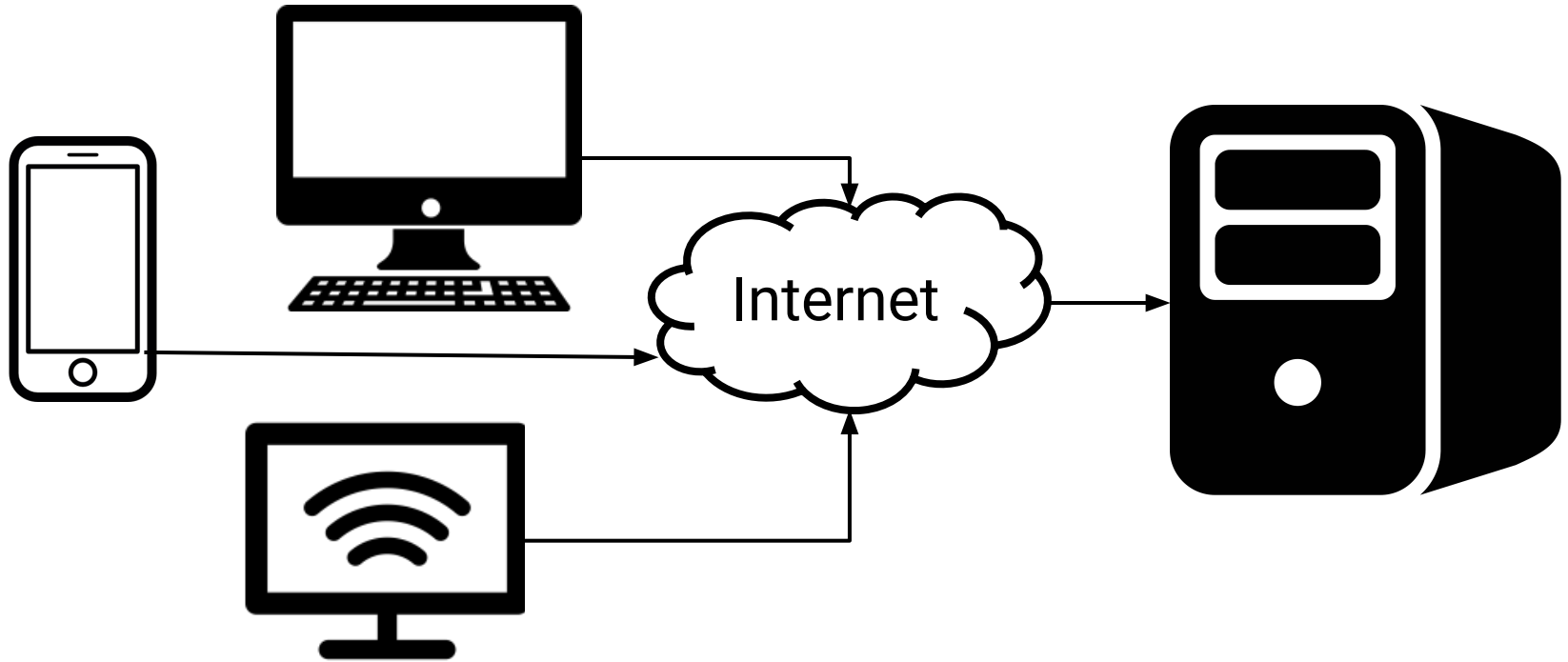
Client-Server Model



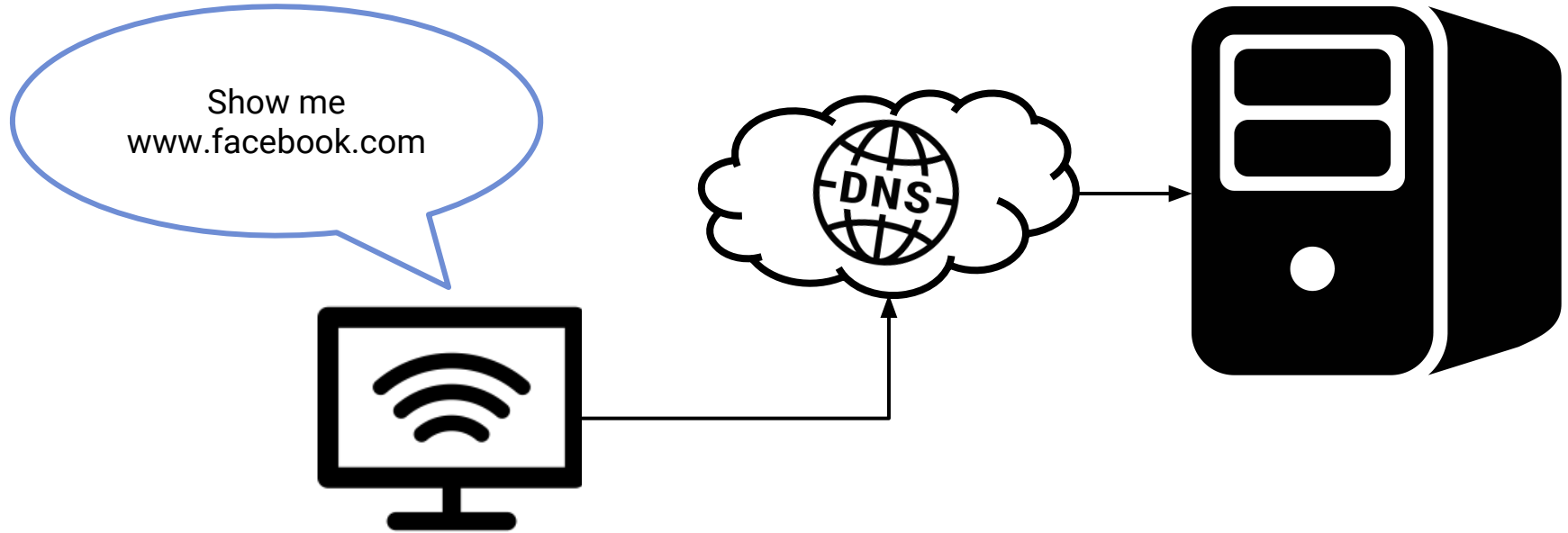
Client-Server Model



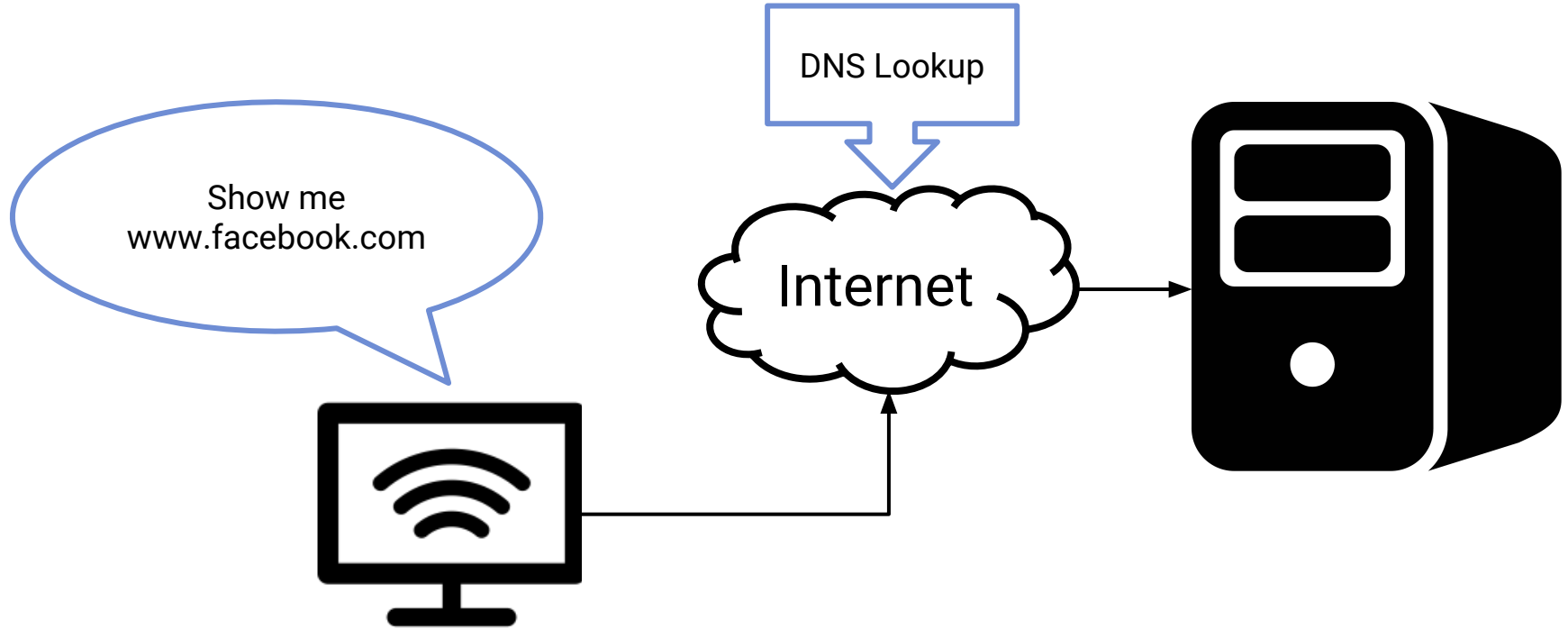
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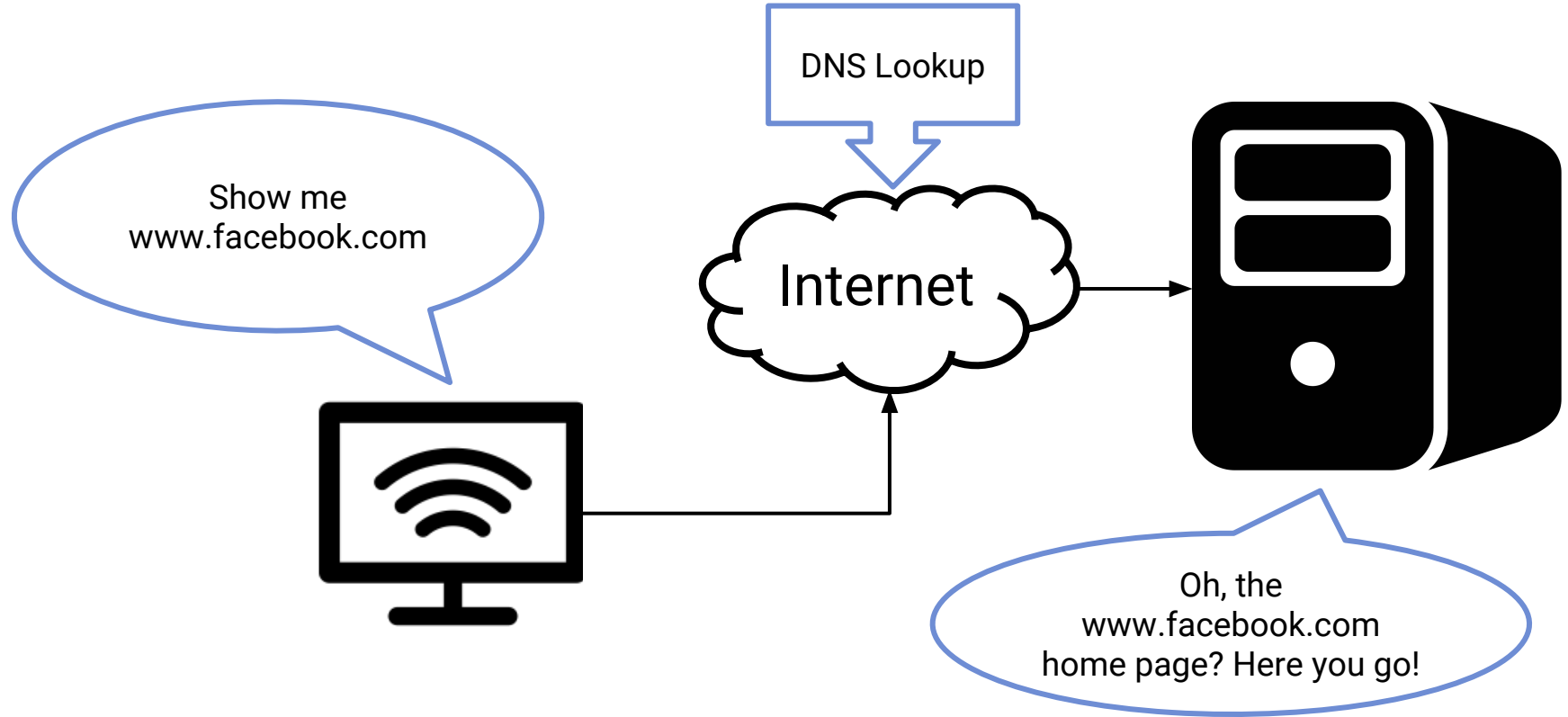
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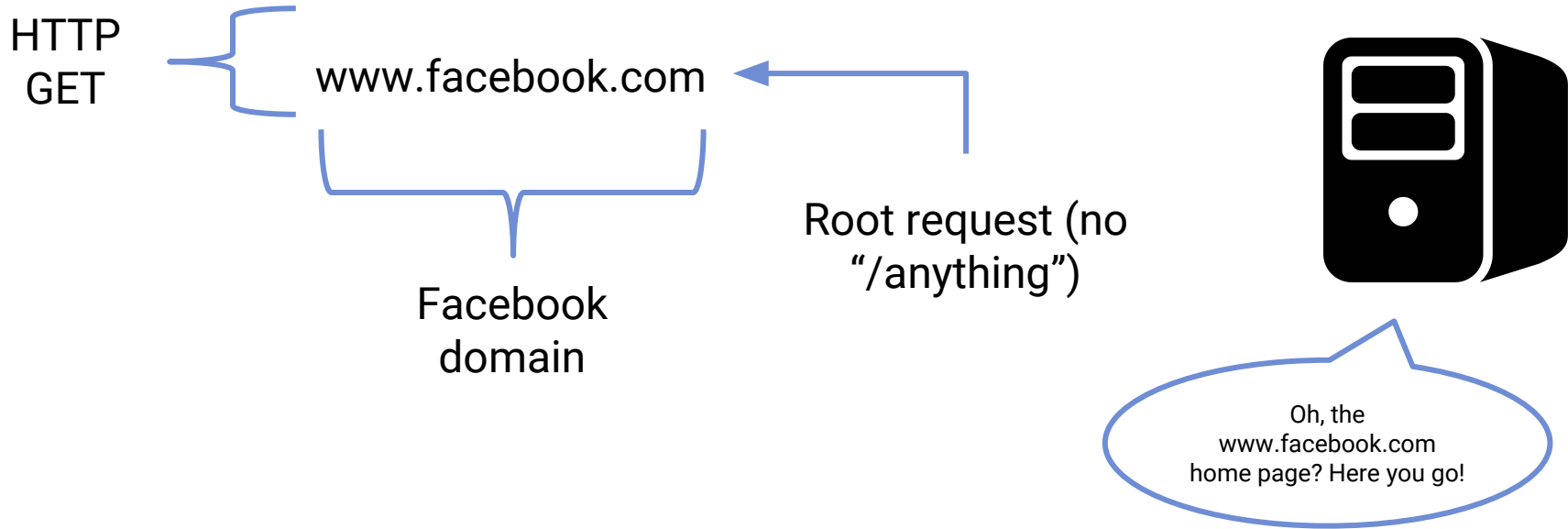
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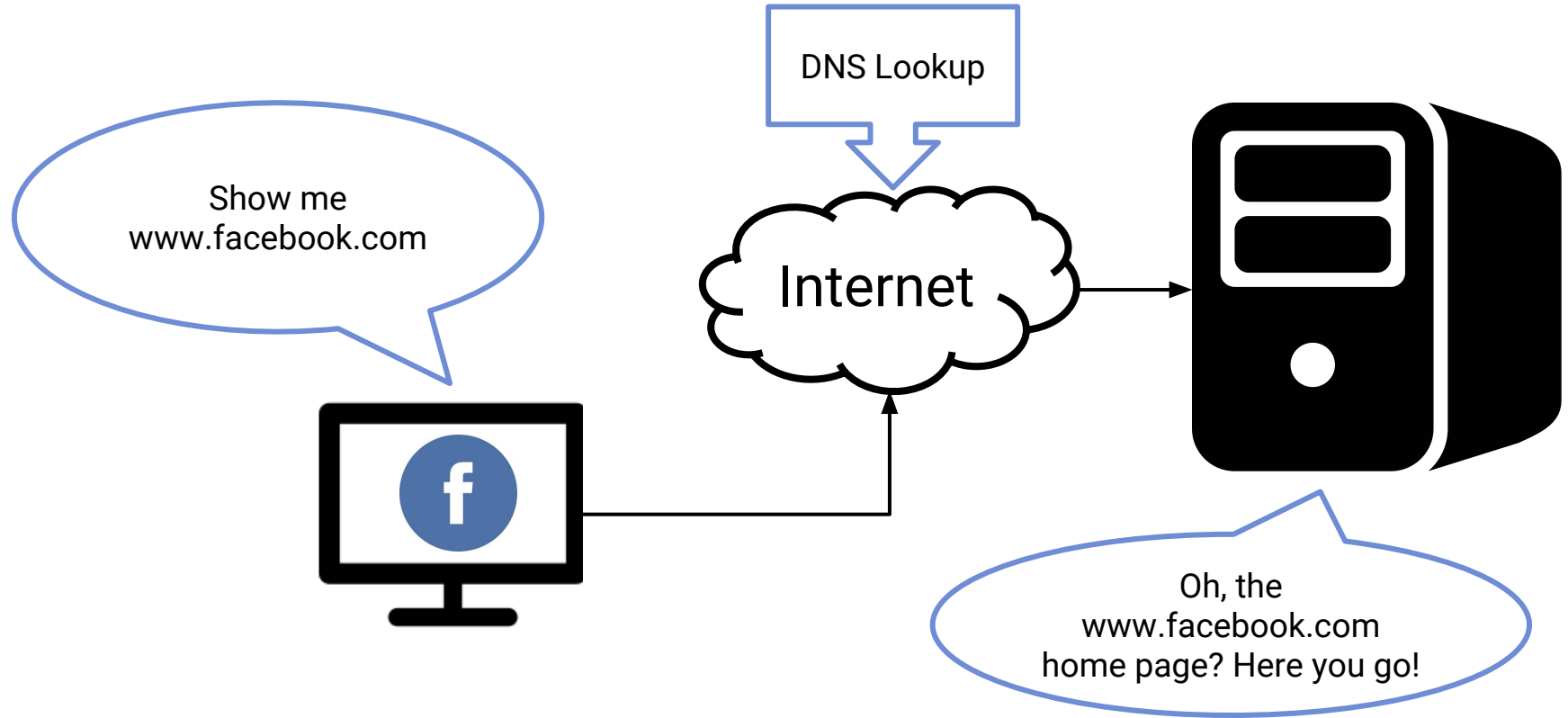
Client-Server Model



Client-Server Model: Server Request Handle



Client-Server Model

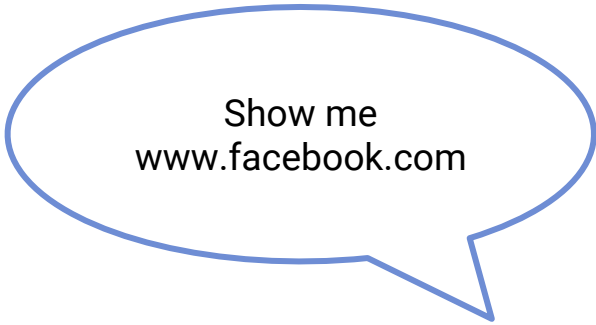


Hypertext Transfer Protocol (HTTP)


HTTP functions as a request–response protocol in the client–server computing model.

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Show me
www.facebook.com



Oh, the
www.facebook.com
home page? Here you go!

Hypertext Transfer Protocol (HTTP)

Level 200 (Success)

200 : OK

201 : Created

203 : Non-Authoritative
Information

204 : No Content

Level 400

400 : Bad Request

401 : Unauthorized

403 : Forbidden

404 : Not Found

409 : Conflict

Level 500

500 : Internal Server Error

503 : Service Unavailable

501 : Not Implemented

504 : Gateway Timeout

599 : Network timeout

502 : Bad Gateway

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Hmm,
www.facebook.com/adlfjksldfjksdklfl? l
can't find that!

If you want to read more...

<https://github.com/alex/what-happens-when>

 README.rst

What happens when...

This repository is an attempt to answer the age old interview question "What happens when you type google.com into your browser's address box and press enter?"

Except instead of the usual story, we're going to try to answer this question in as much detail as possible. No skipping out on anything.

If you want to read more...


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📖 README.rst

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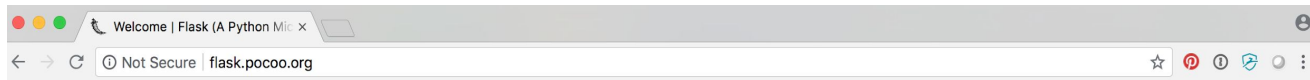
Pro tip:
this is a common
interview question!



Building Web Applications with Flask



What is Flask?



Flask

web development,
one drop at a time

[overview](#) // [docs](#) // [community](#) // [extensions](#) // [donate](#)

Flask is a microframework for Python based on Werkzeug, Jinja 2 and good intentions. And before you ask: It's [BSD licensed](#)!

Flask is Fun

Latest Version: [1.0.2](#)

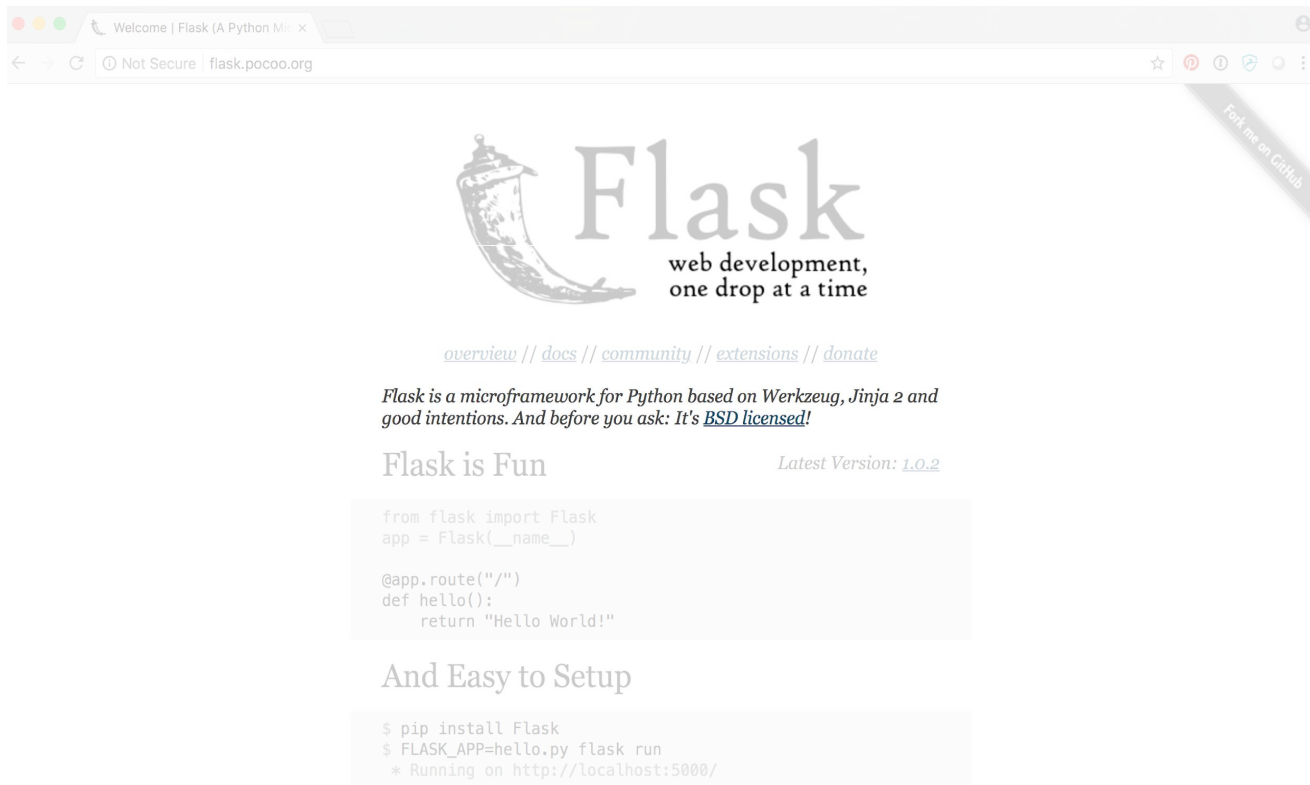
```
from flask import Flask
app = Flask(__name__)

@app.route("/")
def hello():
    return "Hello World!"
```

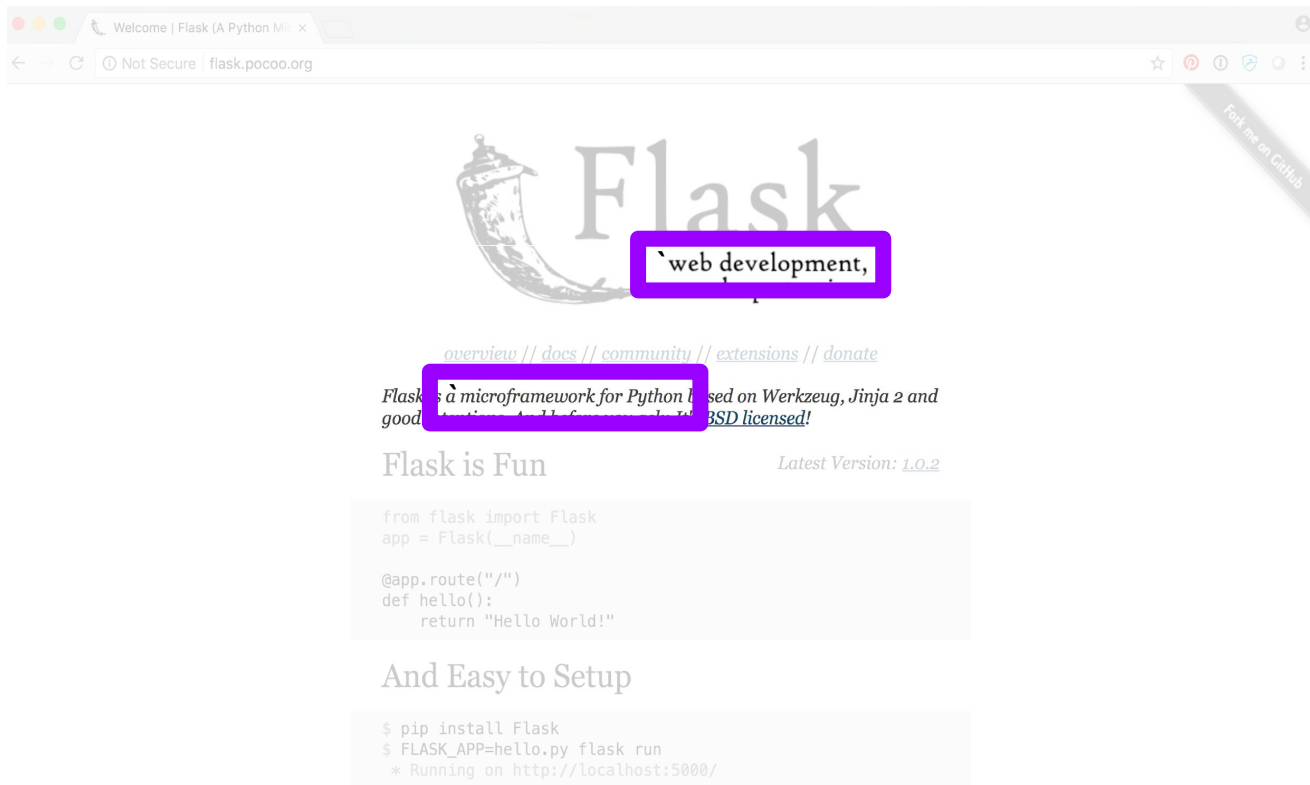
And Easy to Setup

```
$ pip install Flask
$ FLASK_APP=hello.py flask run
* Running on http://localhost:5000/
```

What is Flask?



What is Flask?



Flask Tutorial

Try Flask



TODO: Follow the Hello World Flask tutorial
(<https://blog.miguelgrinberg.com/post/the-flask-mega-tutorial-part-i-hello-world>)
through the first page.

You'll know you're done once you can visit localhost:5000/ in a web browser and you can see "Hello World"

Homework: Flask Calculator

Homework

 **TODO: Create a new Flask app for a Calculator. It should contain the following endpoints:**

- `/add`
- `/subtract`
- `/multiply`
- `/divide`

Once you're done, upload it to a new repository in your Github account.

If you're stuck ask in Slack! We'll be checking it periodically over the next week.