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Deployment

WEB 1.1

Agenda

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- Learning Outcomes
- What is Deployment?
- Types of Deployment Environments
- Activity: Deploy Homework 5
- **BREAK**
- Course Feedback Survey
- Activity: Deployment Definitions
- Wrap-Up

Learning Outcomes

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By the end of today, you should be able to...

1. **Identify & describe** the three types of deployment environments.
2. **Create & deploy** live Flask applications to Heroku.
3. **Define** terminology used in the deployment process.

Warm-Up

Warm-Up (8 minutes)

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In a group of 3, share:

- What is one thing that is stressing you out this week?
- What is one thing that is making it better / bringing you joy?

Make sure to turn your cameras on!!

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What is Deployment?

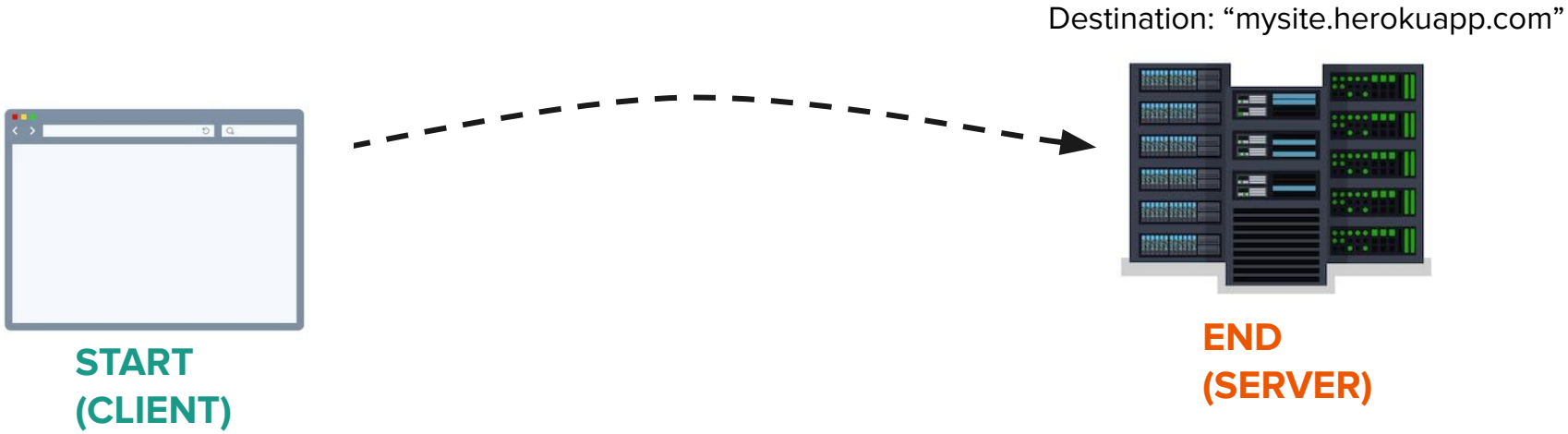
What is Deployment?

So far in this course, we've been running our applications on our local machines. This makes it easier to develop, debug, & test our work.

However, that means that only we can interact with it! The link won't work for anyone else.

What is Deployment?

Now, we're going to push our code to a **deployment environment**, which means it'll be hosted in a **datacenter**.



What is Deployment?

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Since Make School doesn't own any datacenters (yet), we'll be using a service called **Heroku** to host our code.

"Heroku is a cloud platform that lets companies build, deliver, monitor and scale apps — we're the fastest way to go from idea to URL, bypassing all those infrastructure headaches."

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Types of Deployment Environments

Environments

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There are **three types of environments** we typically refer to in the software development lifecycle. Large companies (such as Google, Facebook, and yes, Make School!) use all three, and sometimes more.

1. **Development**
2. **Staging** ← **we'll use this one today**
3. **Production**

Development

Your **development environment** is the one you've been using all along: your code is hosted on your own machine, and only you can run it. This is also called the "local environment". It is...

- Where **all** code updates occur
- Where you will run your tests, debug, & fix any issues
- Easier & quicker to read error messages here
- Any changes made will not affect the live website.
- Example: `http://localhost:5000`

Staging

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The **staging environment** is where we will push to today.

- All code lives on a server, not your machine.
- As similar to production as possible.
- Used in industry to beta test & catch any final issues before rolling out to production.
- Example: `https://projectname-test.herokuapp.com`

Production

The **production environment** is the one that is rolled out to customers. It is the highest priority environment.

- Where we "**go live**", "**launch**", or "**ship**" our website.
- Real, live people will find any bugs you missed while coding!
- Example: `https://www.projectname.com`

Differences between environments

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In general, we want our environments to be **as similar as possible**. This will allow us to debug any issues we find in production using our local environment. (**Don't test your code in production!!!**)

However, a few minor differences are allowed:

- The values of **environment variables** & **configuration settings** - e.g. the location of your database
- Different **data** in your local database vs. production
- Static assets (css, js) are typically minified into one large file.

Addendum: Virtual environment??!?

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However, do **not** get these confused with your **virtual environment** - which is not a type of deployment environment at all!!!

A **virtual environment** is merely a container into which you can install any Python packages (a "sandbox"). It is used for local development so that you can keep your projects completely separate.

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Activity: Deploy Homework 5

Deploy!

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Follow these instructions to deploy.

- Step 1: Deploy assignment w/o database
- Step 2: Deploy HW 5 (with database)

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Break - 10 min

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Activity: Deployment Definitions

Activity (25 minutes)

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Using the Glossary of Heroku Terminology, use your own words to define the following terms:

1. App
2. Add-On
3. Config Var
4. Dyno
4. Process Type
5. Procfile
6. Release

Discuss, then spend about 15 minutes writing **one** short sentence for each term.

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Course Feedback Survey

Course Feedback Survey (15 minutes)

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Enter your course feedback here:

https://www.surveymonkey.com/r/term1coursefeedback

Drop a * in the chat when you are finished!

Work Time

Things I need from you!

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Required:

- Homework 1-5
- Quizzes 1-2 - let me know if you are missing these
- Quiz 3 - released tonight by EOD, due by Thursday EOD

Stretch Challenges (not required):

Homework

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Use this time to work on your Final Project.

You may also resubmit Homework 1-5 to address feedback & level up your score!