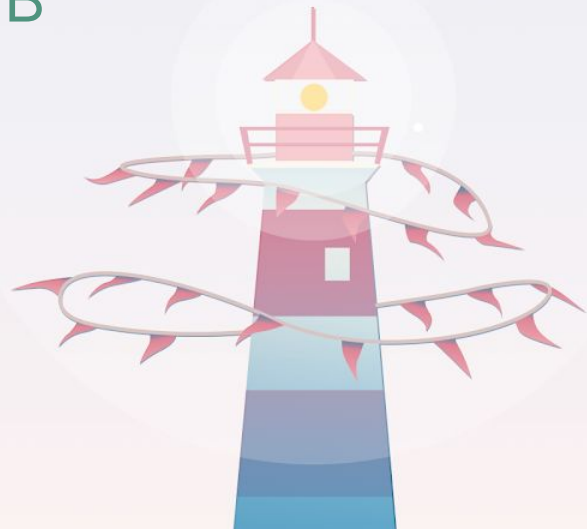# CockroachDB Workshop 2022

Build a RESTful API with CockroachDB
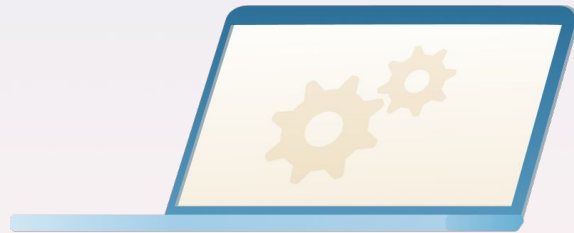Serverless and Python

What You'll Learn

- setting up and using CockroachDB serverless
- importing data into a database
- using ORMs and SQL to interact with a database
- setting up and managing a Python developer environment
- using libraries to connect to and interact with a database
- learning what RESTful APIs are and how to make them
- working with JSON data

What You'll Need

- basic programming skills (functions, variables, objects)
- a web browser (no ide or local development required!)
- familiarity with SQL and APIs

Tech Stack

Python

Replit

Flask

Psycopg

PonyORM

CockroachDB Serverless

Agenda

1. Intro and Setup   [5 mins]
2. Using SQL   [10 mins]
3. Importing Data   [5 mins]
4. ORMs (Skipping)   [10 mins]
5. Intro to REST APIs   [5 mins]
6. Building a REST API   [15 mins]

Hello!
I'm Aydrian

Developer Advocate at Cockroach Labs

I'm a Hoosier living in the big city (New York).

I enjoy mentoring at hackathons and live coding on Twitch. I'm a corgi dad to Atticus. My interests include movies, theatre, attending sci-fi/comic conventions, and some light cosplay.

[twitter, instagram, twitch] @itsaydrian

Hello!

I'm Jayant (aka Jay)

Member of Technical Staff at Cockroach Labs (swe)

I graduated from ECE in April and moved to New York in July. I grew up in Markham, ON.

I spend my free time playing Valorant, playing music on the piano/guitar, and hunting for new fun things to do in the city.

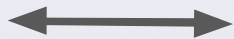You can find my socials at jayantshrivastava.com

What are APIs?
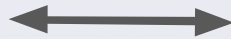
Important Resources

Source Code: https://cockroa.ch/hthtn2022-notesn22-workshop-code

Complete Workshop Guide: https://cockroa.ch/htn22-workshop-guide

Client   Server
(Replit)   Database

createAirbnb(title, host, area)

getAirbnb(id)

searchAirbnb(neighborhood)
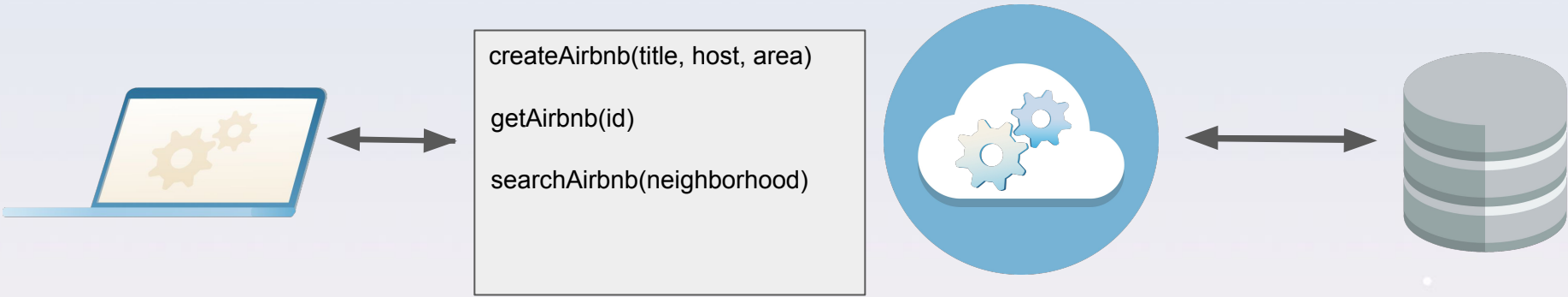
API: Application Programming Interface

https://replit.blah.username.com

/airbnbs

/airbnbs/<id>

/search?neighborhood=<X>

URL: Universal Resource Locator

GET — retrieve information
HEAD — retrieve resource headers

POST — submit data to the server.
PUT — save an object at the location
DELETE — delete the object at the location

https://my-domain.api.com

/airbnbs/<id>   [GET]

/airbnbs/<id>   [DEL]

/airbnbs?author=<name> [GET]

/airbnbs?maxPages=<num>

HTTP: Hypertext Transfer Protocol

Method	GET	POST	PUT	PATCH	DELETE	OPTIONS
Successful Response Has Body	Yes	Yes	No	Yes	Possible	Yes
Request Allowed To Have Body * Not Required	No	Yes	Yes	Yes	Yes*	No
Safe	Yes	No	No	No	No	Yes
Idempotent	Yes	No	Yes	No	Yes	Yes

1. Informational responses $(100 - 199)$

2. Successful responses $(200 - 299)$

3. Redirects $(300 - 399)$

4. Client errors $(400 - 499)$

5. Server errors $(500 - 599)$

REST: Representational State Transfer

- uniform interface
- stateless
- cacheable
- client-server
- layered system
- code on demand

Time to Code!

Thank you!

Any questions?

https://cockroa.ch/htn22-workshop-code

https://cockroa.ch/htn22-workshop-guide