LocalStack

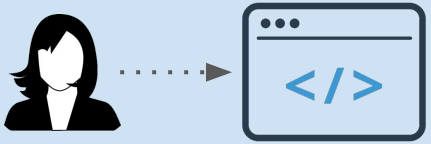
Turbocharge your local dev loops for AWS cloud apps

Agenda

- Background about the project
- Quick-start demo
  - How to set up and test your cloud infrastructure locally
- Wrap Up / Q&A

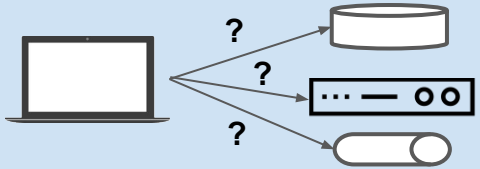
Context: Today's Cloud Development is Slow, Tedious, and Costly

①



Alice is tasked with creating a new serverless Web **application** on AWS Cloud.

②

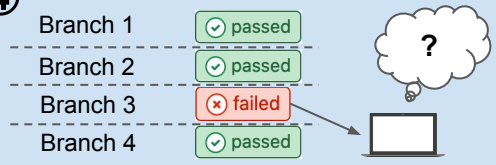


Developing on her local machine, she realizes that there are lots of **dependencies** with resources in the **cloud** (DBs, VMs, MQs, S3, …)

③

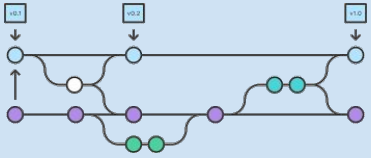
Alice realizes that the dev&test loop is extremely **slow and tedious**. Every local change needs to be packaged and **uploaded** to the cloud for testing.

④



Alice has a **red build** on her feature branch, but has troubles efficiently testing and **debugging** her code in the CI/CD pipeline.

⑤



Alice and her team are using **Git flow** for development - one CI build per feature branch. There is an explosion of **different environments** required for testing (branches * developers).

⑥

The dev manager approaches the team and complains that AWS test resources are not being cleaned up properly (causing a substantial **cost spike** in the last months).

[1] https://www.flexera.com/blog/application-readiness/cloud-computing-trends-2021-state-of-the-cloud-report/

What is LocalStack?

A fully functional local cloud stack - *Develop your AWS cloud apps locally!*

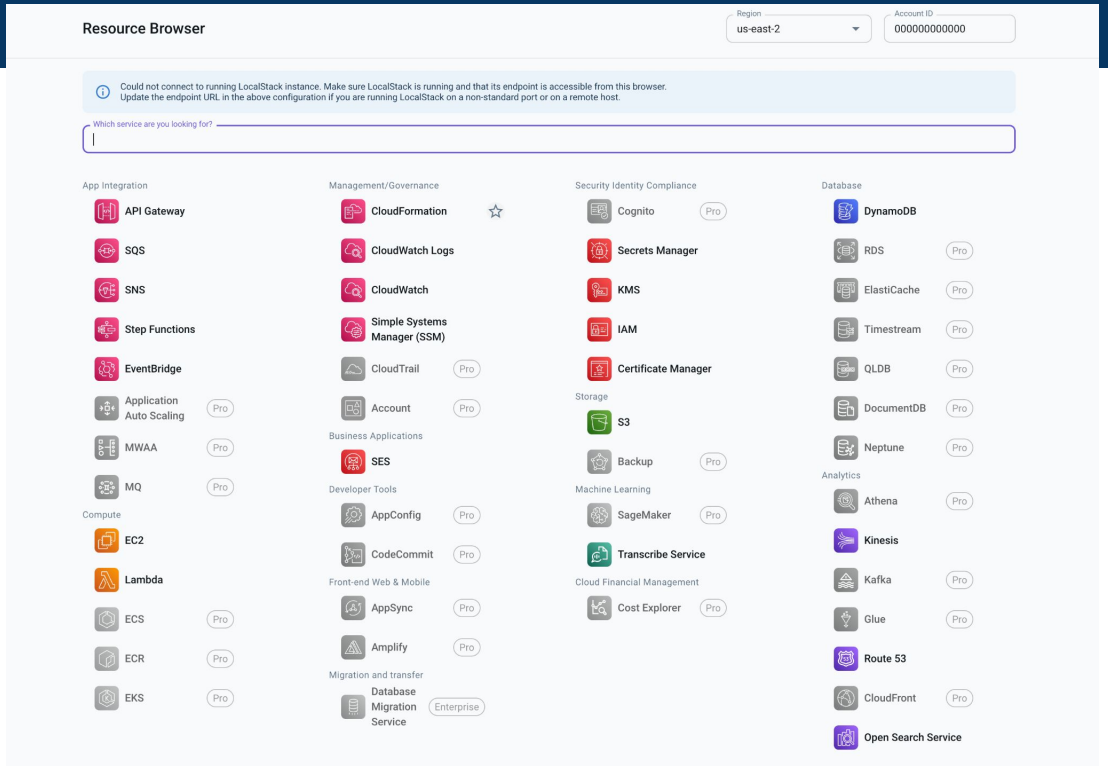
- Enables a highly efficient dev&test loop for cloud apps
- Ships as a Docker image, easy to install and start up
- Support for ~80 APIs (and growing):
  - compute (e.g., Lambda, ECS, EKS)
  - various databases (e.g., DynamoDB, RDS)
  - messaging (e.g., SQS, Kinesis, MSK)
  - some sophisticated/exotic APIs (e.g., QLDB, Athena, Glue)
- Advanced collaboration features and CI integrations
  - redefining the way cloud apps are developed across the lifecycle!

Why Local?

- **Reproducibility:** Keeping control over your environment
- **Speed:** Quicker deploy-test-redeploy cycles
- **Ease → higher Quality:** Easier debugging, replicating bugs locally
- **Reduced management overhead**: no need to create AWS dev accounts for each user
- **Removed restrictions:** Enables cloud devs in regulated environments (often restricted access to cloud)
- Last but not least: **costs**

Web User Interface

- Simple Usage Dashboard
- Resource Browser
  - Simplified version of AWS console



Demo Time!

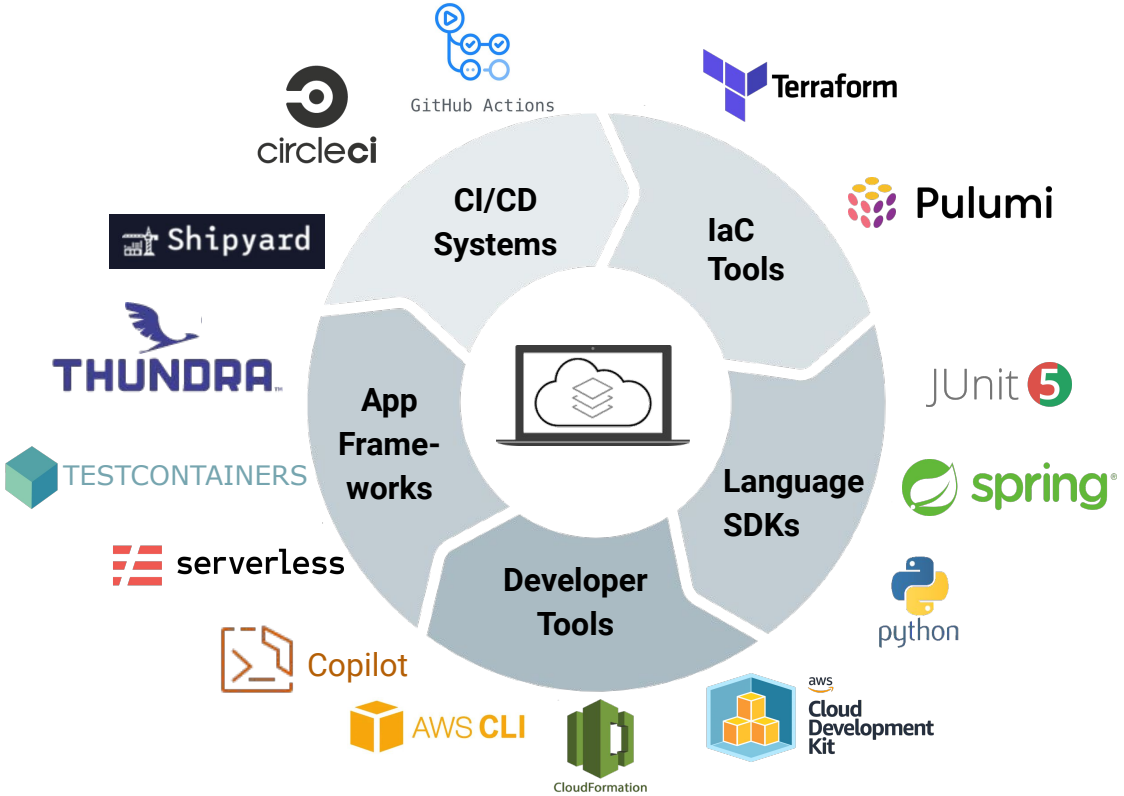
#1: Basic Usage

- Start up LocalStack
- Run a few scripts
  - Create an S3 bucket
  - Create an SQS queue
  - Create an DynamoDB database
  - …
- Show a work of services

#2: Web UI and sample apps

- Open LocalStack Web app: https://app.localstack.cloud/inst/default/resources
- Browse the locally deployed resources

It’s all about integrations!



Q&A

Thank You!