Starting with Lambda Functions

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Outline

Considerations and limitations

- Languages and runtimes
- Size and resource limitations
- Other considerations

Lambda prerequisites

- Gathering dependencies
- Writing code
- Function packages
- Debugging

Deploying our Lambda canary

- Walkthrough

Considerations and Limitations

Languages and Runtimes

Example languages:
Python, Node.js, Java, Go

Example runtimes:
Python 3.8, Node.js 12.13.0

AWS-managed Languages and Runtimes

Node.js	Python	Ruby
Java	Go	.NET Core (C# and PowerShell)

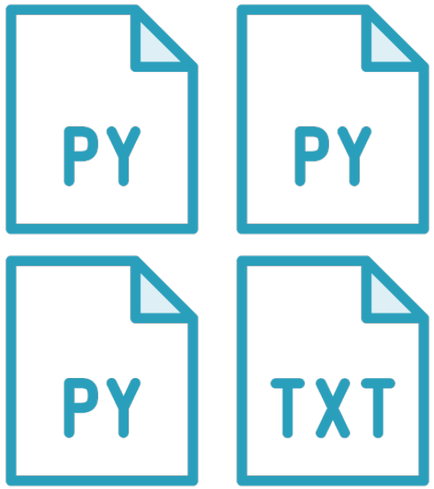
Custom Runtimes

Rust

C++

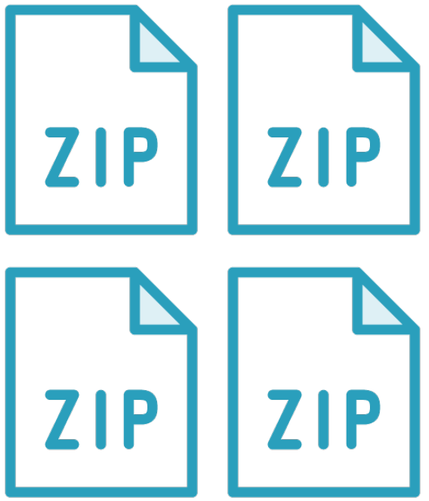
PHP

Size Limitations



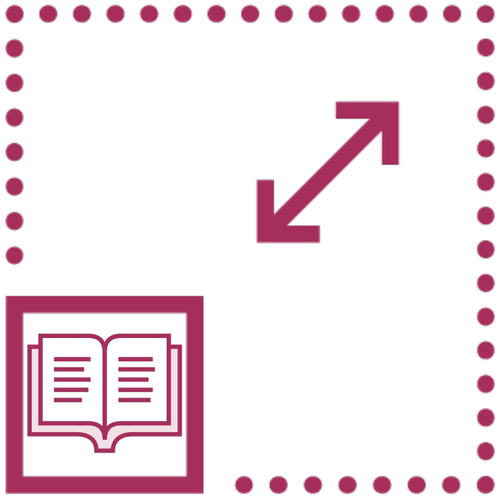
Uncompressed code & dependencies
< 250 MB

Compressed function package
< 50MB

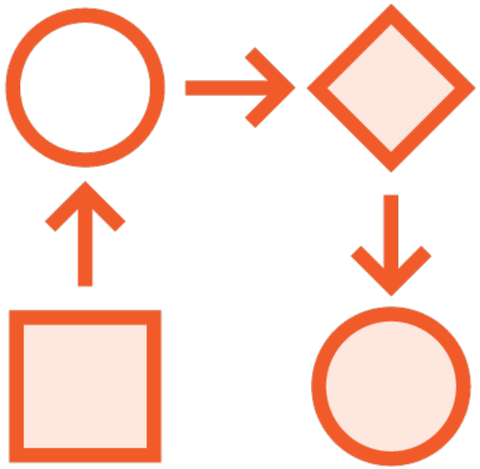


Total function packages in a region
< 75 GB

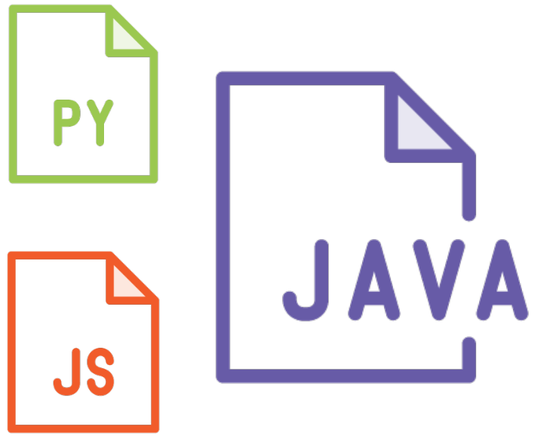
Size Limitations - Workarounds



Smaller libraries



Microservice architectures



Other runtime options

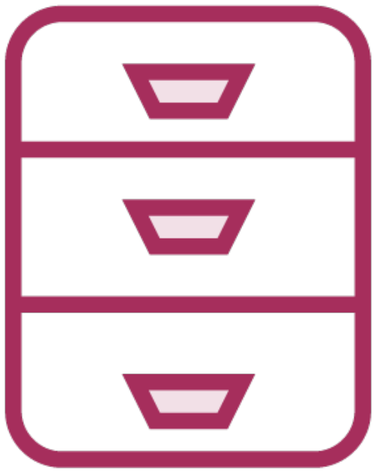
Resource Limitations

Ephemeral storage
< 512 MB

Maximum execution duration
< 900 seconds

Concurrent Lambda functions
< 1000

Resource Limitations - Workarounds

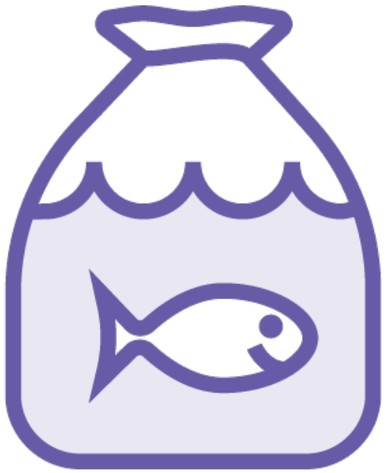


Load and store files in S3

Chain functions together

Ask AWS about increasing limits

Memory, CPU and VPC



Memory
128 MB - 3 GB

CPU scales with memory

Virtual Private Cloud

AWS Lambda Considerations

Event driven code

Code size limitations

Lambda as a component

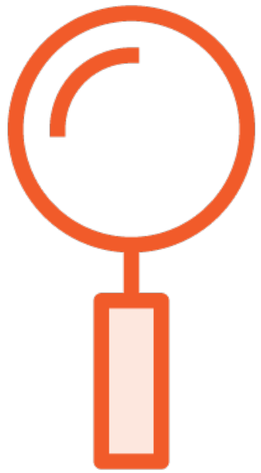
Performance limitations

Long running workloads

Lambda Prerequisites

Lambda Canary

Set run interval



Function reviews website

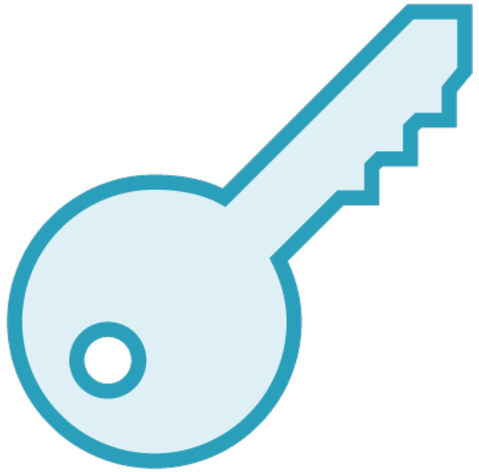
Website status recorded

Gathering Dependencies

Libraries

Other files

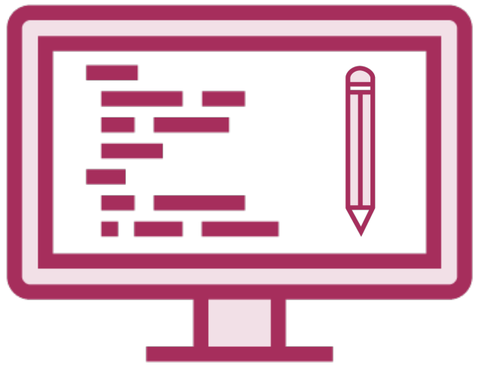
AWS services



API keys

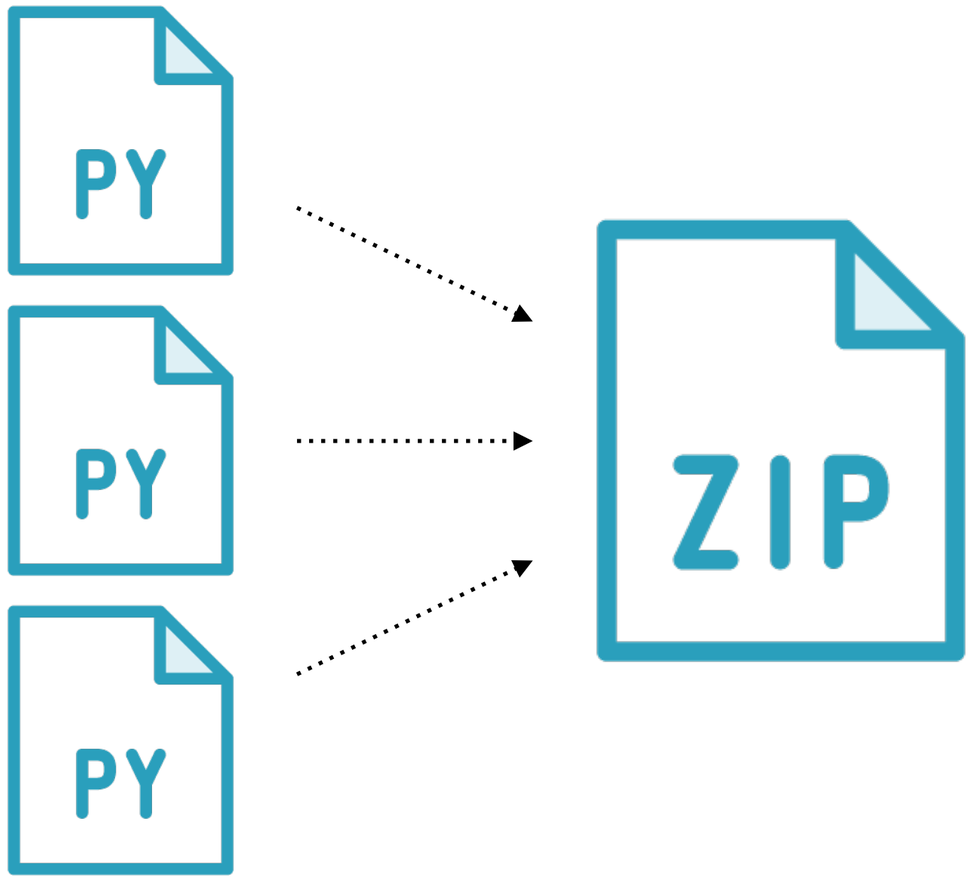
Writing Code

Locally

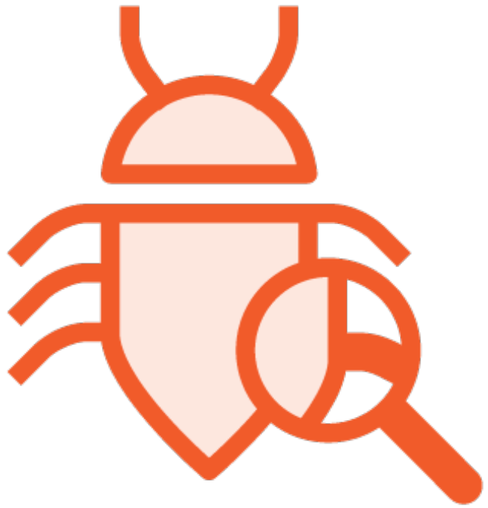


In AWS editor

Creating a Function Package



Debugging



Use logging and CloudWatch

Environment differences

Search for your issues

Consider 3rd party tools

Demo

Deploying the Lambda Canary

- Create a function from a blueprint
- Configure CloudWatch schedule
- Modify the Python function
- Adjust function settings
- Configure a default test
- Review our function results

Summary

What we've done

- Understood Lambda's limitations
- Learned workarounds for limitations
- Deployed first Lambda function
- Setup alerting and monitoring

What's next?

- Integrating Lambda & 3rd party APIs