

Leveraging Advanced Features of Google App Engine

WORKING WITH APP ENGINE APIS



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Overview

The App Engine Admin API to programmatically create and deploy apps

Send email using the App Engine Mail API

Integrate App Engine with the SendGrid customer communication platform

Use the Images service to manipulate images

Prerequisites and Course Outline

Prerequisites

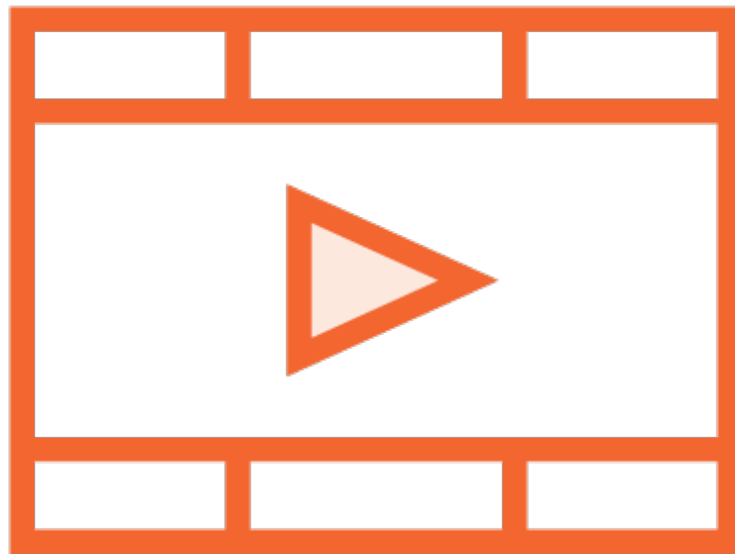


Basic understanding of cloud computing

Understanding how web applications are built, GET and POST HTTP requests

Working with NoSQL databases

Prerequisites: App Engine



**Architecting Scalable Web Applications
Using Google App Engine**

Course Outline



App Engine Admin APIs

- Admin API to programmatically manage apps
- Images service and mail service
- Integrating with SendGrid

Cron jobs and task queues

- Scheduling cron jobs
- Working with push and pull tasks queues

Deploying a production-ready app

- Integrate with the Google authentication provider
- Use Cloud Datastore to store data
- Host application on a custom domain

Scenarios: SpikeySales.com



Hypothetical Online Retailer

- Flash sales of trending products
- Spikes in user traffic

SpikeySales on the GCP

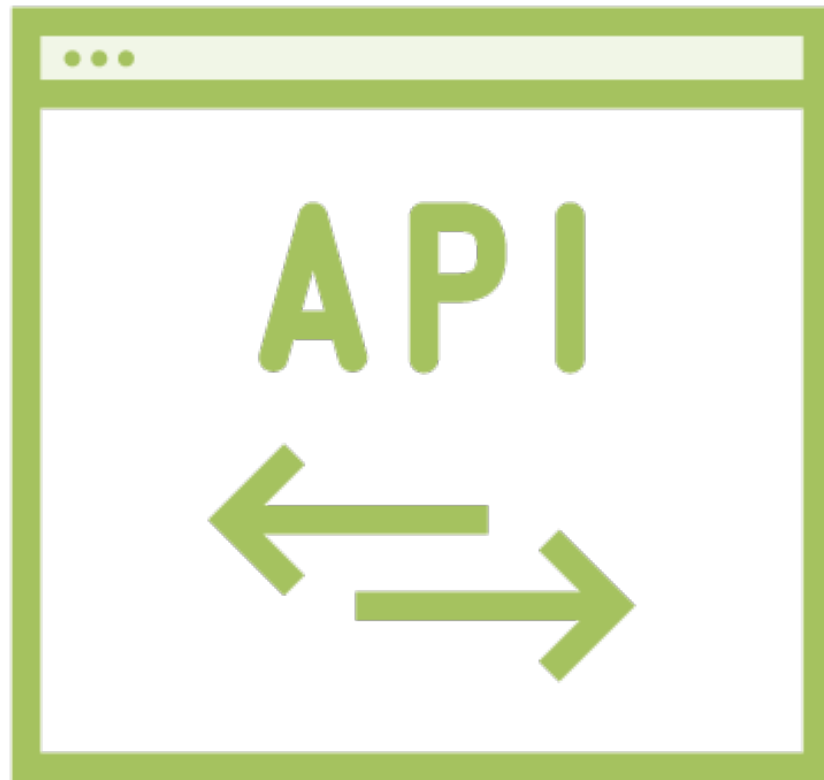
- Cloud computing fits perfectly
- Pay-as-you-go
- No idle capacity during off-sale periods

App Engine Admin API

App Engine Admin API

RESTful, language-agnostic API for programmatically performing admin operations similar to those performed on the console

Admin API



First need to configure authentication

Then can manage apps (even across projects)

Deploy new versions

Manage traffic

Create config files

Working with Email in App Engine

App Engine Mail API

Allows apps to send and receive email

Sending Email



Gmail or G Suite account of signed-in user

Any Email API authorized sender

Any email of the following forms

`foo@[MY_PROJECT].appspotmail.com`

`foo@[MY_PROJECT_ALIAS].appspotmail.com`

Receiving Email



In app configuration

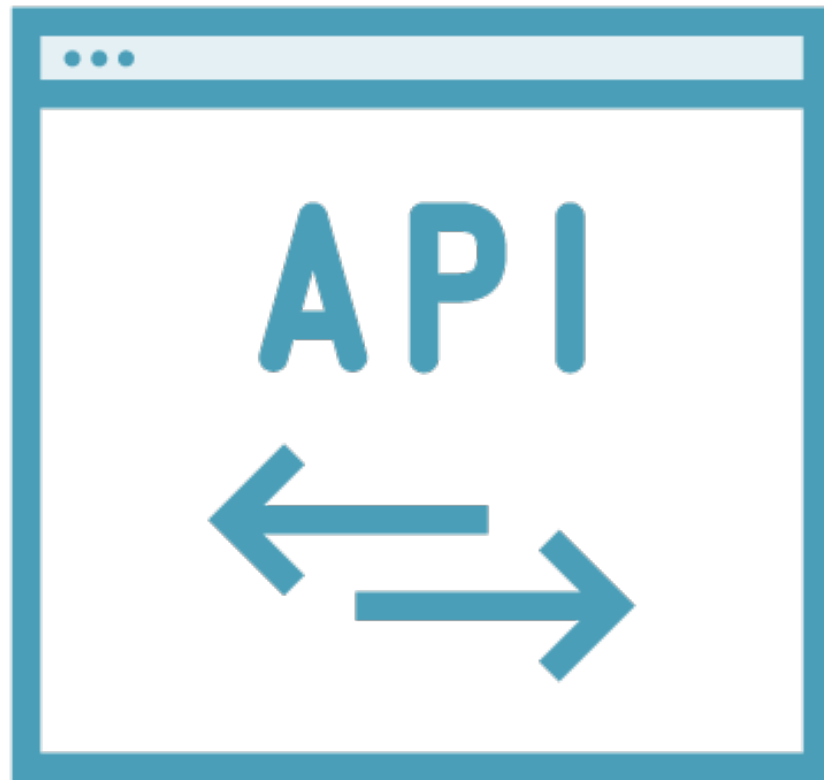
- Associate email address with script handler

In app code

- Include handler in default service

Incoming email generates HTTP requests

Mail API



Google API for sending and receiving mails

Can use for lightweight email usage from within App Engine

For heavy usage, used third-party provider such as SendGrid

SendGrid



Email platform

Integration with several GCP services

App Engine customers can send 12,000 emails per month for free

Need to sign up with SendGrid and generate API key

Demo

**Using the App Engine Admin API to
deploy applications**

Using the Mail API to send email

Demo

Using SendGrid to send email

**Using the Images service to
manipulate images**

Summary

The App Engine Admin API to programmatically create and deploy apps

Send email using the App Engine Mail API

Integrate App Engine with the SendGrid customer communication platform

Use the Images service to manipulate images