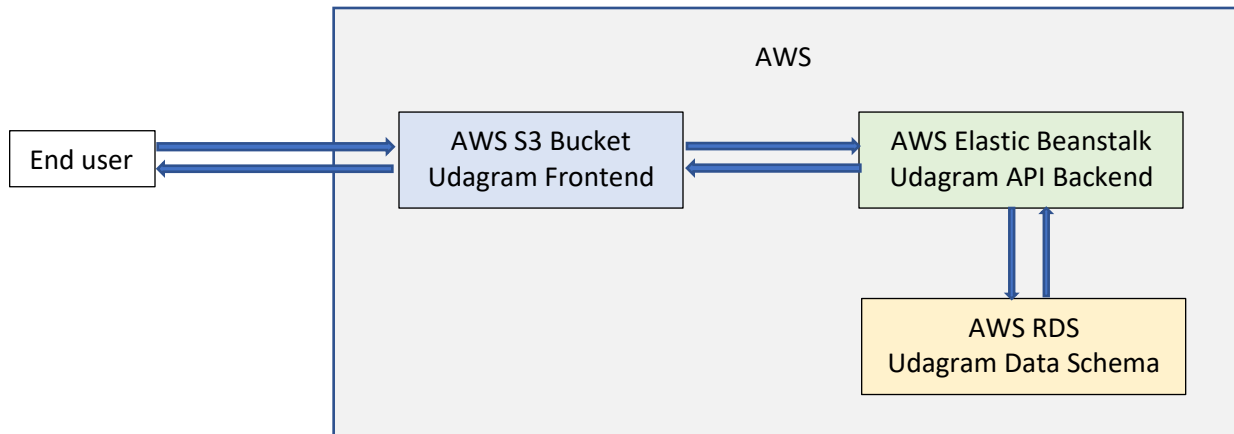


Host a Full Stack Application

Application Infrastructure

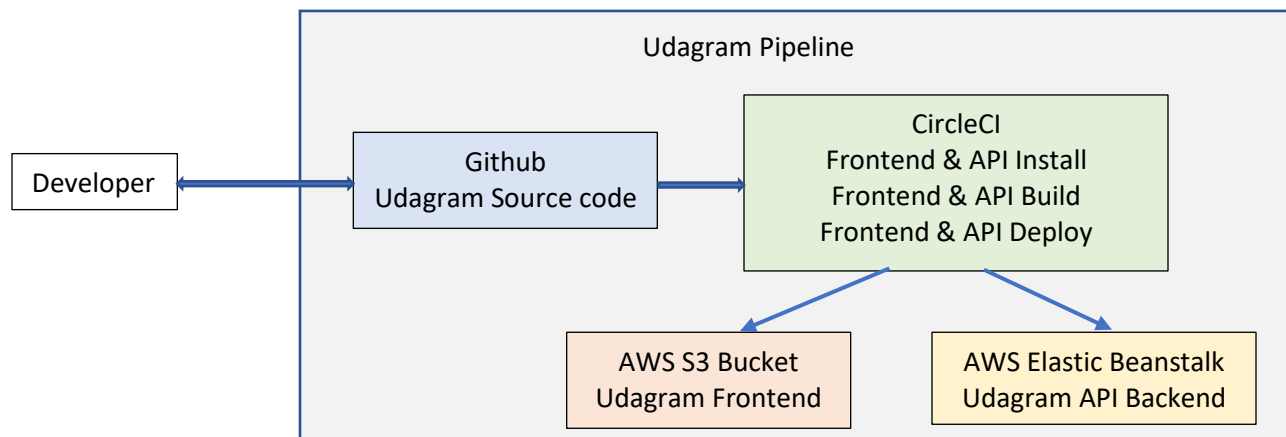


S3 Bucket: S3 bucket is used host Udagram Frontend and uploaded images from backend API.

Elastic Beanstalk: Elastic Beanstalk is used host Udagram Backend API.

RDS: RDS provides database storage for application schema.

Pipeline workflow



Source Repository and Application URL

Source code is in Github: <https://github.com/jshang98/udagram>

CircleCI pipeline: <https://app.circleci.com/pipelines/github/jshang98/udagram>

Application URL: <http://udagramfrontendbucket.s3-website-us-east-1.amazonaws.com>

Changes Made

Change CircleCI config .yaml file to use earlier nodeJS version to be consistent with Elastic Beanstalk application nodeJS version.

```
build:
  docker:
    - image: "cimg/node:14.19"
```

Update front end environment setting to point to Elastic Beanstalk

```
export const environment = {  
  production: true,  
  appName: "Udagram",  
  apiHost: "http://Udagramapi-env-1.eba-pscf9e8p.us-east-1.elasticbeanstalk.com/api/v0",  
};
```

Update Udagram API dependencies of “bcrypt” module version to avoid security flaw

```
"@types/bcrypt": "^5.0.0",  
"bcrypt": "^5.0.1",
```

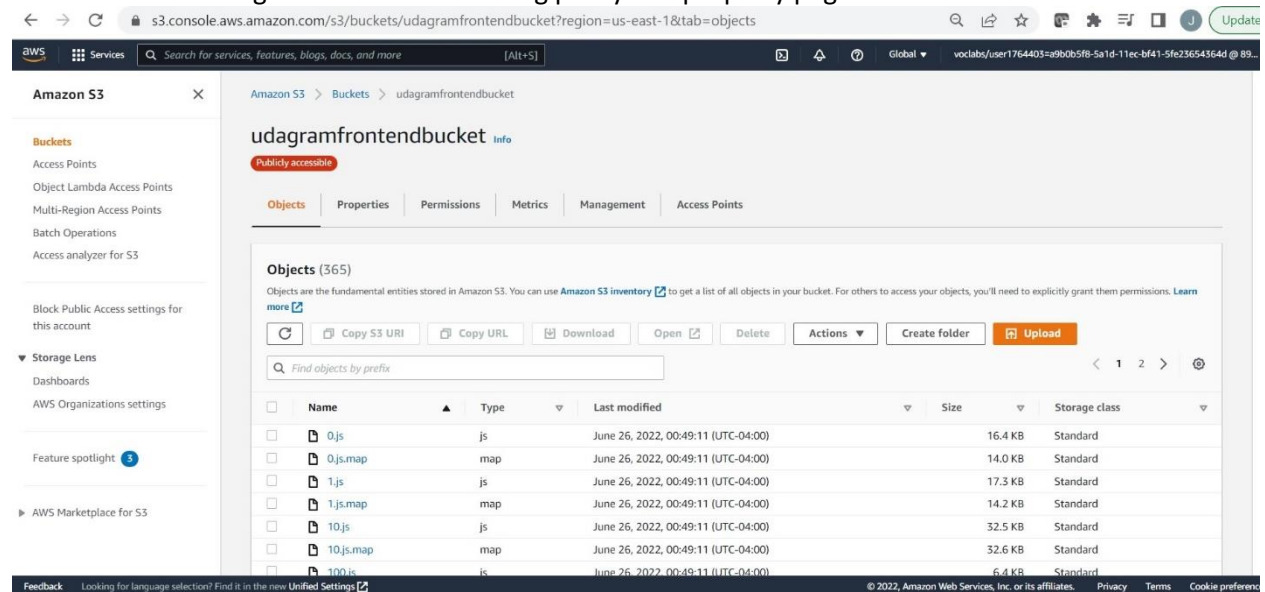
Screen Shots

1. Elastic Beanstalk for Udagram API

The screenshot displays the AWS Elastic Beanstalk console for the environment 'Udagramapi-env-1'. The left sidebar shows navigation options like 'Environments', 'Applications', and 'Change history'. The main content area includes a 'Health' section with a green checkmark and 'Ok' status, a 'Running version' section showing 'app-ab84-220626_044723587919' with an 'Upload and deploy' button, and a 'Platform' section showing 'Node.js 14 running on 64bit Amazon Linux 2/5.5.4' with a 'Change' button. Below these is a 'Recent events' table with three entries: 'Environment health has transitioned from Warning to Ok.', 'Pulled logs for environment instances.', and 'Instance deployment completed successfully.' The bottom of the page shows a footer with 'Feedback', 'Looking for language selection? Find it in the new Unified Settings', and copyright information for Amazon Web Services.

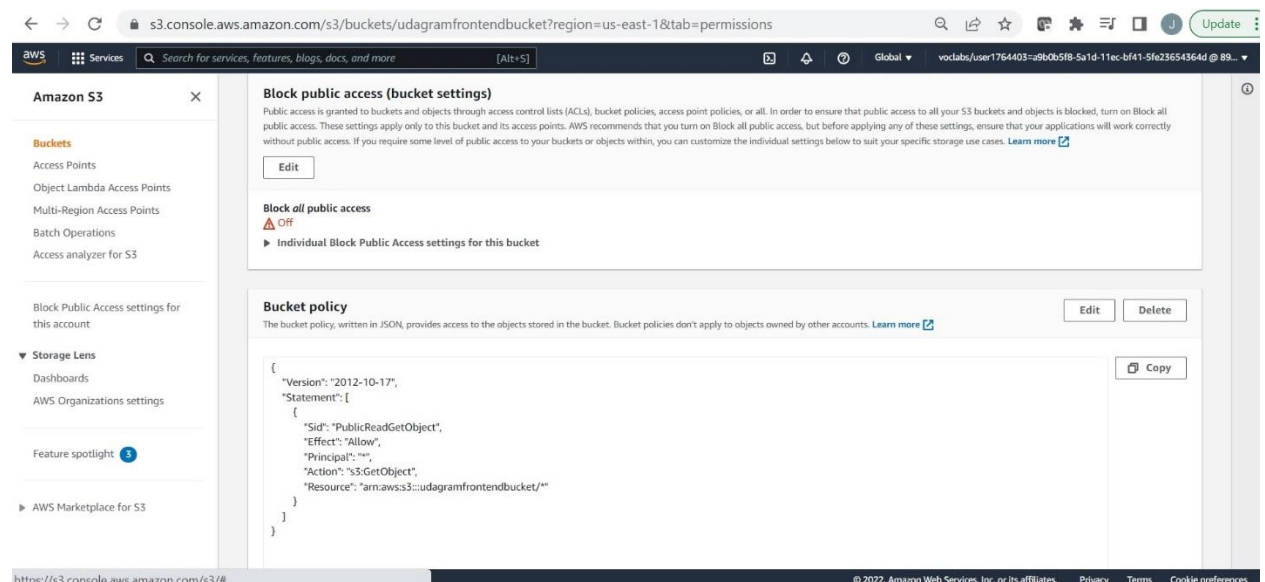
Time	Type	Details
2022-06-26 00:58:14 UTC-0400	INFO	Environment health has transitioned from Warning to Ok.
2022-06-26 00:54:51 UTC-0400	INFO	Pulled logs for environment instances.
2022-06-26 00:54:46 UTC-0400	INFO	Instance deployment completed successfully.

2. S3 bucket for Udagram front end including policy and property page



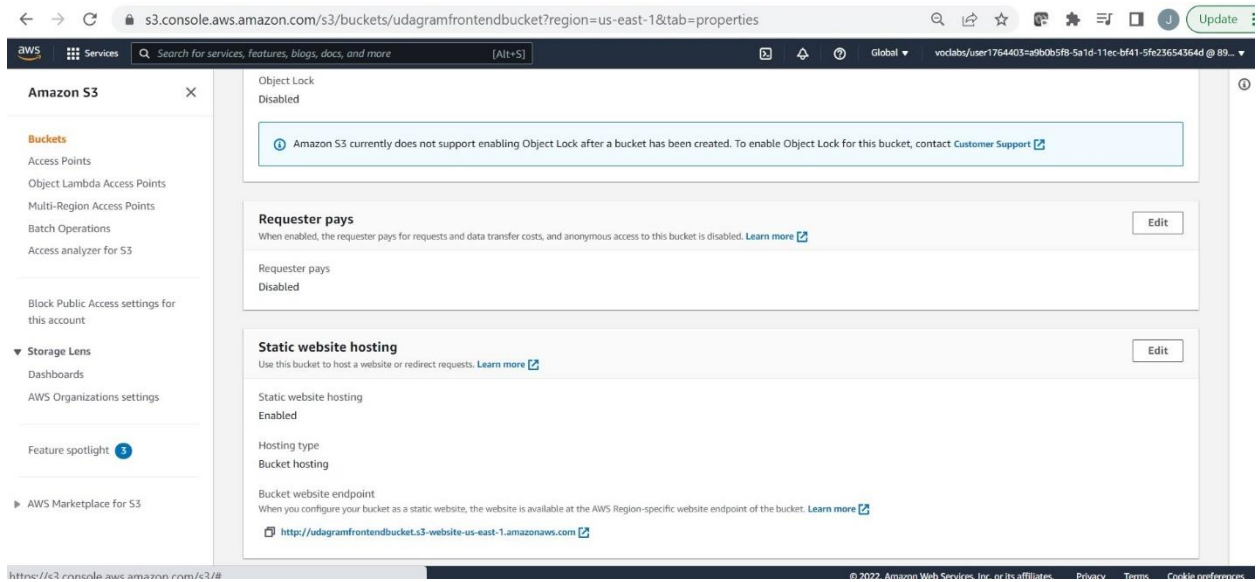
The screenshot shows the Amazon S3 console interface for the bucket 'udagramfrontendbucket'. The left sidebar contains navigation links for Buckets, Access Points, Object Lambda Access Points, Multi-Region Access Points, Batch Operations, Access analyzer for S3, Storage Lens, Dashboards, and AWS Organizations settings. The main content area shows the bucket's name, public access status (Publicly accessible), and tabs for Objects, Properties, Permissions, Metrics, Management, and Access Points. The 'Objects' tab is active, displaying a list of 365 objects. The objects are listed in a table with columns for Name, Type, Last modified, Size, and Storage class. The objects are sorted by last modified date, showing files like 0.js, 0.js.map, 1.js, 1.js.map, 10.js, 10.js.map, and 100.js.

Name	Type	Last modified	Size	Storage class
0.js	js	June 26, 2022, 00:49:11 (UTC-04:00)	16.4 KB	Standard
0.js.map	map	June 26, 2022, 00:49:11 (UTC-04:00)	14.0 KB	Standard
1.js	js	June 26, 2022, 00:49:11 (UTC-04:00)	17.3 KB	Standard
1.js.map	map	June 26, 2022, 00:49:11 (UTC-04:00)	14.2 KB	Standard
10.js	js	June 26, 2022, 00:49:11 (UTC-04:00)	32.5 KB	Standard
10.js.map	map	June 26, 2022, 00:49:11 (UTC-04:00)	32.6 KB	Standard
100.js	js	June 26, 2022, 00:49:11 (UTC-04:00)	6.4 KB	Standard

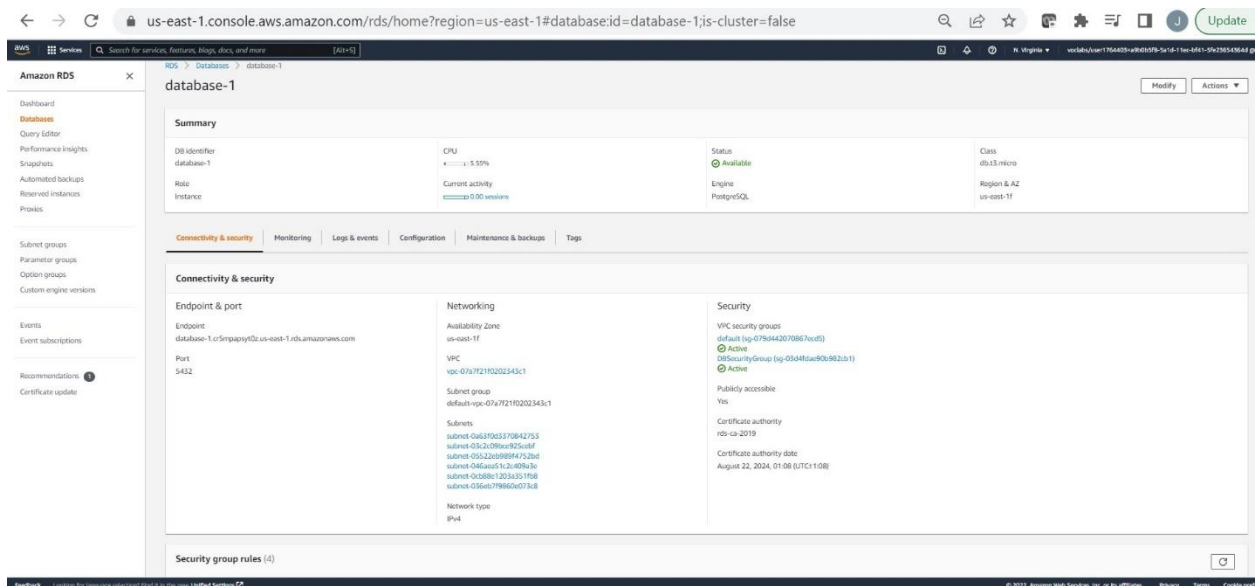


The screenshot shows the 'Block public access (bucket settings)' and 'Bucket policy' pages for the bucket 'udagramfrontendbucket'. The left sidebar is the same as the previous screenshot. The main content area shows the 'Block public access (bucket settings)' section, which includes an 'Edit' button and a 'Block all public access' toggle set to 'Off'. Below this is the 'Bucket policy' section, which includes an 'Edit' button, a 'Delete' button, and a 'Copy' button. The bucket policy is displayed in a JSON format, showing a single statement that allows public read and get object actions on the bucket.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "PublicReadGetObject",
      "Effect": "Allow",
      "Principal": "*",
      "Action": "s3:GetObject",
      "Resource": "arn:aws:s3:::udagramfrontendbucket/*"
    }
  ]
}
```



3. RDS for Udagram database schema including configuration page



us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#database:id=database-1;is-cluster=false;tab=configuration

Amazon RDS

database-1

Summary

DB identifier: database-1	CPU: 5.55%	Status: Available	Class: db.t3.micro
Role: Instance	Current activity: 5.00 versions	Engine: PostgreSQL	Region & AZ: us-east-1f

Connectivity & security | Monitoring | Logs & events | **Configuration** | Maintenance & backups | Tags

Instance

Configuration DB instance ID: database-1 Engine version: 13.4 DB name: postgres License model: PostgreSQL License Option groups: default:postgres-13 In sync Amazon Resource Name (ARN): arn:aws:rds:us-east-1:89088225470:db:database-1 Resource ID: db-x7n9vhw4sc54m4tqhpu0csg7hy Created time: June 25, 2022, 09:25 (UTC-9:28)	Instance class Instance class: db.t3.micro vCPU: 2 RAM: 1 GB Availability Master username: postgres IAM DB authentication: Not enabled Multi-AZ: No Secondary Zone: -	Storage Encryption: Enabled AWS KMS key: aws/rds Storage type: General Purpose SSD (gp3) Storage: 20 GiB Provisioned IOPS: - Storage autoscaling: Enabled Maximum storage threshold: 1000 GiB	Performance Insights Performance Insights enabled: Turned on AWS KMS key: aws/rds Retention period: 7 days Database activity stream Status: Stopped
--	---	---	--

4. CircleCI Pipeline including environment variable settings

app.circleci.com/pipelines/github/jshang98/udagram

Dashboard | Project | All Pipelines > **udagram**

udagram Add team members

Filters: Everyone's Pipelines | udagram | All Branches

Auto-expand

Pipeline	Status	Workflow	Branch / Commit	Start	Duration	Actions
udagram 9	Success	workflow	main ab84f2b	21m ago	3m 47s	🔄 📄 ⌵ ⋮
udagram 8	Success	workflow	main ab84f2b remove acl setting from frontend deploy	1h ago	3m 58s	🔄 📄 ⌵ ⋮

jshang98

jshang98

Dashboard

Projects

Insights

Organization Settings

Plan

Can't find an organization?

Check permissions and update access to the ones you want.

Notifications

Status OPERATIONAL

Docs

Orbs

Support

Can't find an organization?

Check permissions and update access to the ones you want.

Notifications

Status OPERATIONAL

Docs

Orbs

Support

Dashboard

Project

Branch

Workflow

Job

All Pipelines > udagram > main > workflow > build (9)

build

Success

Rerun

Duration / Finished

Queued

Executor / Resource Class

Branch

Commit

Author

3m 44s / 15m ago

0s

Docker / Large * 1

main

jshang98

STEPS

TESTS

TIMING

ARTIFACTS

RESOURCES

09:43

Parallel runs

Use parallelism to run faster tests

Parallelism speeds up tests by splitting them across multiple executors.

Go to Docs

Spin up environment

3s

Preparing environment variables

0s

Checkout code

0s

node --version

0s

Install AWS CLI - latest

2s

Configure AWS Access Key ID

2s

Setting Up Elastic Beanstalk CLI

42s

Front-end install

28s

Back-end install

9s

Front-end build

10s

Back-end build

9s

Back-end deploy

1m 47s

Front-end deploy

6s

- Overview
- Triggers
- Advanced
- Environment Variables**
- SSH Keys
- API Permissions
- Jira Integration
- Slack Integration
- Insights Snapshot Badge
- Status Badges
- Webhooks

Environment Variables

Environment variables let you add sensitive data (e.g. API keys) to your jobs rather than placing them in the repository. The value of the variables cannot be read or edited in the app once they are set.

If you're looking to share environment variables across projects, try [Contexts](#).

Name	Value	Add Environment Variable	Import Variables
AWS_ACCESS_KEY_ID	xxxx4F7U		×
AWS_BUCKET	xxxxcket		×
AWS_DEFAULT_REGION	xxxxst-1		×
AWS_REGION	xxxxst-1		×
AWS_SECRET_ACCESS_KEY	xxxxyDXd		×
JWT_SECRET	xxxxret		×
PORT	xxxx80		×
POSTGRES_DB	xxxxgres		×
POSTGRES_HOST	xxxx.com		×
POSTGRES_PASSWORD	xxxxgres		×
POSTGRES_PORT	xxxx32		×
POSTGRES_USERNAME	xxxxgres		×
URL	xxxxhost		×