

Lab 08

Deploy your app to AWS

WebApp

Datalab, CS, NTHU

2019 Spring

IAM

- Find IAM Services

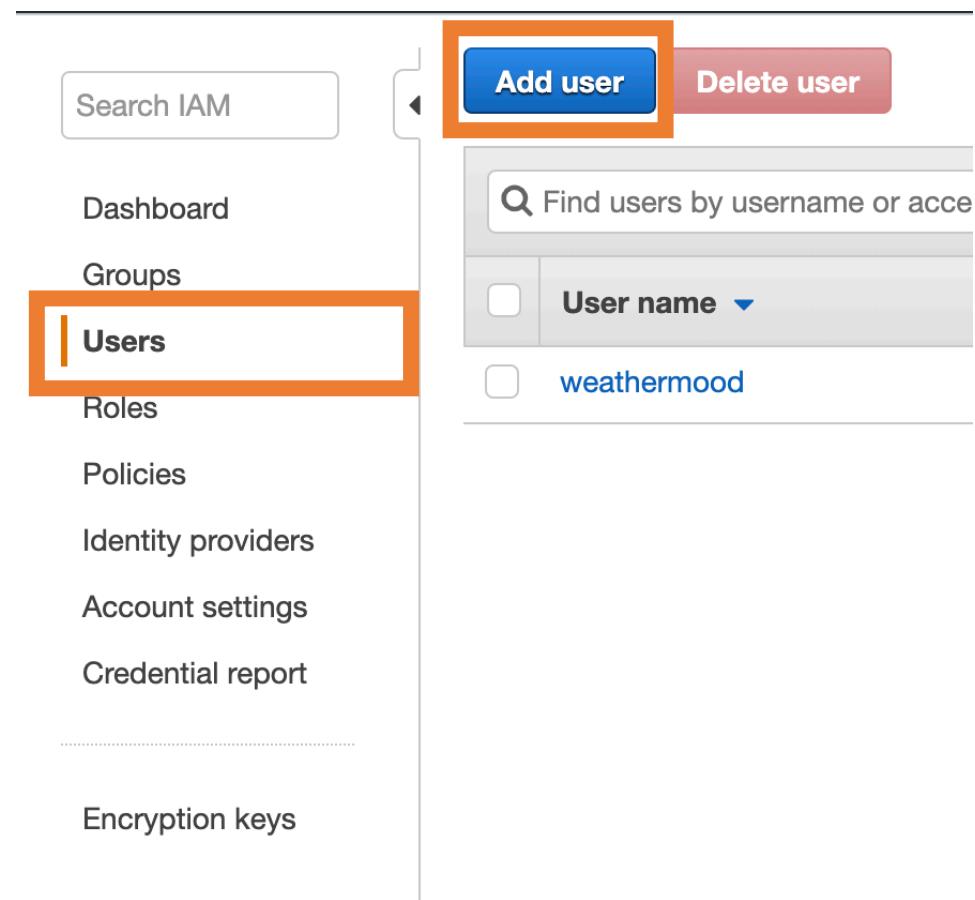
The screenshot shows the AWS Management Console homepage. At the top, there's a navigation bar with the AWS logo, a "Services" dropdown, "Resource Groups" dropdown, and user information for "alanLin" (Oregon, Support). Below the navigation is the title "AWS Management Console".

The main content area has several sections:

- AWS services**: A search bar with "IAM" typed in, a "Find Services" section for entering names or keywords, and a "Recently visited services" list with "IAM" selected.
- Access resources on the go**: Information about using the AWS Console Mobile App.
- Explore AWS**: Sections for "Amazon SageMaker" (Machine learning for every developer and data scientist) and "Visit AWS around the world at a Summit" (AWS Global Summits bring the cloud computing community together to connect, collaborate, and learn about AWS).
- Build a solution**: A section for getting started with simple wizards and automated workflows, featuring "Launch a virtual machine" (With EC2, 2-3 minutes), "Build a web app" (With Elastic Beanstalk, 6 minutes), and "Build using virtual servers" (With Lightsail, 1-2 minutes).
- Amazon RDS**: A section for setting up, operating, and scaling relational databases.

IAM

- For security reason, we have to create new user with less permission
- Users -> Add user



IAM

- Check “Programmatic access” and “AWS Management Console Access”
- Uncheck “Require password reset” if you want to keep the custom password
- Finish the form then click next

Set user details

You can add multiple users at once with the same access type and permissions. [Learn more](#)

User name*

lab_demo

[+ Add another user](#)

Select AWS access type

Select how these users will access AWS. Access keys and autogenerated passwords are provided in the last step. [Learn more](#)

Access type*



Programmatic access

Enables an **access key ID** and **secret access key** for the AWS API, CLI, SDK, and other development tools.



AWS Management Console access

Enables a **password** that allows users to sign-in to the AWS Management Console.

Console password*



Autogenerated password



Custom password

.....

Show password

Require password reset



User must create a new password at next sign-in

Users automatically get the **IAMUserChangePassword** policy to allow them to change their own password.

IAM

- Create group

Add user

1 2 3 4 5

▼ Set permissions

 Add user to group  Copy permissions from existing user  Attach existing policies directly

Add user to an existing group or create a new one. Using groups is a best-practice way to manage user's permissions by job functions. [Learn more](#)

Add user to group

 Create group  Refresh

IAM

- Search “AWSElasticBeanstalkFullAccess”

Create group

Create a group and select the policies to be attached to the group. Using groups is a best-practice way to manage users' permissions by job functions, AWS service access, or your custom permissions. [Learn more](#)

Group name lab_demo

[Create policy](#) [Refresh](#)

[Filter policies](#)

	Policy name	Type	Used as	Description
<input type="checkbox"/>	AWSElasticBeanstalkCustomPlatformforE...	AWS managed	None	Provide the instance in your custom platform builder environment permission to launch EC2 inst...
<input type="checkbox"/>	AWSElasticBeanstalkEnhancedHealth	AWS managed	Permissions policy (1)	AWS Elastic Beanstalk Service policy for Health Monitoring system
<input checked="" type="checkbox"/>	AWSElasticBeanstalkFullAccess	AWS managed	Permissions policy (1)	Provides full access to AWS Elastic Beanstalk and underlying services that it requires such as S...
<input type="checkbox"/>	AWSElasticBeanstalkMulticontainerDocker	AWS managed	Permissions policy (1)	Provide the instances in your multicontainer Docker environment access to use the Amazon EC...
<input type="checkbox"/>	AWSElasticBeanstalkReadOnlyAccess	AWS managed	None	Provides read only access to AWS Elastic Beanstalk via the AWS Management Console.
<input type="checkbox"/>	AWSElasticBeanstalkService	AWS managed	Permissions policy (1)	AWS Elastic Beanstalk Service role policy which grants permissions to create & manage resourc...
<input type="checkbox"/>	AWSElasticBeanstalkWebTier	AWS managed	Permissions policy (1)	Provide the instances in your web server environment access to upload log files to Amazon S3.

[Cancel](#) [Create group](#)

IAM

- Add user to the group you just create
- Click Next:Tags

Add user to an existing group or create a new one. Using groups is a best-practice way to manage user's permissions by job functions. [Learn more](#)

Add user to group

Create group Refresh

Group	Attached policies
<input checked="" type="checkbox"/> lab_demo	AWSElasticBeanstalkFullAccess
<input type="checkbox"/> weathermood	AWSElasticBeanstalkFullAccess

Showing 2 results

Cancel Previous **Next: Tags**

IAM

- Tags is optional
- You can use the tags to organize, track, or control access for this user.

Add user

1 2 3 4 5

Add tags (optional)

IAM tags are key-value pairs you can add to your user. Tags can include user information, such as an email address, or can be descriptive, such as a job title. You can use the tags to organize, track, or control access for this user. [Learn more](#)

Key	Value (optional)	Remove
<input type="text" value="Add new key"/>	<input type="text"/>	<button>Remove</button>

You can add 50 more tags.

Cancel

Previous

Next: Review

IAM

- Create User

Add user

Review

Review your choices. After you create the user, you can view and download the autogenerated password and access key.

User details

User name	lab_demo
AWS access type	Programmatic access and AWS Management Console access
Console password type	Custom
Require password reset	No
Permissions boundary	Permissions boundary is not set

Permissions summary

The user shown above will be added to the following groups.

Type	Name
Group	lab_demo

Tags

No tags were added.

[Cancel](#) [Previous](#) [Create user](#)

IAM

- Download .csv file.

Add user

1 2 3 4 5

Success

You successfully created the users shown below. You can view and download user security credentials. You can also email users instructions for signing in to the AWS Management Console. This is the last time these credentials will be available to download. However, you can create new credentials at any time.

Users with AWS Management Console access can sign-in at: <https://124817121290.signin.aws.amazon.com/console>

 Download .csv

	User	Access key ID	Secret access key	Email login instructions
	lab_demo		***** Show	

Clone project

- Clone project from GitLab
 - Weathermood
 - Weathermood-server
- Checkout branch
 - Weathermood -> server-file
 - Weathermood -> file
- Npm install first to get all the package

awsebcli

- Please install awsebcli first
 - https://docs.aws.amazon.com/en_us/elasticbeanstalk/latest/dg/eb-cli3-install.html#eb-cli3-install.cli-only
- Under weathermood-server
 - eb init

```
→ weathermood-server git:(file) eb init
```

Select a default region

- 1) us-east-1 : US East (N. Virginia)
 - 2) us-west-1 : US West (N. California)
 - 3) us-west-2 : US West (Oregon)
 - 4) eu-west-1 : EU (Ireland)
 - 5) eu-central-1 : EU (Frankfurt)
 - 6) ap-south-1 : Asia Pacific (Mumbai)
 - 7) ap-southeast-1 : Asia Pacific (Singapore)
 - 8) ap-southeast-2 : Asia Pacific (Sydney)
 - 9) ap-northeast-1 : Asia Pacific (Tokyo)
 - 10) ap-northeast-2 : Asia Pacific (Seoul)
 - 11) sa-east-1 : South America (Sao Paulo)
 - 12) cn-north-1 : China (Beijing)
 - 13) cn-northwest-1 : China (Ningxia)
 - 14) us-east-2 : US East (Ohio)
 - 15) ca-central-1 : Canada (Central)
 - 16) eu-west-2 : EU (London)
 - 17) eu-west-3 : EU (Paris)
- (default is 3):

Select an application to use

- 1) weathermood-server
 - 2) [Create new Application]
- (default is 1):

Note: Elastic Beanstalk now supports AWS CodeCommit; a fully-managed source control service. Learn more, see Docs: <https://aws.amazon.com/codecommit/>

Do you wish to continue with CodeCommit? (y/N) (default is n): n

awsebcli

- eb create –single
- Enter weathermood-{group_id} for DNS CNAME prefix.
- Ex: weathermood-1 for group 1
-

```
→ weathermood-server qit:(file) eb create --single
Enter Environment Name
(Default is weathermood-server-dev2):
Enter DNS CNAME prefix
(Default is weathermood-server-dev2):
Creating application version archive "app-c335-190427_200345".
Uploading weathermood-server/app-c335-190427_200345.zip to S3. This may take a while.
Upload Complete.
Environment details for: weathermood-server-dev2
  Application name: weathermood-server
  Region: us-west-2
  Deployed Version: app-c335-190427_200345
  Environment ID: e-k3dfmttvx9
  Platform: arn:aws:elasticbeanstalk:us-west-2::platform/Docker running on 64bit Amazon Linux
  Tier: WebServer-Standard-1.0
  CNAME: weathermood-server-dev2.us-west-2.elasticbeanstalk.com
  Updated: 2019-04-27 12:04:01.290000+00:00
Printing Status:
2019-04-27 12:04:00    INFO    createEnvironment is starting.
2019-04-27 12:04:01    INFO    Using elasticbeanstalk-us-west-2-124817121290 as Amazon
cket for environment data.
2019-04-27 12:04:21    INFO    Created security group named: awseb-e-k3dfmttvx9-stack-
roup-XZU3E0MIYNUA
2019-04-27 12:04:36    INFO    Created EIP: 35.162.132.172
2019-04-27 12:05:42    INFO    Waiting for EC2 instances to launch. This may take a few
2019-04-27 12:06:34    INFO    Successfully pulled node:6.10
2019-04-27 12:07:21    INFO    Successfully built aws(beanstalk/staging-app
2019-04-27 12:07:29    INFO    Docker container 8f99f3d3ed7d is running aws(beanstalk/
2019-04-27 12:08:04    INFO    Application available at weathermood-server-dev2.us-wes
nstalk.com.
2019-04-27 12:08:05    INFO    Successfully launched environment: weathermood-server-d
```

Elastic Beanstalk

- Find Elastic Beanstalk service
- Click the Applications you just create
- Get the URL

aws Services Resource Groups alanLin Oregon Support

Elastic Beanstalk weathermood-server Actions

Learn More

Get started using Elastic Beanstalk
Modify the code
Create and connect to a database
Add a custom domain

Featured

Create your own custom platform

Command Line Interface (v3)

Installing the AWS EB CLI
EB CLI Command Reference

If you want to use a command line to create, manage, and scale your Elastic Beanstalk applications, please use the Elastic Beanstalk Command Line Interface (EB CLI).

Get Started

```
$ mkdir HelloWorld
$ cd HelloWorld
$ eb init -p PHP
$ echo "Hello World" > index.html
$ eb create dev-env
$ eb open
```

To deploy updates to your applications, use 'eb deploy'.

All Applications

weathermood-server

weathermood-server-dev

Environment tier: Web Server
Platform: Docker running on 64bit Amazon Linux/2.12.10
Running versions: app-c335-190427_171834
Last modified: 2019-04-27 17:19:30 UTC-0800
URL: weathermood-server-dev2.us-west-2.elasticbeanstalk.com
Health status: Ok

weathermood-server-dev2

Environment tier: Web Server
Platform: Docker running on 64bit Amazon Linux/2.12.10
Running versions: app-c335-190427_200345
Last modified: 2019-04-27 20:08:05 UTC-0800
URL: weathermood-server-dev2.us-west-2.elasticbeanstalk.com
Health status: Ok

Filter by Application Name: Swap URLs Actions

All Applications > weathermood-server > weathermood-server-dev2 (Environment ID: e-k3dflmtvx9, URL: weathermood-server-dev2.us-west-2.elasticbeanstalk.com) Actions

Dashboard Configuration Logs Health Running Version Upload and Deploy

Configuration Docker running on 64bit Amazon Linux/2.12.10 Change

Overview

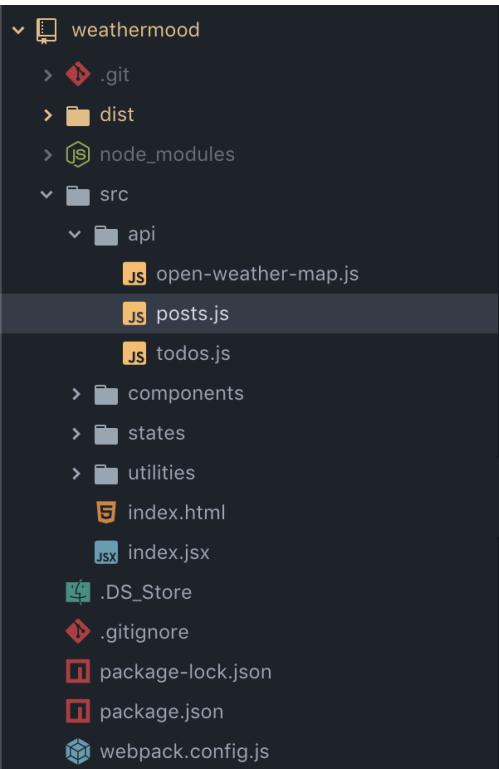
Health Ok Causes

Recent Events

Time	Type	Details
2019-04-27 20:08:40 UTC+0800	INFO	Environment health has transitioned from Pending to Ok. Initialization completed 50 seconds ago and took 4 minutes.
2019-04-27 20:08:05 UTC+0800	INFO	Successfully launched environment: weathermood-server-dev2
2019-04-27 20:08:04 UTC+0800	INFO	Application available at weathermood-server-dev2.us-west-2.elasticbeanstalk.com.
2019-04-27 20:07:29 UTC+0800	INFO	Docker container 8f99f3d3ed7d is running aws(beanstalk/current-app).
2019-04-27 20:07:21 UTC+0800	INFO	Successfully built aws(beanstalk/staging-app)

Project Code

- Go to weathermood project
 - weathermood -> src -> api -> post.js
- Paste Url to postBaseUrl



```
import axios from 'axios';

// Develop server URL
// const postBaseUrl = 'http://localhost:8080/api';

// Staging server URL
// const postBaseUrl = 'http://weathermood-staging.us-west-2.elasticbeanstalk.com/api';

// Production server URL
const postBaseUrl = 'http://weathermood-server-dev2.us-west-2.elasticbeanstalk.com/api';

export function listPosts(searchText = '') {
    let url = `${postBaseUrl}/posts`;
    if (searchText)
        url += `?searchText=${searchText}`;

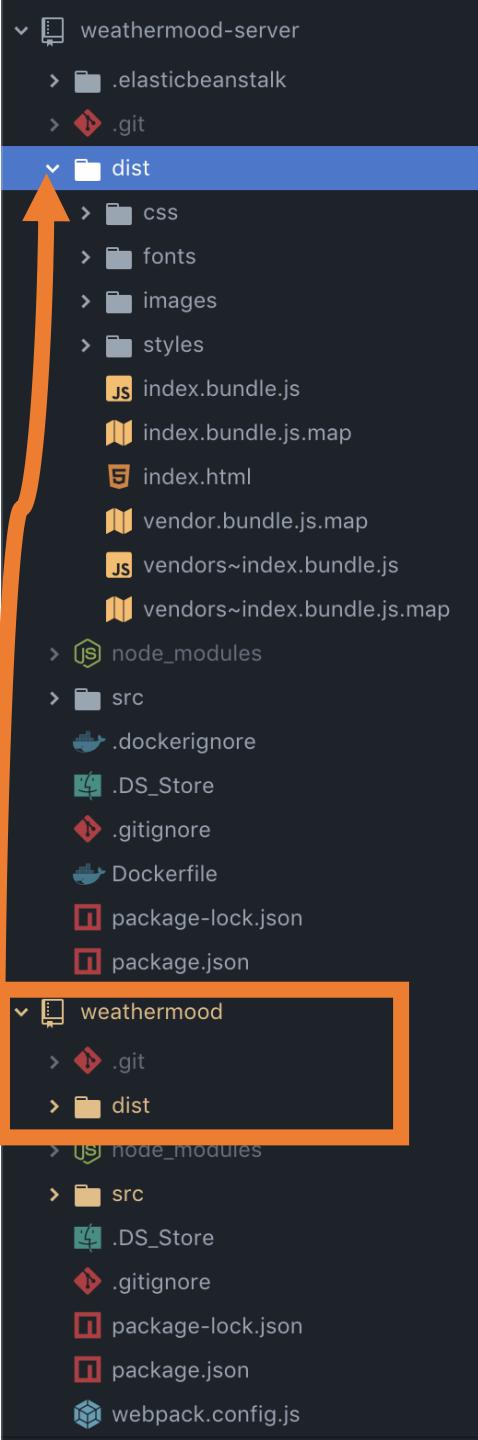
    console.log(`Making GET request to: ${url}`);

    return axios.get(url).then(function(res) {
        if (res.status !== 200)
            throw new Error(`Unexpected response code: ${res.status}`);

        return res.data;
    });
}
```

Project Code

- Rebulid weathermood project
 - npm run build
- Copy weathermood dist floder to weathermood-server dist floder



awsebcli

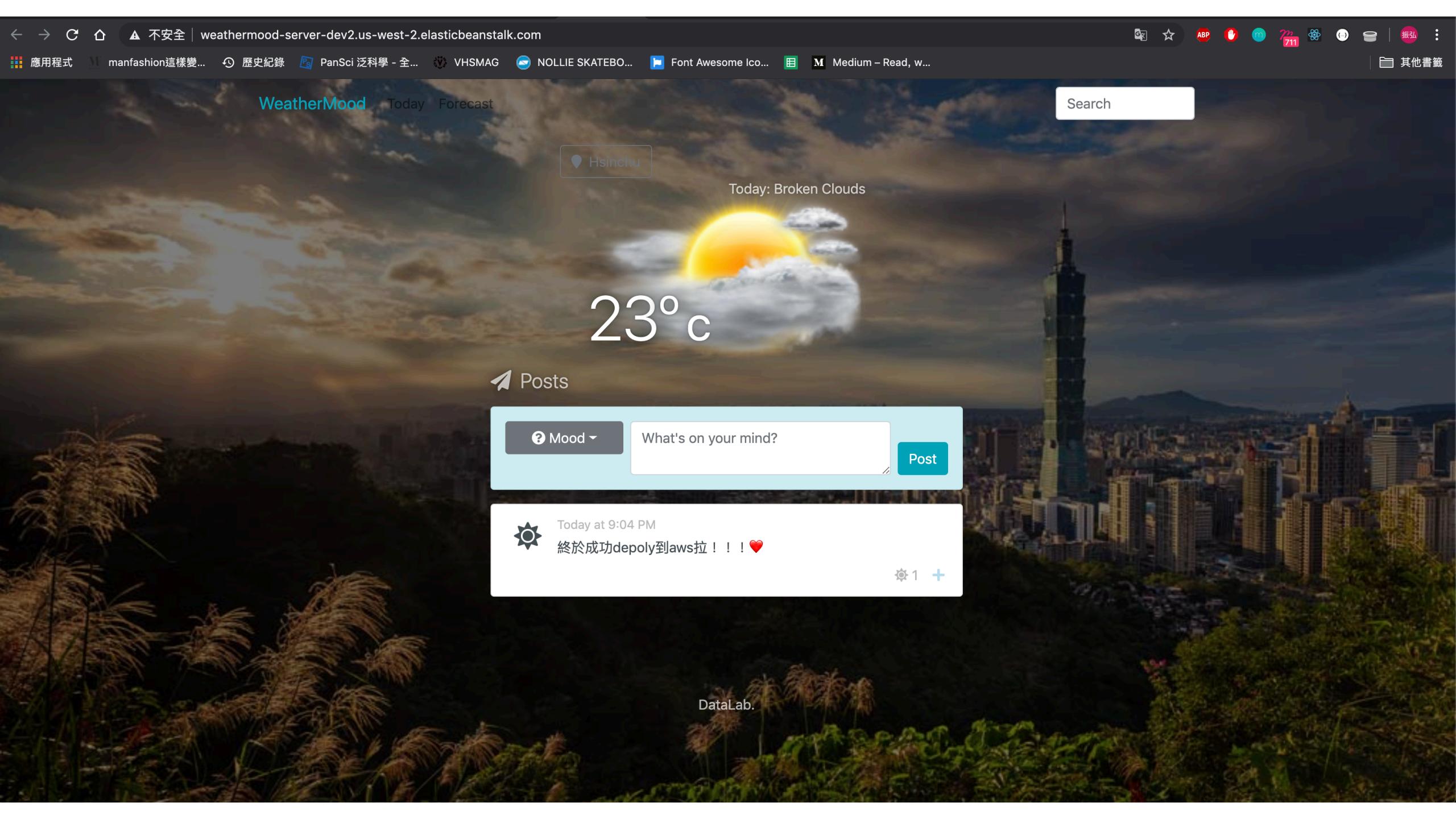
- eb deploy <env>
- It will deploy committed change only. Therefore, you have to commit before you deploy.

```
→ weathermood-server git:(file) eb deploy
Creating application version archive "app-c335-190427_202417".
Uploading weathermood-server/app-c335-190427_202417.zip to S3. This may take a while.
Upload Complete.

2019-04-27 12:24:30 INFO Environment update is starting.
2019-04-27 12:24:33 INFO Deploying new version to instance(s).
2019-04-27 12:24:40 INFO Successfully pulled node:6.10
2019-04-27 12:24:40 INFO Successfully built aws(beanstalk/staging-app
2019-04-27 12:24:49 INFO Docker container 66d894332056 is running aws(beanstalk/current-app.
2019-04-27 12:24:56 INFO New application version was deployed to running EC2 instances.
2019-04-27 12:24:56 INFO Environment update completed successfully.

Alert: An update to the EB CLI is available. Run "pip install --upgrade awsebcli" to get the latest
version.
```

```
→ weathermood-server git:(file) ✘ git add .
→ weathermood-server git:(file) ✘ git commit -m "for lab demo"
[file 0312b98] for lab demo
 4 files changed, 5 insertions(+), 6 deletions(-)
  create mode 100644 dist/.DS_Store
  rewrite dist/index.bundle.js (62%)
  rewrite dist/index.bundle.js.map (60%)
→ weathermood-server git:(file) eb deploy
```



WeatherMood

Today Forecast

Search

Hsinchu

Today: Broken Clouds

23°c

Posts

Mood ▾

What's on your mind?

Post



Today at 9:04 PM

終於成功deploy到aws拉！！！ ❤️

1 +

DataLab.

Assignment

- Deploy server and client to AWS.
- Store TODOs in server.
- Get TODOs from server and show them in TodoList.