

## Homework #7 Amazon Web Services (AWS) with Node.js

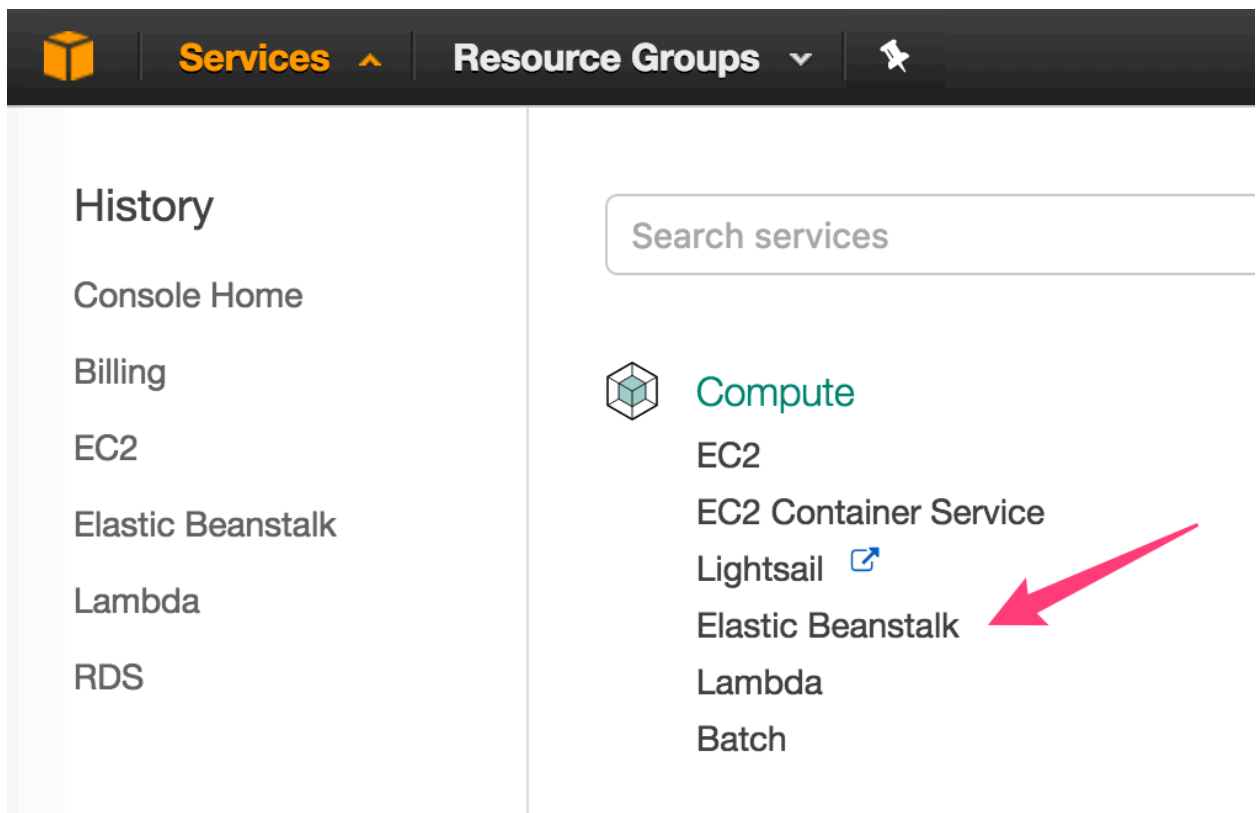
Using the instructions below one can establish a service at AWS. Once established, you will be able to move your Node.js program developed for Assignment #8 to your AWS instance and have it executed there.

### 1-4. Sign ups

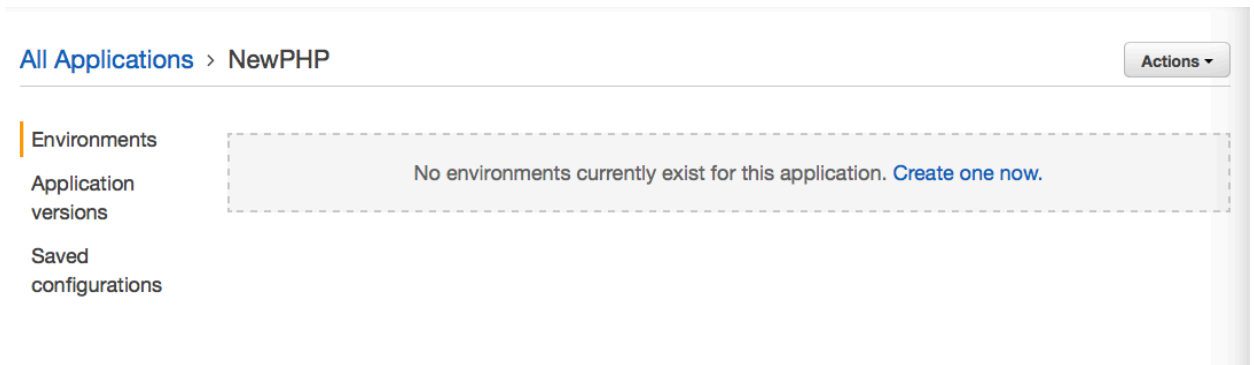
This section assumes that you have performed the installation for homework #5, including (1) AWS Sign up, (2) AWS Educate Sign Up, (3) applied for your \$100 credit, and (4) provided your credit card information.

### 5. Set up the Default Elastic Beanstalk Application

- Click the top left menu **Services**
- From the list of Amazon Web Services, select **Elastic Beanstalk**, under **Compute**.



- Select **Create New Application** in the top right, right underneath your account name, and follow the Wizard.
- In the **Application name** field, enter a name for your application. Click **Create**.
- In the **Environment** section click on the **Create One Now** hyperlink



- In the **Choose an environment tier** dialog select **Web server environment** and click on **Select** button.
- In the **Environment Information** section, select a **Domain** (use the default or check availability of your own subdomain of elasticbeanstalk.com). Click on **“Check availability”** button. Your URL should be green. Otherwise you should change the environment URL.

### Create a new environment

Launch an environment with a sample application or your own code. By creating an environment, you allow AWS Elastic Beanstalk to manage AWS resources and permissions on your behalf. [Learn more](#)

#### Environment information

Choose the name, subdomain, and description for your environment. These cannot be changed later.

**Application name** NewPHP

**Environment name**

**Domain**  .us-east-1.elasticbeanstalk.com

csci571-php.us-east-1.elasticbeanstalk.com **is available.**

**Description**

- In the **Base configuration** section, choose the **Preconfigured platform**, and one of the following options in the drop-down list:
  - Platform: **Node.js**
  - Environment Type: **Single Instance.**

**Base configuration**

**Tier** Web Server (Choose tier)

**Platform** ☒ Preconfigured platform  
Platforms published and maintained by AWS Elastic Beanstalk.

☐ Custom platform NEW  
Platforms created and owned by you. [Learn more](#)

- In the **Application Code** section, select **Sample application**.

**Application code** ☒ **Sample application**  
Get started right away with sample code.

☐ **Existing version**  
Application versions that you have uploaded for **NewPHP**.  
-- Choose a version --

☐ **Upload your code**  
Upload a source bundle from your computer or copy one from Amazon S3.

ZIP or WAR

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- Click **Create environment**.
- After a minute or so the “**Creating <environment-name>**” dialog appears, with the message “This will take a few minutes...”

All Applications > NewPHP > Newphp-env (Environment ID: e-ethjxs5uzy, URL: csc0571-php.us-east-1.elasticbeanstalk.com) Actions

**Creating Newphp-env**  
This will take a few minutes...

```

1:45pm Environment health has transitioned from Pending to Ok. Initialization completed 9 seconds ago and took 4 minutes.
1:43pm Added Instance [i-037c397c9487d2d3a] to your environment.
1:42pm Waiting for EC2 instances to launch. This may take a few minutes.
1:41pm Environment health has transitioned to Pending. Initialization in progress (running for 16 seconds). There are no instances.
1:41pm Created EIP: 54.83.201.175
1:40pm Created security group named:
       awsseb-e-ethjxs5uzy-stack-AWSEBSecurityGroup-1FCZQNMU89H8M
1:40pm Using elasticbeanstalk-us-east-1-231003652681 as Amazon S3 storage bucket for environment data.
1:40pm createEnvironment is starting.

```

**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](#)

You will need to wait for several minutes as your Linux + Nginx + Node.js instance is created and launched. You will see several messages appear as the instance is being created and deployed. a *rotating wheel* next to the “**Monitor**” button. Once creation and launch are completed, you will see the wheel turn into a green round circle with a check mark in the middle.



Health

Ok

[Causes](#)

Running Version

Sample Application

[Upload and Deploy](#)

Configuration

64bit Amazon Linux 2017.03  
v4.3.0 running Node.js[Change](#)

## Recent Events

[Show All](#)

Time	Type	Details
2017-10-17 14:13:47 UTC-0700	INFO	Successfully launched environment: NodejsEnv-env
2017-10-17 14:13:04 UTC-0700	INFO	Environment health has transitioned from Pending to Ok. Initialization completed 11 seconds ago and took 3 minutes.
2017-10-17 14:11:16 UTC-0700	INFO	Waiting for EC2 instances to launch. This may take a few minutes.
2017-10-17 14:11:04 UTC-0700	INFO	Added instance [i-0dce5c16a9ff8f4a8] to your environment.
2017-10-17 14:10:12 UTC-0700	INFO	Created EIP: 184.73.164.173

## Node.js Instance Dashboard

Beside “<YourEnvironment>” subtitle there is a **URL** such as *YourAppName-env.elasticbeanstalk.com*, click on it. You should see the “*Congratulations*” page. If you see it as shown below, your application and environment have been created properly. Then go back to Elastic Beanstalk console.

# Congratulations

Your first AWS Elastic Beanstalk Node.js application is now running on your own dedicated environment in the AWS Cloud

### What's Next?

- [AWS Elastic Beanstalk overview](#)
- [AWS Elastic Beanstalk concepts](#)
- [Deploy an Express Application to AWS Elastic Beanstalk](#)
- [Deploy an Express Application with Amazon ElastiCache to AWS Elastic Beanstalk](#)
- [Deploy a Geddy Application with Amazon ElastiCache to AWS Elastic Beanstalk](#)
- [Customizing and Configuring a Node.js Container](#)
- [Working with Logs](#)

## Node.js Sample Application

## 6. Upload your Node.js application

Develop your Node.js server application, and make sure that you name the command used to start the Node.js application **server.js** or **app.js**. Compress the file with ZIP so that the resulting “source bundle” is named something like **nodejs-v1.zip**. On a Mac, you can right click the file or folder and choose compress. On Windows, there are several free programs, such as 7-Zip or FreeZip, etc. that you can use.

While PHP on AWS comes with all needed libraries included, Node.js comes bare, with no libraries (also known as “packages”) installed. You can include a **package.json** file in your source bundle to install packages during deployment. You use a `package.json` file in the root of your project source to use **npm** to install packages that your application requires. This is an example `package.json` file:

```
{
  "name": "my-app",
  "version": "0.0.1",
  "private": true,
  "dependencies": {
    "ejs": "latest",
    "aws-sdk": "latest",
    "express": "latest",
    "body-parser": "latest"
  },
  "scripts": {
    "start": "node app.js"
  }
}
```

When a `package.json` file is present in your bundle, Elastic Beanstalk runs **npm install** to install dependencies.

The Node.js platform on AWS includes a proxy server to serve static assets, forward traffic to your application, and compress responses. The default proxy server is **Nginx**.

### 6.1 Upload and Deploy

From the Elastic Beanstalk console, select your environment and click on the **Upload and Deploy** button.

The **Upload and Deploy** popup will display. Enter a Version **label** (e.g., version 1.0). Click on the **Choose File** button and select the **nodejs-v1.zip** file. Then click on **Deploy** button.

Upload and Deploy

To deploy a previous version, go to the [Application Versions page](#).

Upload application: Choose File nodejs-v1.zip nodejs-v1.zip

Version label: nodejs-v1

Cancel Deploy

Again, wait several minutes for the *rotating wheel* to finish and the green circle with checkmark to appear. Click again on the link “**YourAppName-env.elasticbeanstalk.com**”. Check that your Node.js app is running correctly.

- **Important Note:** in the future if you want to upload an updated version of the source bundle *nodejs-v1.zip*, you should enter a different version label. Otherwise, you will get an error. It is recommended that you use increasing version numbers (2.0, 2.1, 3.0, or labels such as nodejs-v1, nodejs-v2, etc.)

For additional information, please check the AWS Developer Guide article titled “*Using the AWS Elastic Beanstalk Node.js Platform*” at:

[http://docs.aws.amazon.com/elasticbeanstalk/latest/dg/create\\_deploy\\_nodejs.container.html](http://docs.aws.amazon.com/elasticbeanstalk/latest/dg/create_deploy_nodejs.container.html)