



科技系列課程

AWS雲計算實務班第01期

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使用Elastic Beanstalk



設定Application的執行環境



Step1：找到今天所要使用的Elastic Beanstalk服務

The screenshot shows the AWS Management Console interface. The top navigation bar includes the AWS logo, a 'Services' button, a search bar, and a keyboard shortcut '[Alt+S]'. The left sidebar contains a menu with categories: 'Recently visited', 'Favorites', and 'All services'. Under 'All services', various AWS service categories are listed, including Analytics, Application Integration, Blockchain, Business Applications, Cloud Financial Management, **Compute** (highlighted with a red box), Containers, Customer Enablement, Database, Developer Tools, and End User Computing. The main content area displays the 'Compute' category, listing services such as AWS App Runner, Batch, EC2, EC2 Image Builder, **Elastic Beanstalk** (highlighted with a red box), Lambda, and Lightsail. Each service entry includes a brief description of its function.



Step2：頁面點選 **Create Environment**。

The screenshot shows the AWS Elastic Beanstalk console. The left sidebar contains the 'Elastic Beanstalk' menu with options for 'Applications', 'Environments', and 'Change history'. The main content area is titled 'Elastic Beanstalk > Environments'. It features a 'Create environment' button in a red box, a search bar for filtering environments, and a table listing existing environments. The table has columns for Environment name, Health, Application, Platform, Domain, Running status, and Tier name. One environment is listed: '20230727Beanstalk1-env' with a health status of 'Ok'.

Environment name	Health	Applica...	Platform	Domain	Runnin...	Tier na...
20230727Beanstalk1-env	Ok	20230727...	PHP 8.1 r...	20230727Beanstalk1-env.eba-...	v1	WebServer



Configure environment [Info](#)

Environment tier [Info](#)

Amazon Elastic Beanstalk has two types of environment tiers to support different types of web applications.

☒ Web server environment

Run a website, web application, or web API that serves HTTP requests. [Learn more](#) 

☐ Worker environment

Run a worker application that processes long-running workloads on demand or performs tasks on a schedule. [Learn more](#) 



Step3 : Environment tier 下選擇 Web server environment並輸入Application Name

aws

Services

Search

[Alt+S]

Step 1
Configure environment

Step 2
Configure service access

Step 3 - optional
Set up networking, database, and tags

Step 4 - optional
Configure instance traffic and scaling

Step 5 - optional
Configure updates, monitoring, and logging

Step 6
Review

Configure environment

Environment tier

Amazon Elastic Beanstalk has two types of environment tiers to support different types of web applications.

☒ Web server environment
Run a website, web application, or web API that serves HTTP requests. [Learn more](#)

☐ Worker environment
Run a worker application that processes long-running workloads on demand or performs tasks on a schedule. [Learn more](#)

Application information

Application name

20240710

Maximum length of 100 characters.

Application tags (optional)

Environment information

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

Environment name

20240710-env



Step3 : Platform type下選擇 Managed platform environment platform 選擇 PHP

aws Services Search [Alt+S]

Platform Info

Platform type

☒ Managed platform
Platforms published and maintained by Amazon Elastic Beanstalk. [Learn more](#)

☐ Custom platform
Platforms created and owned by you. This option is unavailable if you have no platforms.

Platform

PHP

Platform branch

PHP 8.3 running on 64bit Amazon Linux 2023

Platform version

4.3.0 (Recommended)



Step3 : Application code 下選擇 Upload your code

aws Services Search for services, features, blogs, docs, and more [Alt+S] Ohio

Elastic Beanstalk

- Environments
- Applications
- Change history

☐ Sample application
Get started right away with sample code.

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

Source code origin

Version label
Unique name for this version of your application code.

Source code origin
Maximum size 512 MB

☒ Local file

☐ Public S3 URL

☐ No file uploaded

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Step4：開啟記事本編輯以下程式碼

- `<body>`
- `<?php`
- `echo"<h1>Hello From Your WebServer</h1>";`
- `?>`
- `</body>`



Step4 : 在PHP網站上顯示Hello From Your Web Server!



Hello From Your Web Server!

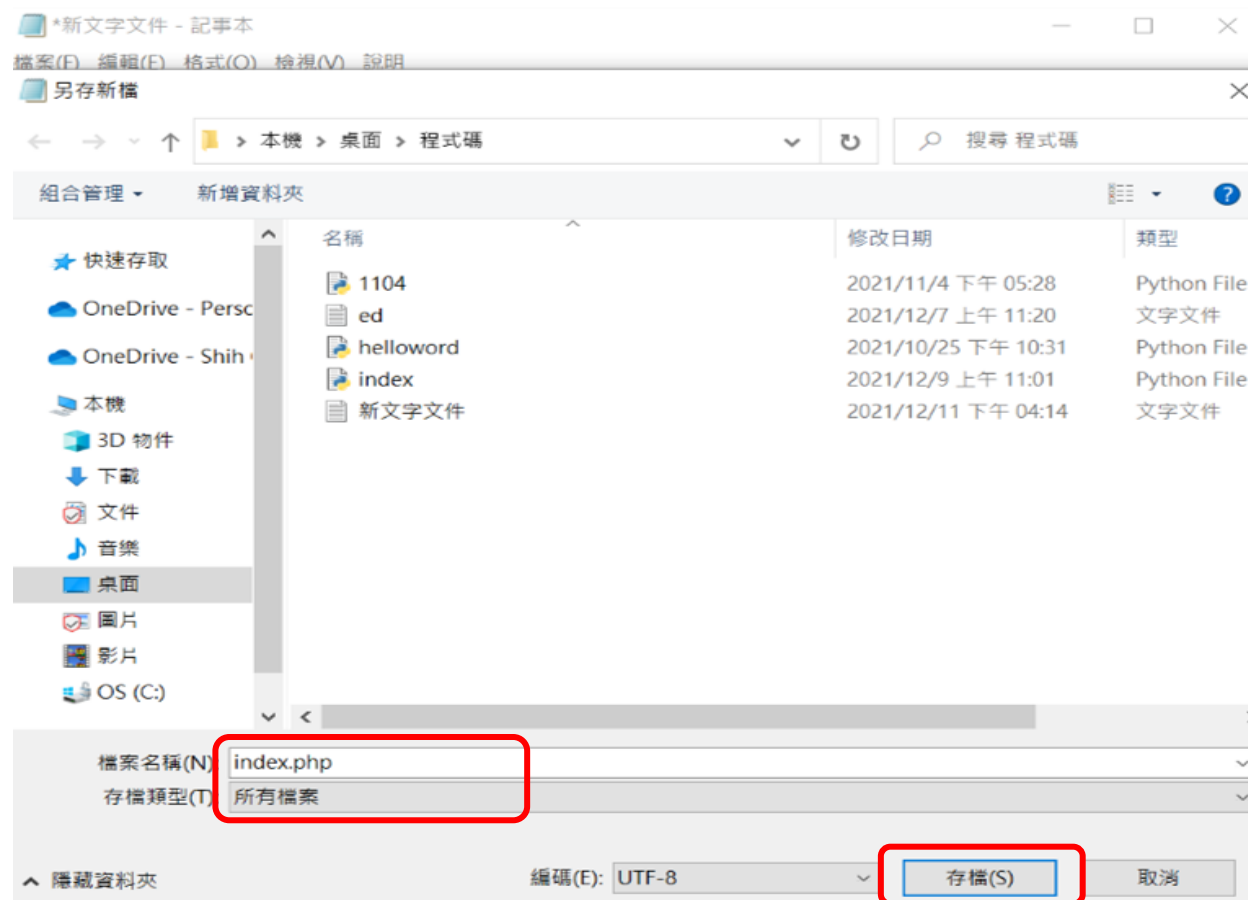


Step5：請點選檔案下並選擇另存為... 的方式儲存

```
<body>
<?php
echo"<h1>Hello From Your WebServer</h1>";
?>
</body>
```

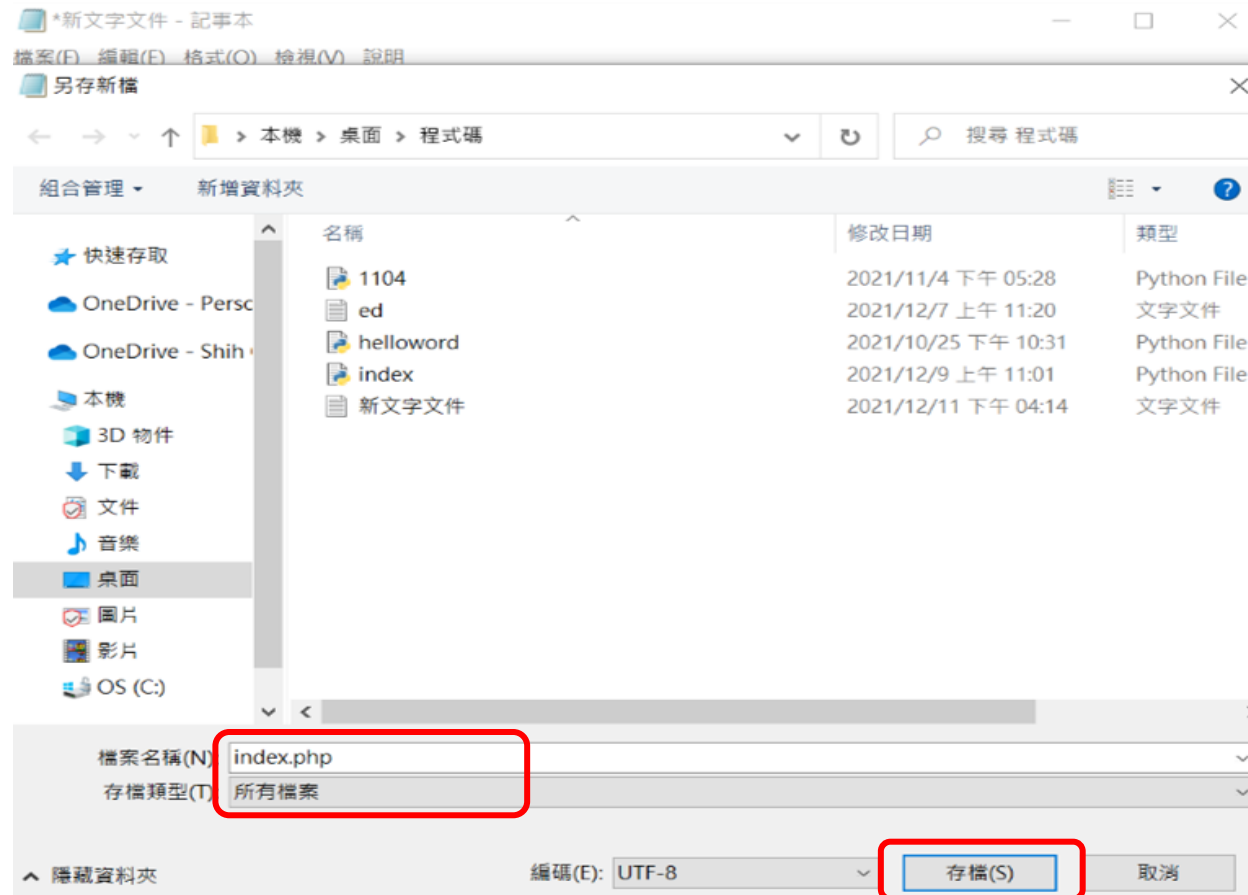


Step6：在檔案名稱中輸入index.php，存檔類型要選擇**所有檔案**



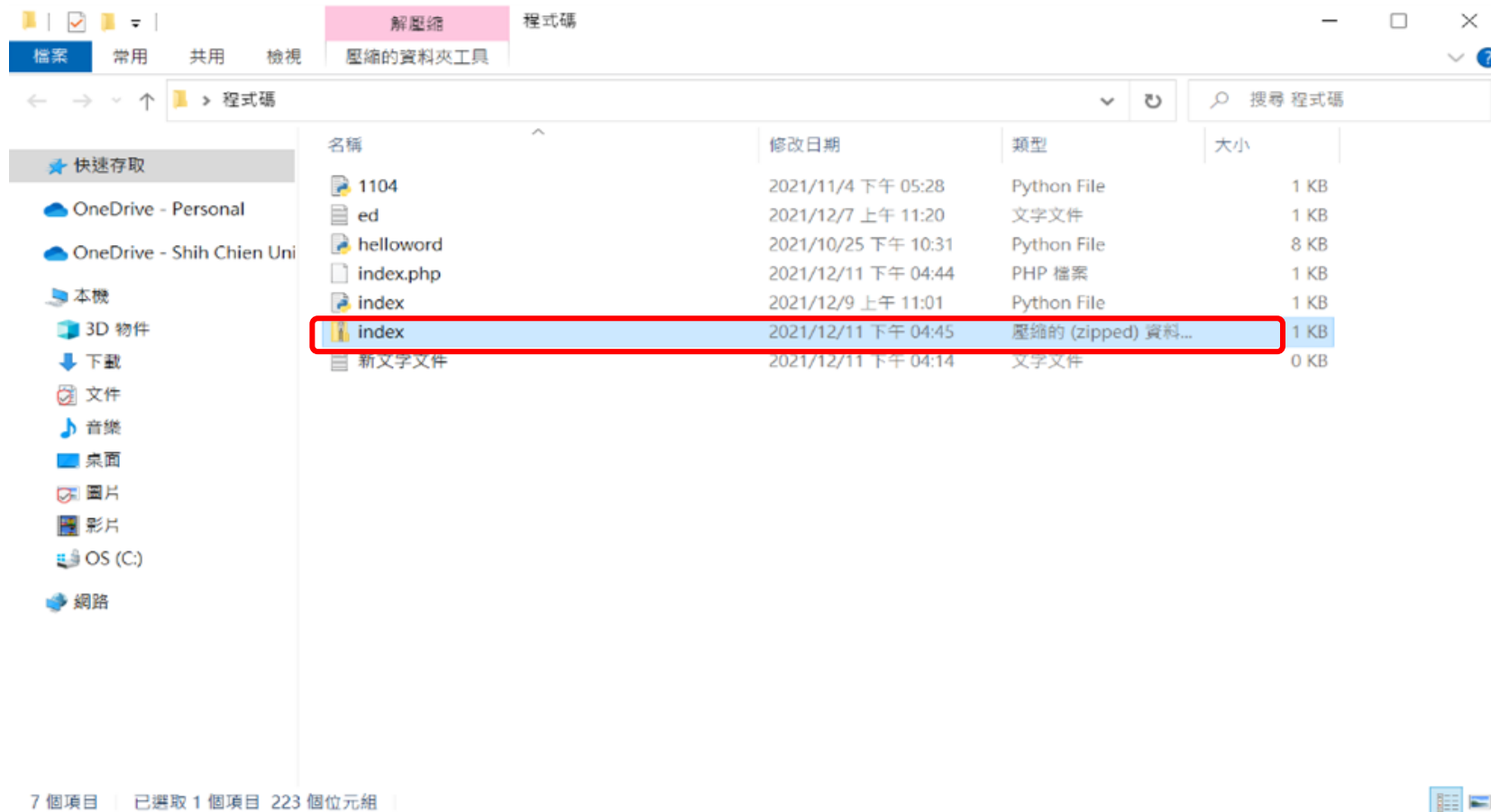


Step7：點選存檔





Step8：另存為一個名為index.zip的壓縮檔案





Step9：選擇**Local file**，並按下**Choose file**的按鈕

aws Services Search for services, features, blogs, docs, and more [Alt+S] Ohio

Elastic Beanstalk

- Environments
- Applications
- Change history

☐ Sample application
Get started right away with sample code.

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

Source code origin

Version label
Unique name for this version of your application code.

index_php_demo-source

Source code origin
Maximum size 512 MB

☒ Local file

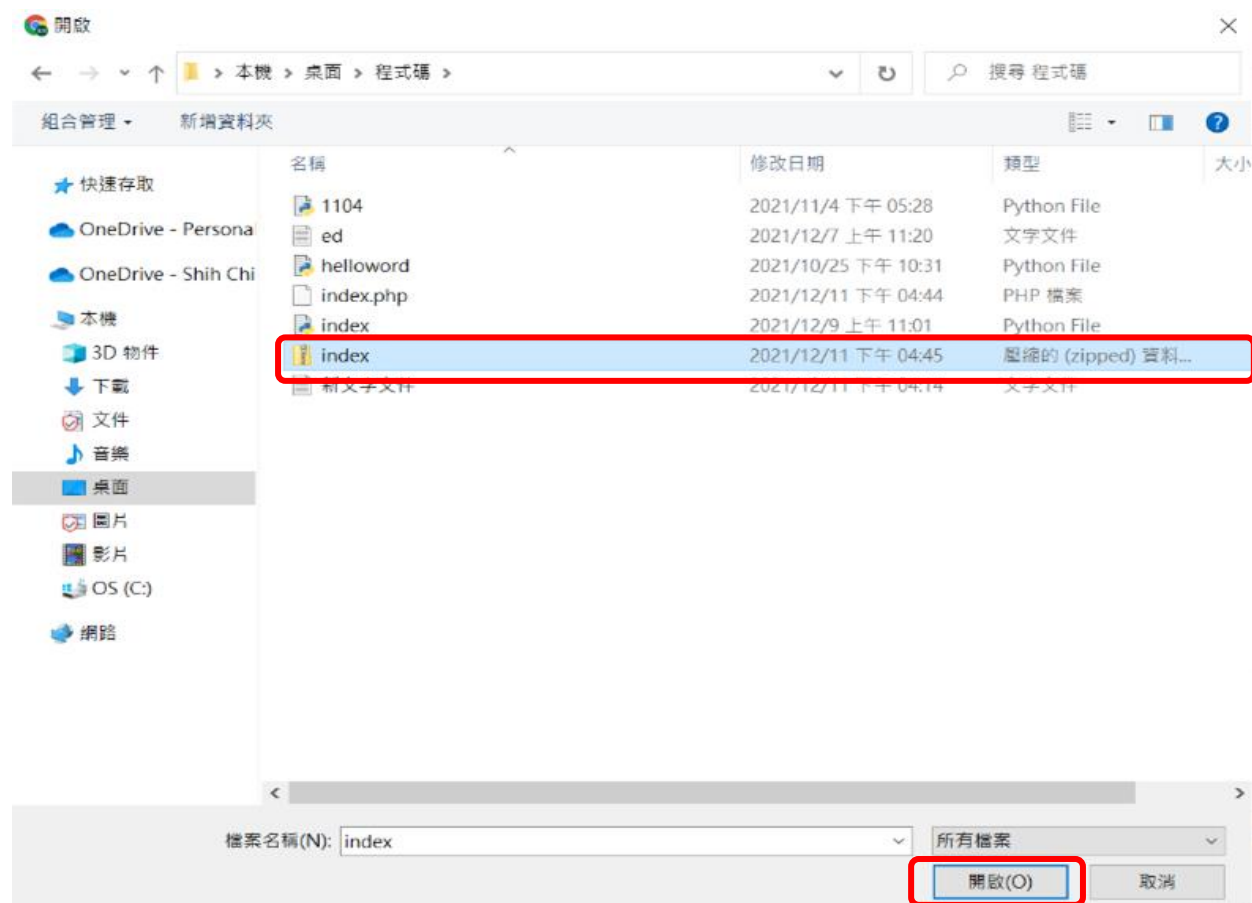
☐ Public S3 URL

☐ No file uploaded

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Step10：載入剛剛建好的檔案index.zip，並按下**開啟**





Step11 : 觀察是否File successfully uploaded

aws Services Search for services, features, blogs, docs, and more [Alt+S] Ohio

Elastic Beanstalk

Environments
Applications
Change history

Source code origin

Version label
Unique name for this version of your application code.
index_php_demo-source

Source code origin
Maximum size 512 MB

☒ Local file
☐ Public S3 URL

Choose file

File name : index.zip

File successfully uploaded

Application code tags

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Step12 : 按下 **Configure more options**

Presets [Info](#)

Start from a preset that matches your use case or choose custom configuration to unset recommended values and use the service's default values.

Configuration presets

- ☒ Single instance (free tier eligible)
- ☐ Single instance (using spot instance)
- ☐ High availability
- ☐ High availability (using spot and on-demand instances)
- ☐ Custom configuration

Cancel

Next



執行環境的建置及Application執行



Step13 : Service access : 使用Learner lab 定義

Step 2

Configure service access

Step 3 - optional

Set up networking, database,
and tags

Step 4 - optional

Configure instance traffic and
scaling

Step 5 - optional

Configure updates, monitoring,
and logging

Step 6

Review

Service access

IAM roles, assumed by Elastic Beanstalk as a service role, and EC2 instance profiles allow Elastic Beanstalk to create and manage your environment. Both the IAM role and instance profile must be attached to IAM managed policies that contain the required permissions. [Learn more](#)

Service role

- ☐ Create and use new service role
- ☒ Use an existing service role

Existing service roles

Choose an existing IAM role for Elastic Beanstalk to assume as a service role. The existing IAM role must have the required IAM managed policies.

LabRole

EC2 key pair

Select an EC2 key pair to securely log in to your EC2 instances. [Learn more](#)

vockey

EC2 instance profile

Choose an IAM instance profile with managed policies that allow your EC2 instances to perform required operations.

LabInstanceProfile

[View permission details](#)



Step14 : Platform已經在之前做過 ; 設定Software不需做更改 ;

The screenshot displays the AWS Elastic Beanstalk console interface. The top navigation bar includes the AWS logo, a 'Services' menu, a search bar, and a region selector set to 'Ohio'. The left sidebar shows the 'Elastic Beanstalk' section with links to 'Environments', 'Applications', and 'Change history'. The main content area is divided into three sections: 'Platform', 'Software', and 'Instances'. The 'Platform' section shows 'PHP 7.4 running on 64bit Amazon Linux 2/3.3.8' with a 'Change platform version' button. The 'Software' section has an 'Edit' button and displays settings for Amazon X-Ray (disabled), Log streaming (disabled), Environment properties (0), and Rotate logs (disabled). The 'Instances' section also has an 'Edit' button and shows settings for IMDSv1 (disabled), Root volume size (container default), and Root volume throughput (container default). The footer contains links for 'Feedback', 'English (UK)', and copyright information for Amazon Web Services, Inc. or its affiliates, along with links for 'Privacy', 'Terms', and 'Cookie preferences'.

Elastic Beanstalk X

Environments
Applications
Change history

Platform

PHP 7.4 running on 64bit Amazon Linux 2/3.3.8

Change platform version

Software Edit

Amazon X-Ray: disabled
Log streaming: disabled (default)
Environment properties: 0
Rotate logs: disabled (default)

Instances Edit

IMDSv1: disabled
Root volume size (GB): container default
Root volume throughput (MiB/s): container default

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Step15：設定網路環境，在Instance subnets項目中勾選Public IP address

Step 3 - optional

Set up networking, database, and tags

Step 4 - optional

Configure instance traffic and scaling

Step 5 - optional

Configure updates, monitoring, and logging

Step 6

Review

VPC

Launch your environment in a custom VPC instead of the default VPC. You can create a VPC and subnets in the VPC management console.

[Learn more](#)

vpc-061cce53c60635d4f | (172.31.0.0/16)

[Create custom VPC](#)

Instance settings

Choose a subnet in each AZ for the instances that run your application. To avoid exposing your instances to the Internet, run your instances in private subnets and load balancer in public subnets. To run your load balancer and instances in the same public subnets, assign public IP addresses to the instances. [Learn more](#)

Public IP address

Assign a public IP address to the Amazon EC2 instances in your environment.

☒ Activated

Instance subnets

Filter instance subnets

	Availability Zone	Subnet	CIDR	Name
<input type="checkbox"/>	us-east-1b	subnet-0107bbf26...	172.31.32.0/20	
<input type="checkbox"/>	us-east-1e	subnet-017b6fbbc...	172.31.48.0/20	
<input checked="" type="checkbox"/>	us-east-1a	subnet-092ad99df...	172.31.16.0/20	



Step16 : database subnet勾選us-east-1b、us-east-1c，最後點選NEXT

Choose database subnets (6)

Filter database subnets

	Availability Zone	Subnet	CIDR	Name
<input checked="" type="checkbox"/>	us-east-1b	subnet-0107bbf26...	172.31.32.0/20	
<input type="checkbox"/>	us-east-1e	subnet-017b6fbbc...	172.31.48.0/20	
<input type="checkbox"/>	us-east-1a	subnet-092ad99df...	172.31.16.0/20	
<input type="checkbox"/>	us-east-1d	subnet-0a00dfef8...	172.31.80.0/20	
<input type="checkbox"/>	us-east-1f	subnet-0af78d439...	172.31.64.0/20	
<input checked="" type="checkbox"/>	us-east-1c	subnet-0e81a1701...	172.31.0.0/20	



Step17：上述Step設定好後，就可以創建app了。按下 **Submit**

Environment properties

Key ▲	Value ▼
No environment properties There are no environment properties defined	

Cancel

Previous

Submit



Step18 : Create app大約會使用3-4分鐘建置 請讀者留意畫面中顯示的建置過程內容及變化

✔ Environment update successfully completed.

Events Health Logs Monitoring Alarms Managed updates Tags

Events (42) Info

Filter events by text, property or value

< 1 2 3 > ⚙

Time	Type	Details
May 29, 2023 21:19:56 (UTC+8)	INFO	Environment health has transitioned from Info to Ok . Application update completed 52 seconds ago and took 61 seconds.
May 29, 2023 21:19:02 (UTC+8)	INFO	Environment update completed successfully.
May 29, 2023 21:19:02 (UTC+8)	INFO	Successfully deployed new configuration to environment.
May 29, 2023 21:19:02 (UTC+8)	INFO	New application version was deployed to running EC2 instances.
May 29, 2023 21:18:56 (UTC+8)	INFO	Environment health has transitioned from Ok to Info. Application update in progress (running for 44 seconds).
May 29, 2023 21:18:41 (UTC+8)	INFO	Instance deployment completed successfully.



顯示建置過程相關的Recent events

aws Services Search for services, features, blogs, docs, and more [Alt+S] Ohio

Elastic Beanstalk

- Environments
- Applications
- Change history

▼ index_php_demo

- Application versions
- Saved configurations

▼ Indexphpdemo-env

- Go to environment
- Configuration
- Logs
- Health
- Monitoring

Causes

PHP 7.4 running on 64bit
Amazon Linux 2/3.3.8

Change

Recent events

Show all

< 1 >

Time	Type	Details
2021-12-11 17:36:42 UTC+0800	INFO	Environment health has transitioned from Pending to Ok. Initialization completed 31 seconds ago and took 3 minutes.
2021-12-11 17:36:28 UTC+0800	INFO	Successfully launched environment: Indexphpdemo-env
2021-12-11 17:36:26 UTC+0800	INFO	Application available at Indexphpdemo-env.eba-xdijdnkf.us-east-2.elasticbeanstalk.com.
2021-12-11 17:35:53 UTC+0800	INFO	Instance deployment completed successfully.
2021-12-11 17:35:51 UTC+0800	INFO	Instance deployment: You didn't include a 'composer.json' file in your source bundle. The deployment didn't install Composer dependencies.

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Step19 : 完成

aws Services Search [Alt+S] N. Virginia voclabs/user358066=Le-Pong_Chin @ 0219-0080-014

Elastic Beanstalk ×

- Applications
- Environments
- Change history

▼ Application:
index_php_20230529

- Application versions
- Saved configurations

▼ **Environment:**
Indexphp20230529-env

Go to environment ↗

✓ Environment update successfully completed. ×

Elastic Beanstalk > Environments > Indexphp20230529-env

Indexphp20230529-env Info

🔄 Actions Upload and deploy

Environment overview

Health ✓ Ok	Environment ID e-ar7udbpyz9
Domain Indexphp20230529-env.eba-ietjt3zn.us-east-1.elasticbeanstalk.com ↗	Application name index_php_20230529

Platform Change version

Platform
PHP 8.1 running on 64bit Amazon Linux 2/3.5.7

Running version
index-php_demon_source-3



當建置成功後可以點選框框內的網址去瀏覽網頁

aws Services Search [Alt+S]

Elastic Beanstalk ✕

- Applications
- Environments
- Change history

▼ Application:
index_php_20230529

- Application versions
- Saved configurations

▼ Environment:
Indexphp20230529-env

Go to environment ↗

Environment update successfully completed.

Elastic Beanstalk > Environments > Indexphp20230529-env

Indexphp20230529-env [Info](#)

Environment overview

Health ✔ Ok	Environment ID e-ar7udbpyz9
Domain Indexphp20230529-env.eba-ietjt3zn.us-east-1.elasticbeanstalk.com ↗	Application name index_php_20230529



出現預期的網頁內容了，網頁出現所編寫的網頁內容

Hello From Your Web Server!



多檔案上傳

 Google  實踐大學  HiNet

Name:

Name:

 Google

Hello Leo!

這時你需要兩個檔案



檔案

form.html

```
<form action="formprocess.php" method="get">

  <p>Name:</p>
  <p><input type="text" name="name" value="your
name"></p>

  <p><input type="submit" value="send"></p>

</form>
```

formprocess.php

```
Hello <?php echo $_GET["name"]; ?>!  
<br>
```



合併壓縮

教學PPT

檔案 常用 共用 檢視

本機 > OS (C:) > MyDocuments > ShihChien > AWS > 教學PPT

桌面

圖片

影片

OS (C:)

USB 磁碟機 (D:)

USB 磁碟機 (D:)

.fseventsd

DCIM

LOST.DIR

MISC

網路

名稱

修改日期

類型

大小

ap.drawio

2022/7/9 下午 08:32

DRAWIO 檔案

3,356 KB

awsLambda.drawio

2022/7/9 下午 09:11

DRAWIO 檔案

2 KB

AWSLambda.png

2022/7/9 下午 09:12

PNG 檔案

63 KB

ch8.csv

2022/7/9 下午 09:29

Microsoft Excel 逗...

1 KB

cloud.drawio

2022/7/9 下午 08:34

DRAWIO 檔案

4 KB

form.html

2022/7/10 下午 08:32

Chrome HTML D...

1 KB

form.zip

2022/7/10 下午 08:38

壓縮的 (zipped) ...

1 KB

formprocess

Edit with IntelliJ IDEA Community Edition

檔案

1 KB

7-Zip

CRC SHA

轉換為 Adobe PDF(B)

在 Acrobat 中合併檔案...

傳送複本...

Scan

銷毀

加入壓縮檔...

壓縮並郵寄...

加入 "教學PPT.7z"

壓縮成 "教學PPT.7z" 並郵寄

加入 "教學PPT.zip"

壓縮成 "教學PPT.zip" 並郵寄

31 個項目 | 已選取 2 個項目 225 個位元組

<p><input type="text" name="name" value="yo

<p><input type="submit" value="send"></p>

</form>



設定壓縮檔名-上傳時用此檔名

加入壓縮檔

壓縮檔(A): C:\MyDocuments\ShihChien\AWS\教學PPT\
form.zip

壓縮檔格式(F): zip

壓縮層級(L): 一般壓縮

壓縮方式(M): Deflate

字典大小(D): 32 KB

字組大小(W): 32

結實區塊大小:

CPU 線程數: 16 / 16

壓縮時記憶體使用: 515 MB

解壓縮時記憶體使用: 2 MB

分割壓縮檔，位元組(V):

參數(P):

更新模式(U): 加入並取代檔案

路徑模式: 相對路徑

選項

☐ 建立自解壓縮檔(X)

☐ 壓縮共用檔案

☐ 壓縮後刪除檔案

加密

輸入密碼:

重新輸入密碼:

☐ 顯示密碼(S)

加密方法: ZipCrypto

確定 取消 說明



Step1:佈建新環境

aws Services Search [Alt+S] N. Virginia voclabs/user358066=Le-Pong_Chin @ 0219-0080-0

Elastic Beanstalk ×

- Applications
- Environments
- Change history

▼ Application:
index_php_20230529

- Application versions
- Saved configurations

▼ Environment:
Indexphp20230529-env

Environment update successfully completed.

Elastic Beanstalk > Environments > Indexphp20230529-env

Indexphp20230529-env [Info](#)

[Refresh](#) [Actions](#) [Upload and deploy](#)

Environment overview

Health Ok	Environment ID e-ar7udbpyz9
Domain Indexphp20230529-env.eba-ietjt3zn.us-east-1.elasticbeanstalk.com Link	Application name index_php_20230529

Platform

[Change version](#)

Platform PHP 8.1 running on 64bit Amazon Linux 2/3.5.7
Running version index-php_demon_source-3



Step2:上傳新檔案

elasticbeanstalk/home?region=us-east-1#/environmen

https://www.aws... USC_Amazon We... VS Code

[Alt+S]

Environments > Indexphpdemo08162-env

Indexphpdemo08162-env

name: inde

Upload and deploy

To deploy a previous version, go to

Upload application

Choose file

Version label

檔案名稱(N): form.zip

所有檔案 (*.*)

開啟(O)

開啟

組合管理 新增資料夾

OneDrive - Perso

本機

3D 物件

下載

文件

音樂

桌面

圖片

影片

OS (C:)

USB 磁碟機 (D:)


名稱	修改日期	類型
AvvSLambda.png	2022/1/9 上午 09:12	PNG 檔案
business-financial-data-mar-2022-qua...	2022/7/23 上午 11:18	Microsoft Excel 逗...
ch8.csv	2022/7/9 下午 09:29	Microsoft Excel 逗...
cloud.drawio	2022/7/9 下午 08:34	DRAWIO 檔案
cloudfront.html	2022/7/16 下午 02:43	Chrome HTML D...
form.zip	2022/7/10 下午 08:38	壓縮的 (zipped) ...
index.zip	2022/7/16 下午 01:42	壓縮的 (zipped) ...
index2.php	2022/7/10 下午 08:49	PHP 檔案
index2.zip	2022/7/10 下午 08:49	壓縮的 (zipped) ...
test0716.txt	2022/7/15 下午 10:41	文字文件
Test20220701.ppk	2022/7/1 下午 04:44	PuTTY Private Key...
USCProject20220707.pem	2022/7/7 上午 09:34	PEM 檔案




Step3:上傳新檔案


Upload and deploy



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

Upload application

 **Choose file**

File name : **form.zip** 

Version label

index_php_demo0816_2-source-1

Current number of instances: **1**

Cancel

Deploy



呼叫要注意

aws Services Search [Alt+S] N. Virginia voclabs/user358066=Le-Pong_Chin @ 0219-0080-0

Elastic Beanstalk x

- Applications
- Environments
- Change history

▼ Application: index_php_20230529

- Application versions
- Saved configurations

▼ Environment: Indexphp20230529-env

Go to environment ↗

Environment update successfully completed.

Elastic Beanstalk > Environments > Indexphp20230529-env

Indexphp20230529-env Info

⌂ Actions Upload and deploy

Environment overview

Health ✔ Ok	Environment ID e-ar7udbpz9
Domain indexphp20230529-env.eba-ietjt3zn.us-east-1.elasticbeanstalk.com	Application name index_php_20230529

Platform

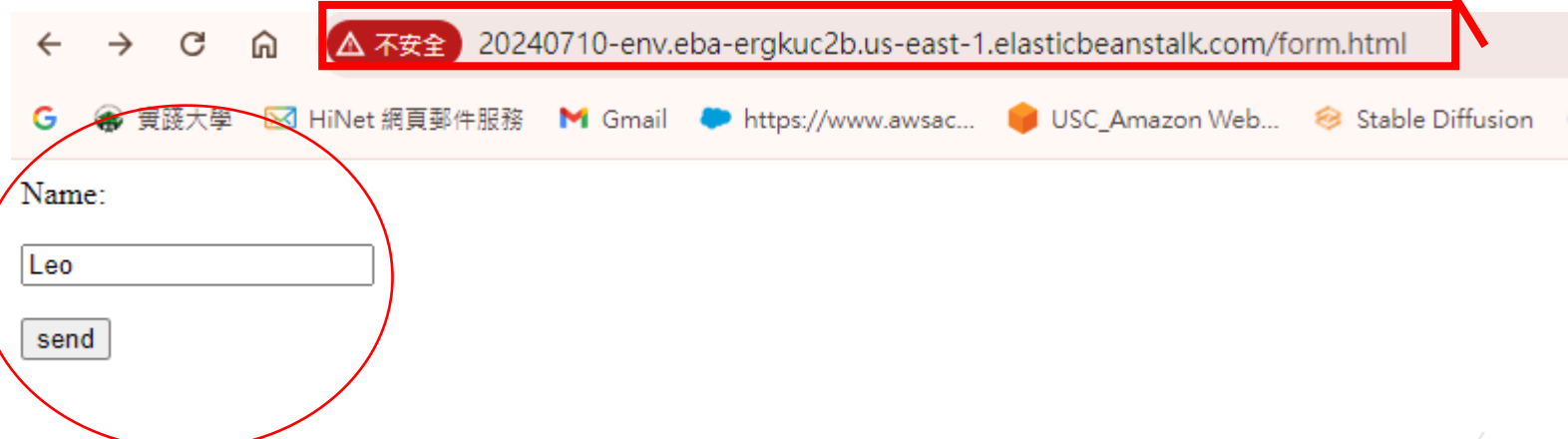
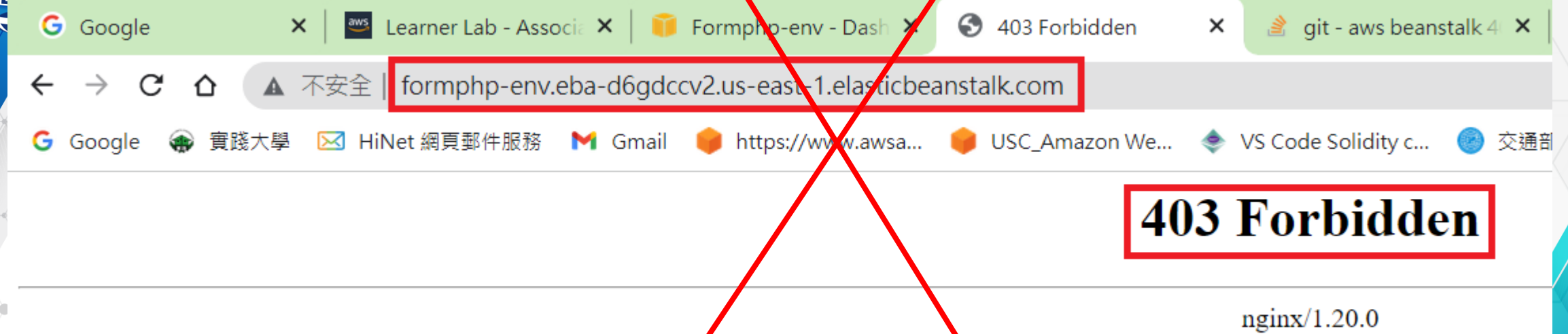
Change version

Platform
PHP 8.1 running on 64bit Amazon Linux 2/3.5.7

Running version
index-php_demon_source-3

不能直接click，要複製網址

貼上瀏覽器+檔名



壓縮時如果將目錄做壓縮，則須加目錄名，
例如`http://20240710-env.eba-ergkuc2b.us-east-1.elasticbeanstalk.com/form/form.html`



本章節實作之雲端資源釋放

請參考附錄E



實作的學習及觀察



實作的學習及觀察

- 觀察1：Elastic Beanstalk在眾多AWS服務分類中屬於哪一服務分類？在此服務分類，我們還常使用哪些服務？
- 觀察2：本實作的region為何盡量選擇未建過Elastic IP的region？
- 觀察3：比較Amazon Elastic Beanstalk跟EC2在建構網站的差異性？
- 觀察4：Create App建置過程中有哪些重要訊息呢？