

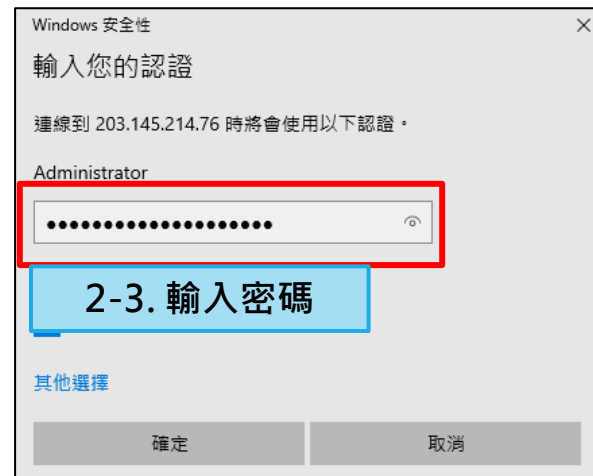
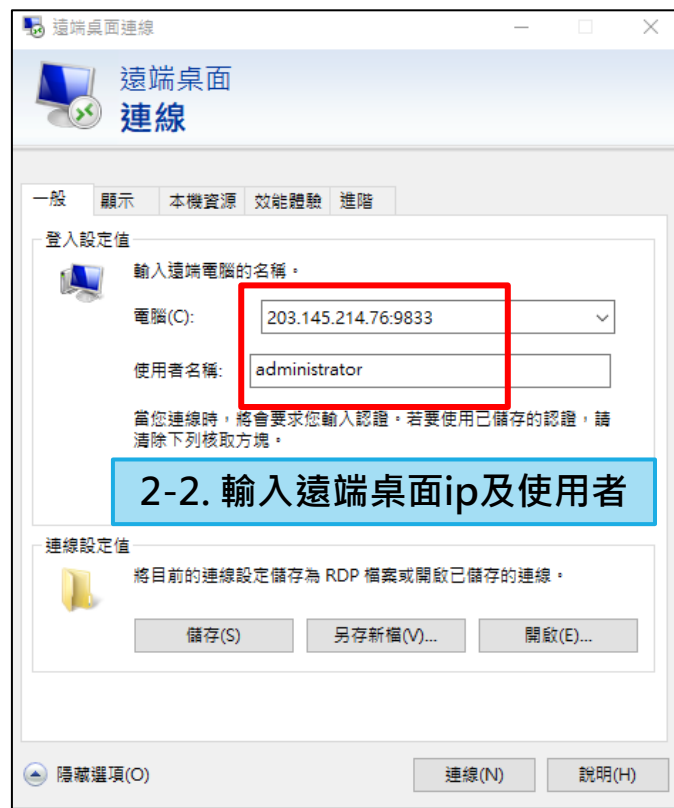
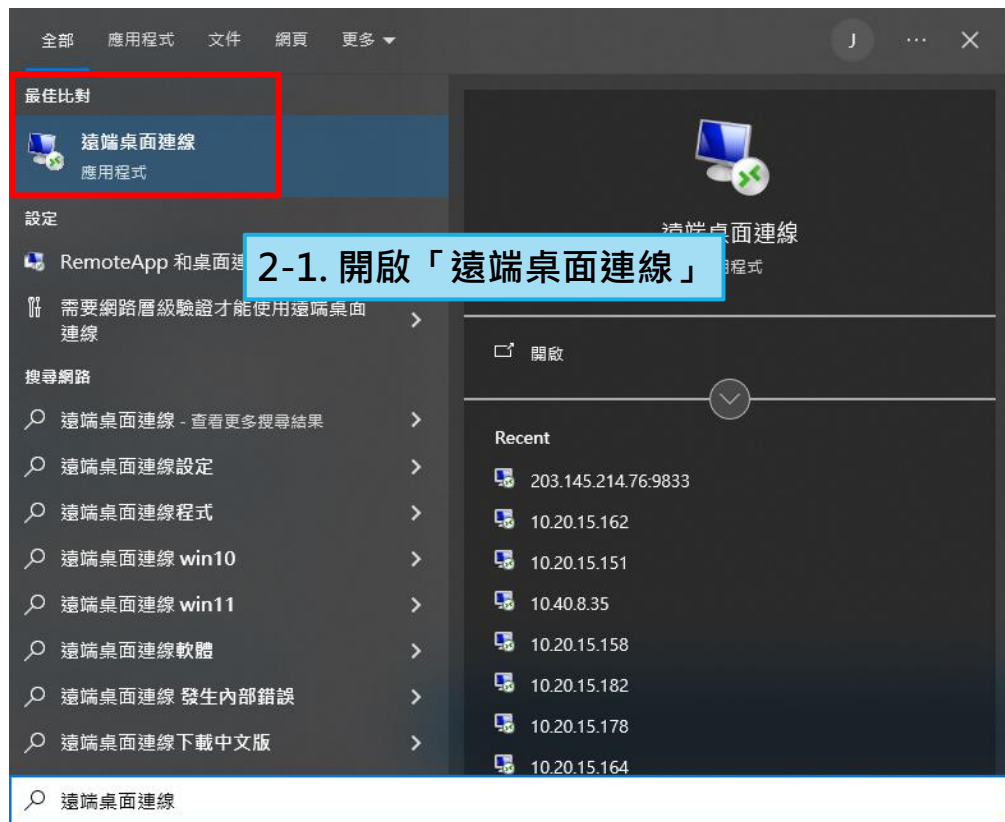
# HAPI FHIR Server

---

WINDOWS

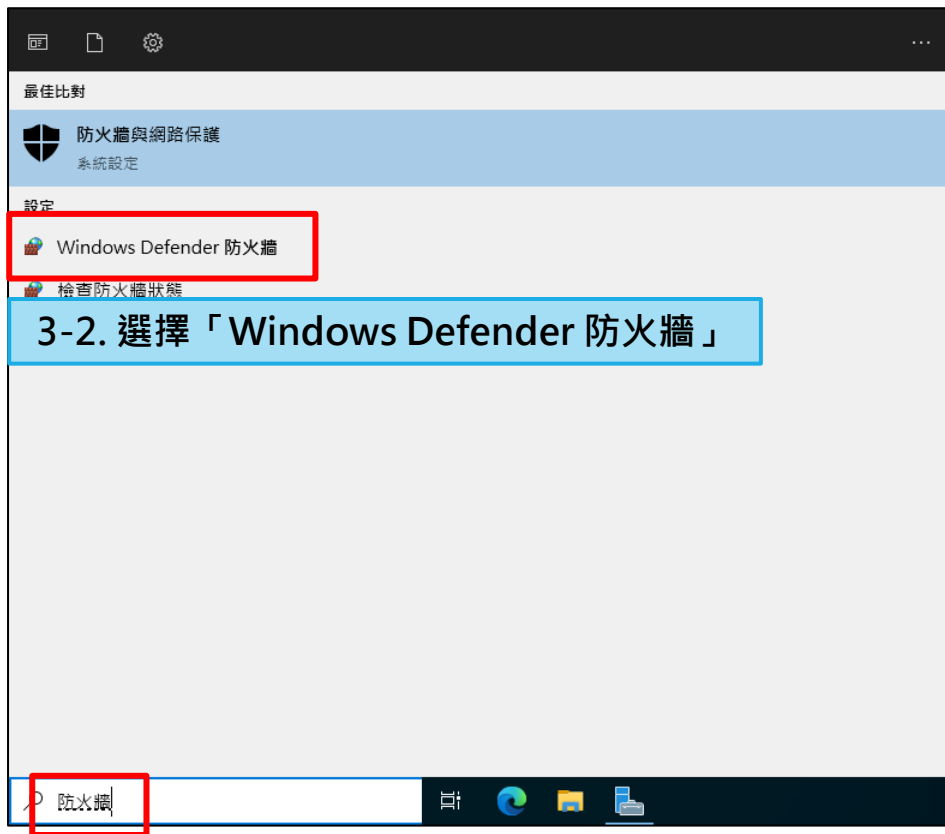
# 1. 準備一台Windows環境的電腦(或虛擬機)

## 2. 連線Windows遠端桌面(若使用本機則可以省略本步驟)



# 3. Windows開啟防火牆

後續步驟皆於要安裝HAPI FHIR Server  
的電腦中操作



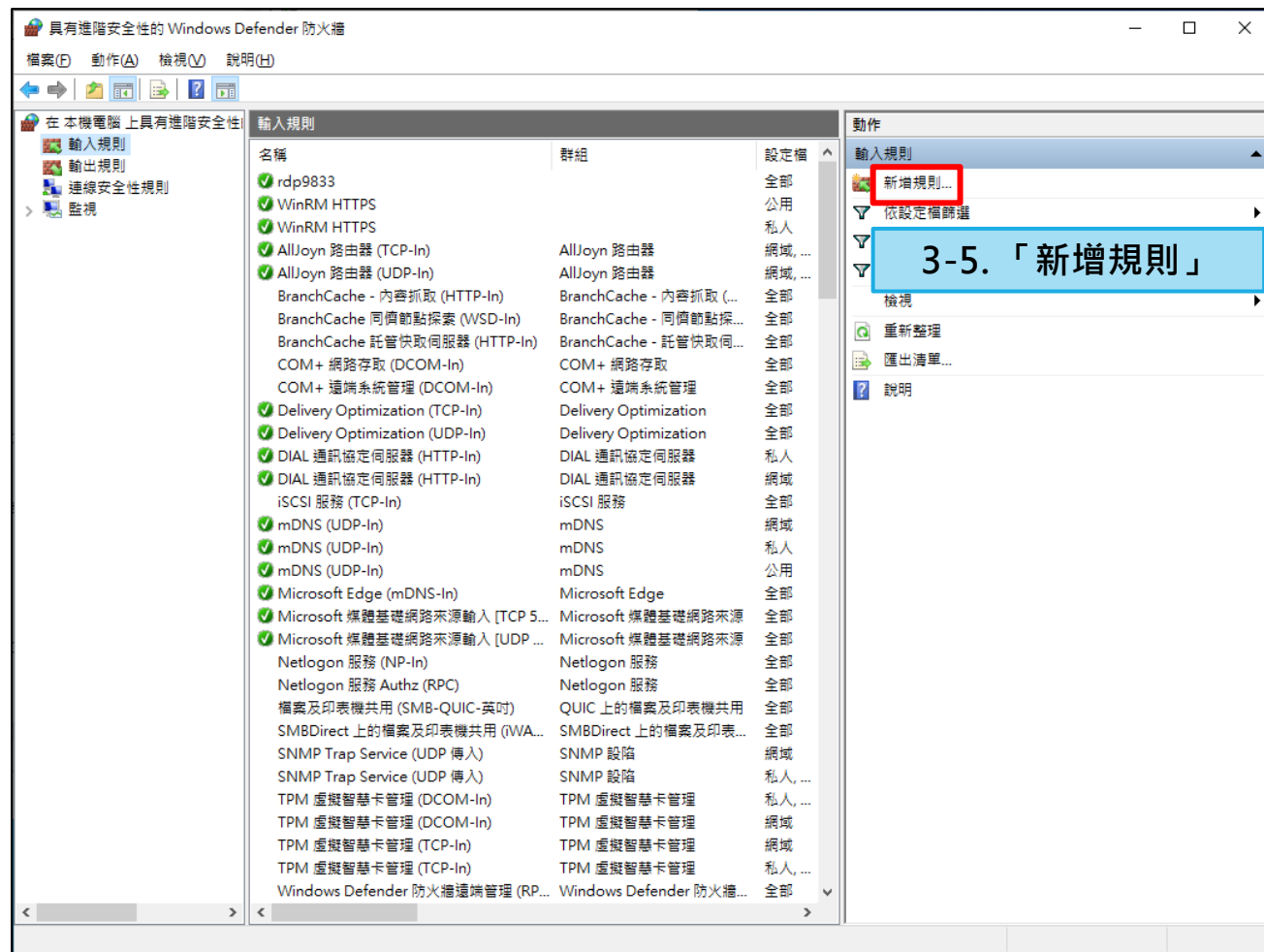
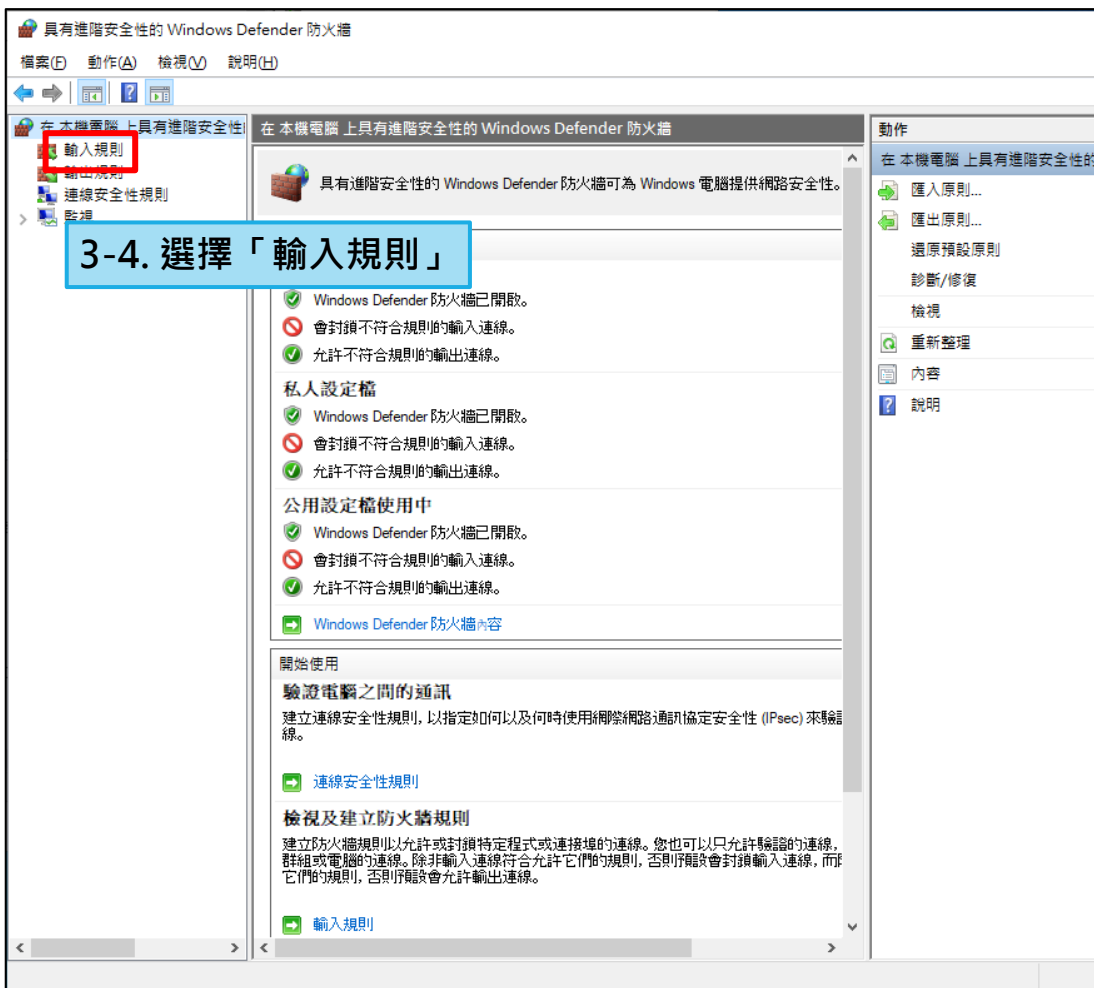
## 3-2. 選擇「Windows Defender 防火牆」



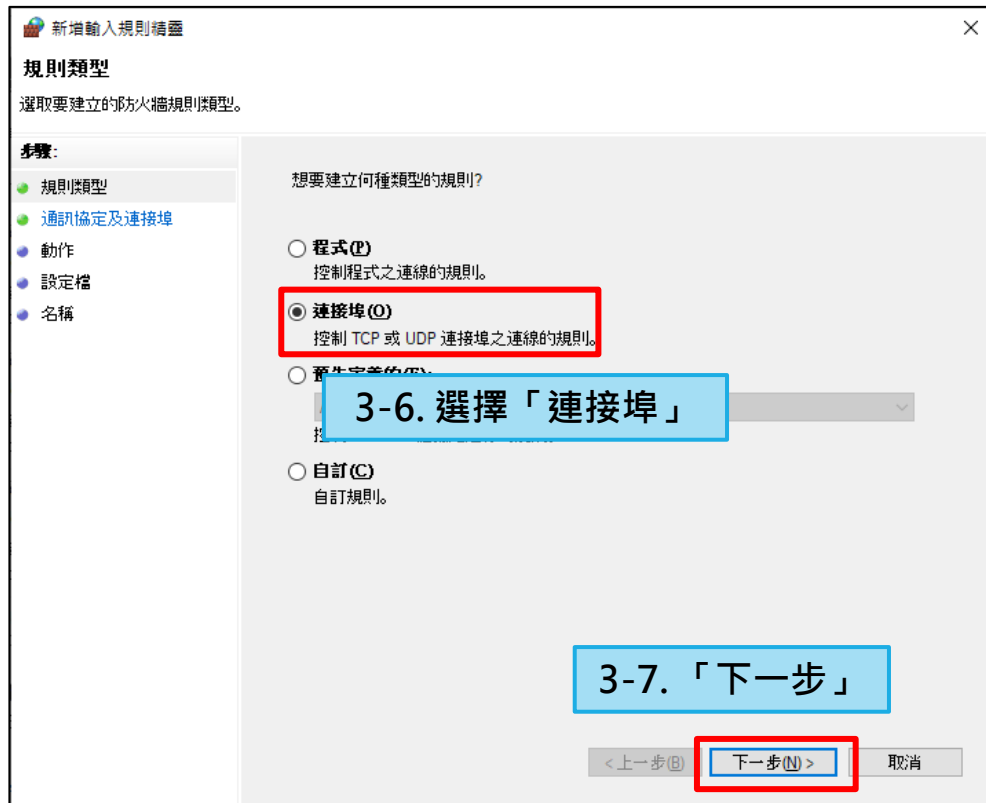
## 3-3. 選擇「進階設定」

## 3-1. 在「開始」中搜尋防火牆

### 3. Windows開啟防火牆



### 3. Windows開啟防火牆



### 3. Windows開啟防火牆

新增輸入規則精靈

動作

指定要在連線符合規則中指定的條件時採取的動作。

步驟:

- 規則類型
- 通訊協定及連接埠
- 動作
- 設定檔
- 名稱

當連線符合指定的條件時，應採取哪些動作？

☒ 允許連線 (A)

這包含使用 IPsec 保護的連線，以及未使用 IPsec 保護的連線。

☐ 僅允許安全連線 (C)

這只包含已使用 IPsec 驗證的連線。會使用 [連線安全性規則] 節點中的 IPsec 內容和規則設定，來確保連線的安全。

☐ 封鎖連線 (K)

3-11. 不用修改，可直接「下一步」

< 上一步(B)   **下一步(N) >**   取消

新增輸入規則精靈

設定檔

指定要套用此規則的設定檔。

步驟:

- 規則類型
- 通訊協定及連接埠
- 動作
- 設定檔
- 名稱

何時會套用此規則？

☒ 網域 (D)

當電腦連線至其公司網域時套用。

☒ 私人 (P)

當電腦連線至私人網路位置時套用，例如住家或工作場所。

☒ 公用 (U)

當電腦連線至公用網路位置時套用。

3-12. 不用修改，可直接「下一步」

< 上一步(B)   **下一步(N) >**   取消

### 3. Windows開啟防火牆

新增輸入規則精靈

名稱

指定此規則的名稱與描述。

步驟:

- 規則類型
- 通訊協定及連接埠
- 動作
- 設定檔
- 名稱

名稱(N):

HAPI FHIR

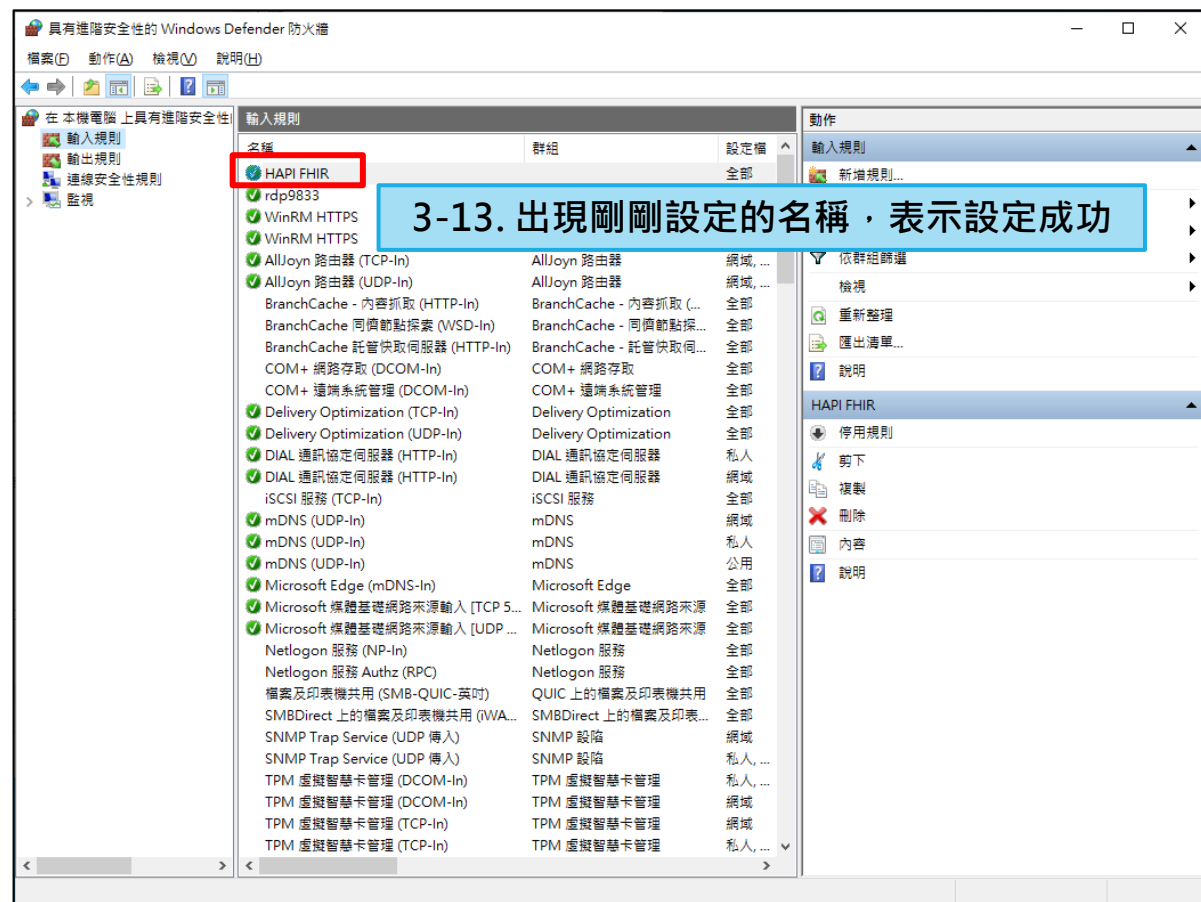
描述 (可省略)(D):

HAPI FHIR

3-13. 輸入名稱及描述

3-13. 「完成」

< 上一步(B) 完成(F) 取消



## 4. 安裝jdk

### 4-1. 在搜尋引擎中搜尋「jdk download」

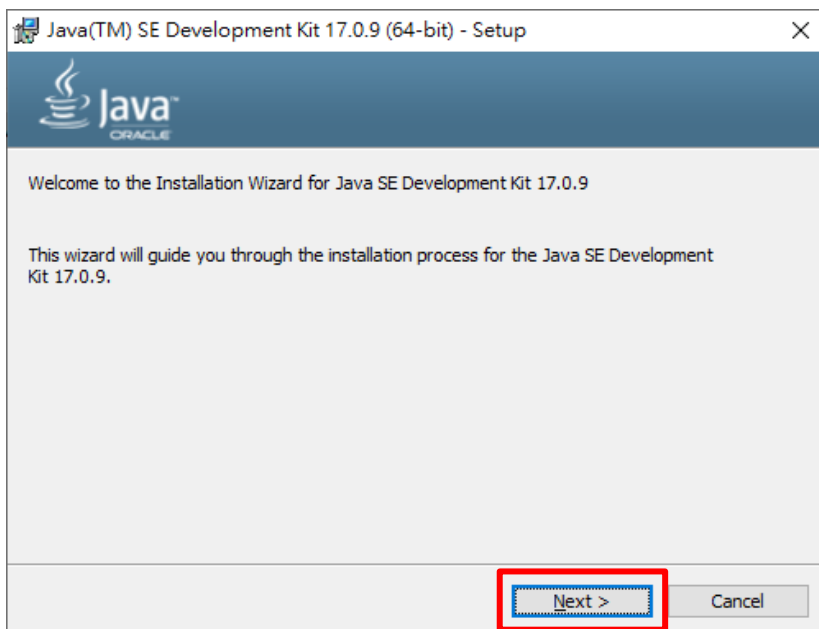
或網址「<https://www.oracle.com/java/technologies/downloads/#jdk17-windows>」

The screenshot shows the Oracle Java Downloads page. At the top, there are navigation links for 'Java downloads', 'Tools and resources', and 'Java archive'. Below this is a section titled 'Looking for other Java downloads?' with buttons for 'OpenJDK Early Access Builds' and 'JRE for Consumers'. The main content area is titled 'Java 21 and Java 17 available now'. Under 'JDK 17', there are links for 'JDK 17', 'GraalVM for JDK 21', and 'GraalVM for JDK 17'. The 'JDK 17' link is highlighted with a red box. Below this is the 'JDK Development Kit 17.0.9 downloads' section. It states that JDK 17 binaries are available under the Oracle No-Fee Terms and Conditions (NFTC). It also mentions that subsequent updates will be licensed under the Java SE OTN License (OTN) and production use of limited free grants will require a fee. There are tabs for 'Linux', 'macOS', and 'Windows'. The 'Windows' tab is highlighted with a red box. Below the tabs is a table with columns 'Product/file description', 'File size', and 'Download'. The table lists three download options: 'x64 Compressed Archive' (172.42 MB), 'x64 Installer' (153.51 MB), and 'x64 MSI Installer' (152.30 MB). The 'x64 Installer' download link is highlighted with a red box. A blue box with the text '4-2. 選擇「JDK 17」版本' is overlaid on the 'JDK 17' link. Another blue box with the text '4-3. 選擇「Windows」版本' is overlaid on the 'Windows' tab. A third blue box with the text '4-4. 下載安裝檔' is overlaid on the 'x64 Installer' download link.

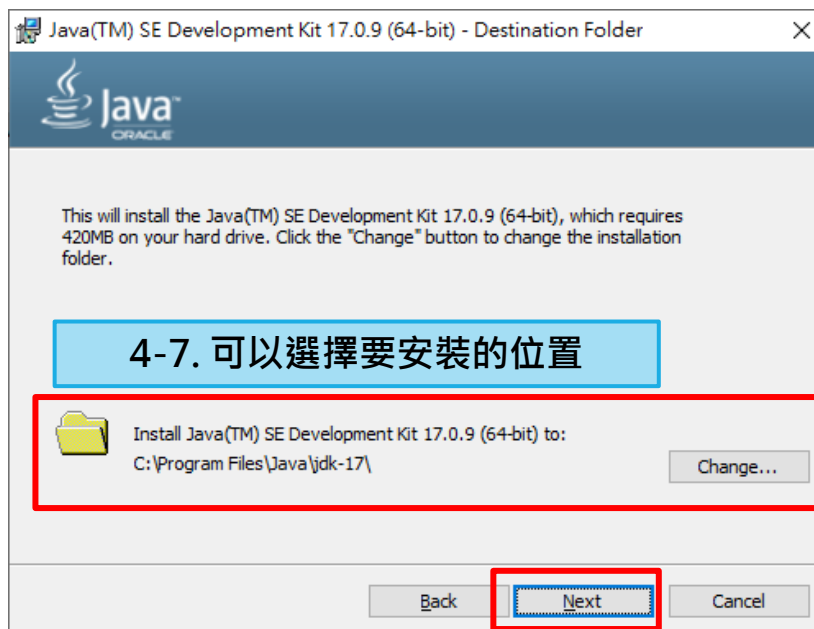
Product/file description	File size	Download
x64 Compressed Archive	172.42 MB	<a href="https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.zip ( sha256)">https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.zip ( sha256)</a>
x64 Installer	153.51 MB	<a href="https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.exe ( sha256)">https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.exe ( sha256)</a>
x64 MSI Installer	152.30 MB	<a href="https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.msi ( sha256)">https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.msi ( sha256)</a>

The screenshot shows a Windows File Explorer window. The address bar shows the path '本機 > 下載'. The left sidebar shows the '下載' (Downloads) folder selected. The main area shows a list of files. A file named 'jdk-17\_windows-x64\_bin' is highlighted with a red box. A right-click context menu is open over the file, and the '開啟(O)' (Open) option is highlighted with a red box. A blue box with the text '4-5. 下載後，右鍵「開啟」即可開始安裝' is overlaid on the '開啟(O)' option.

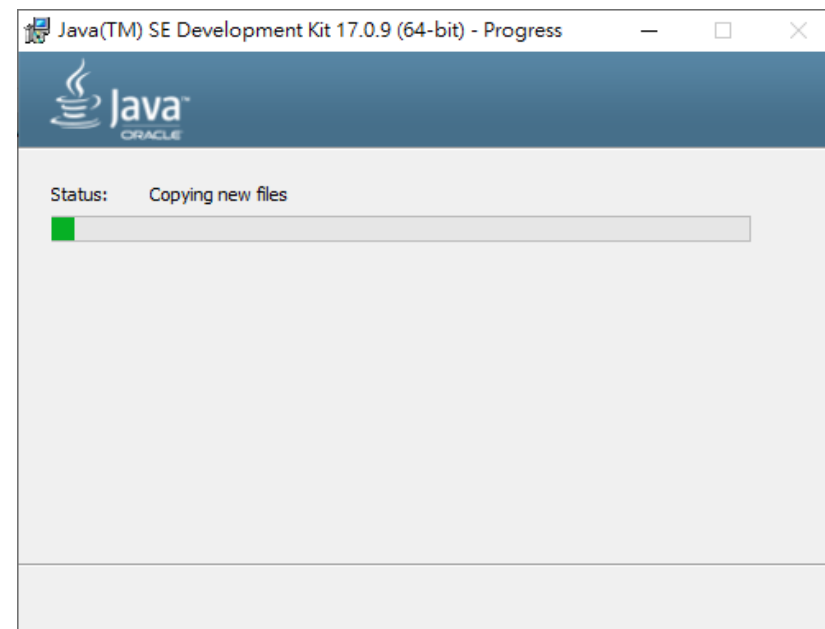
## 4. 安裝jdk



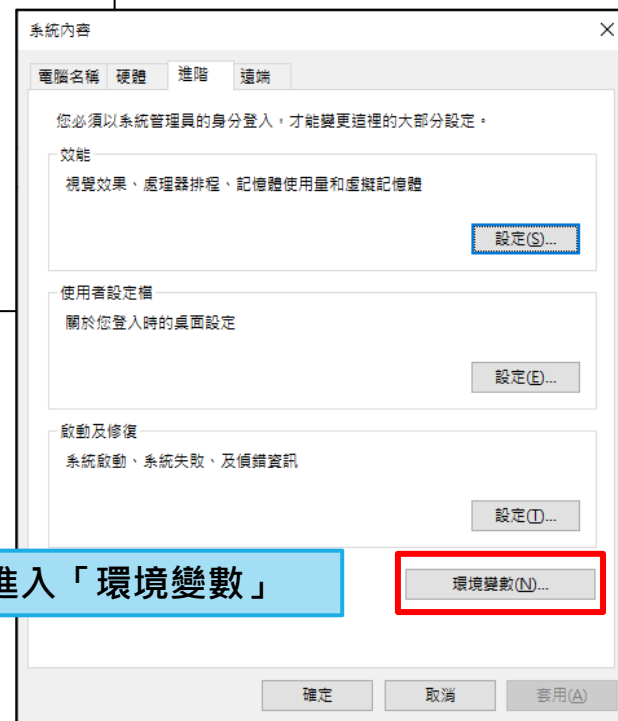
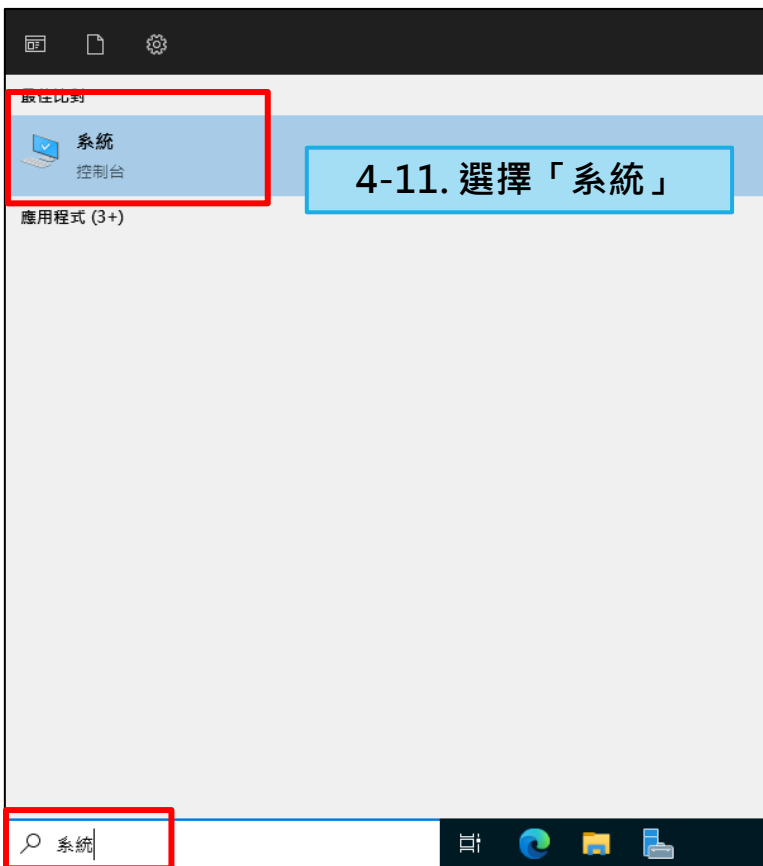
4-6. 「Next」



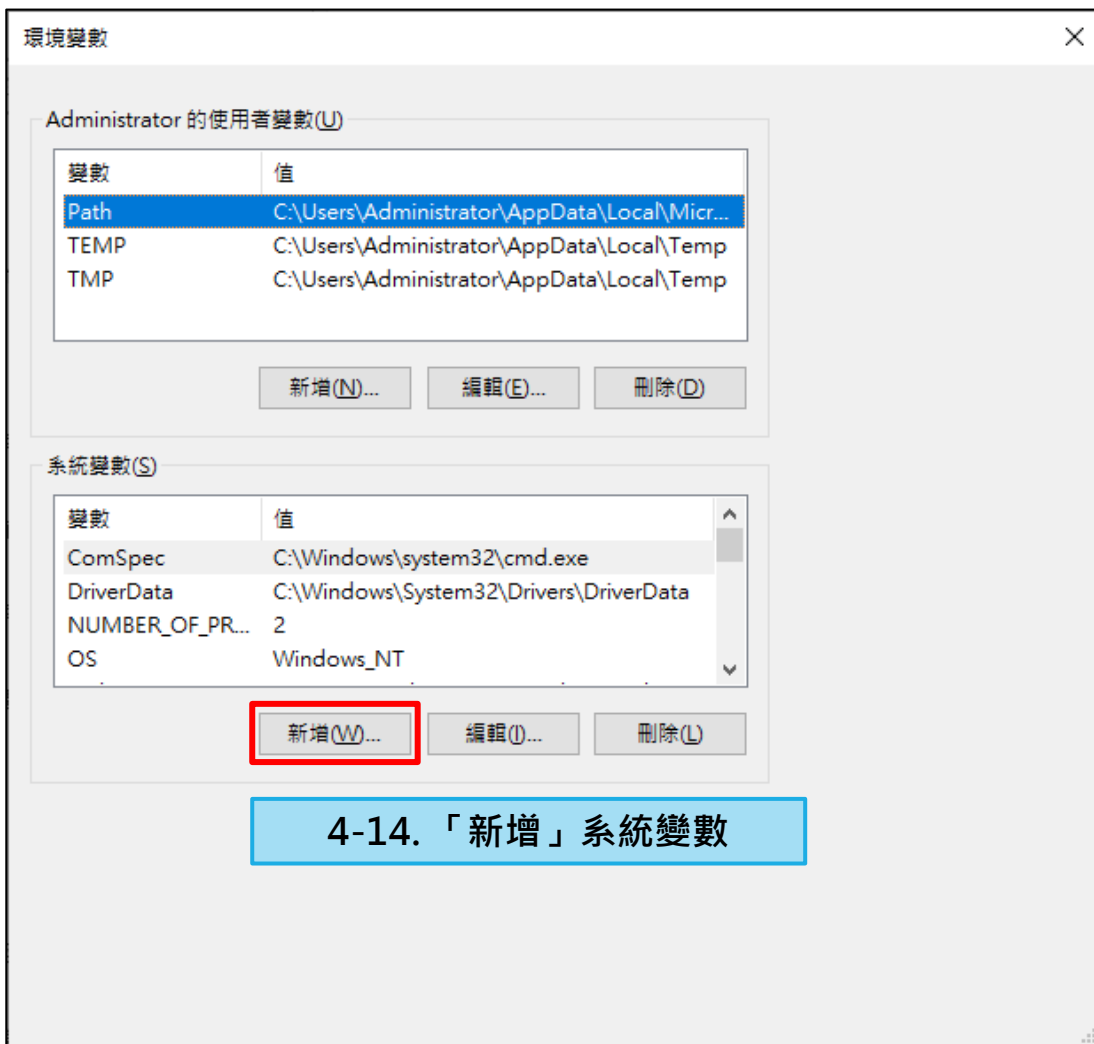
4-8. 更改完可以「Next」



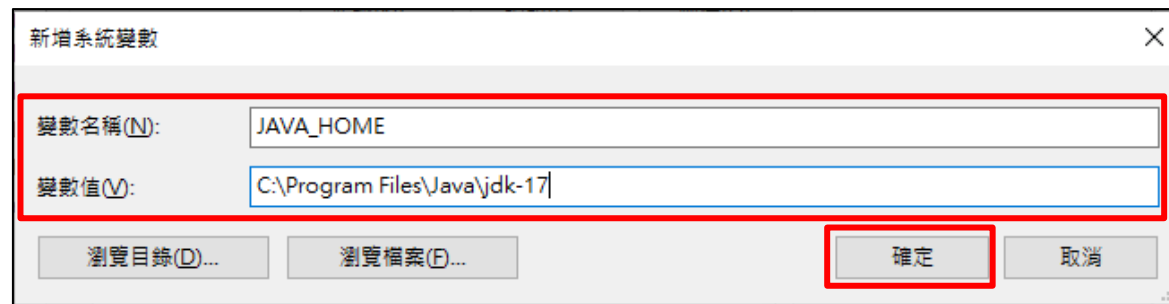
## 4. 安裝jdk



## 4. 安裝jdk



4-14. 「新增」系統變數

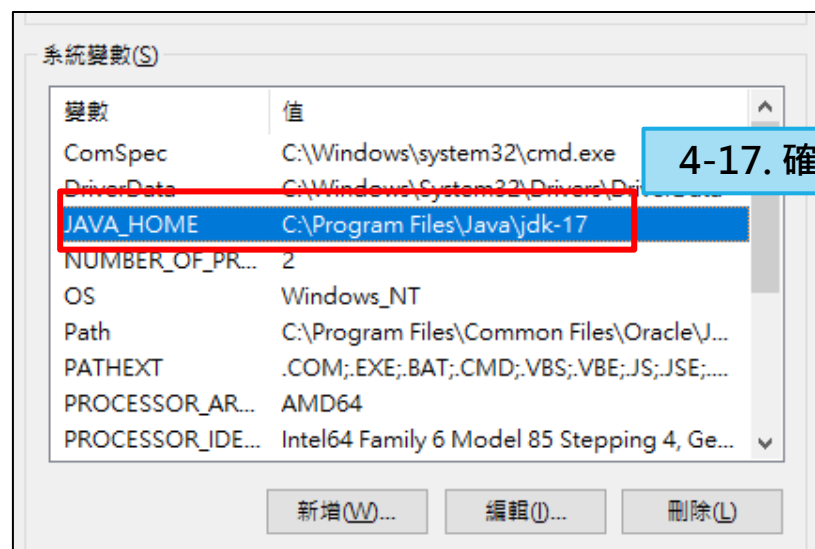


4-16. 「確定」

4-15.

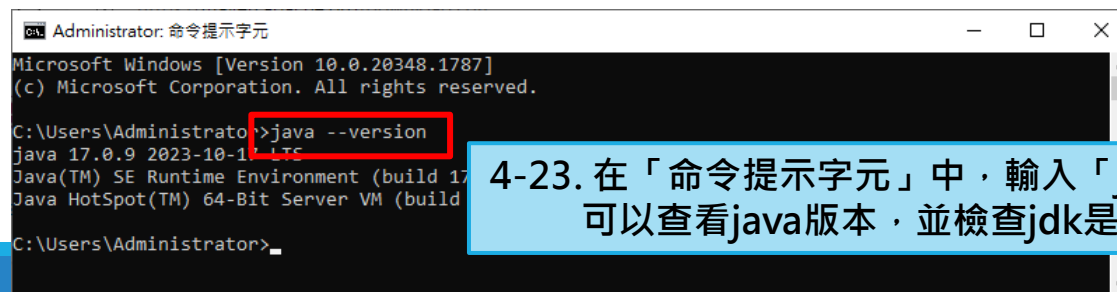
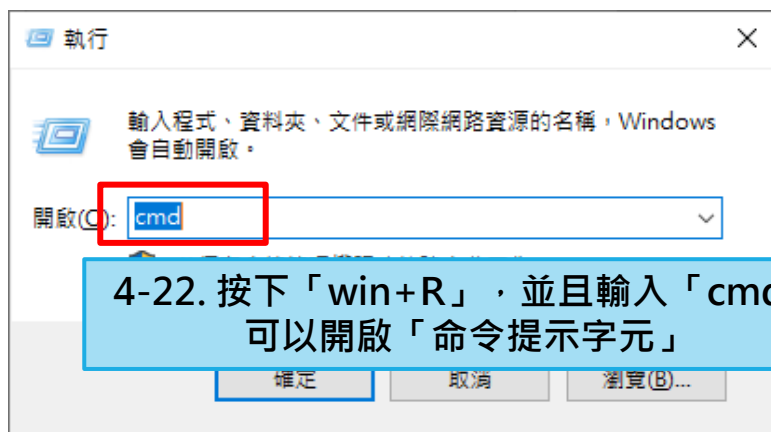
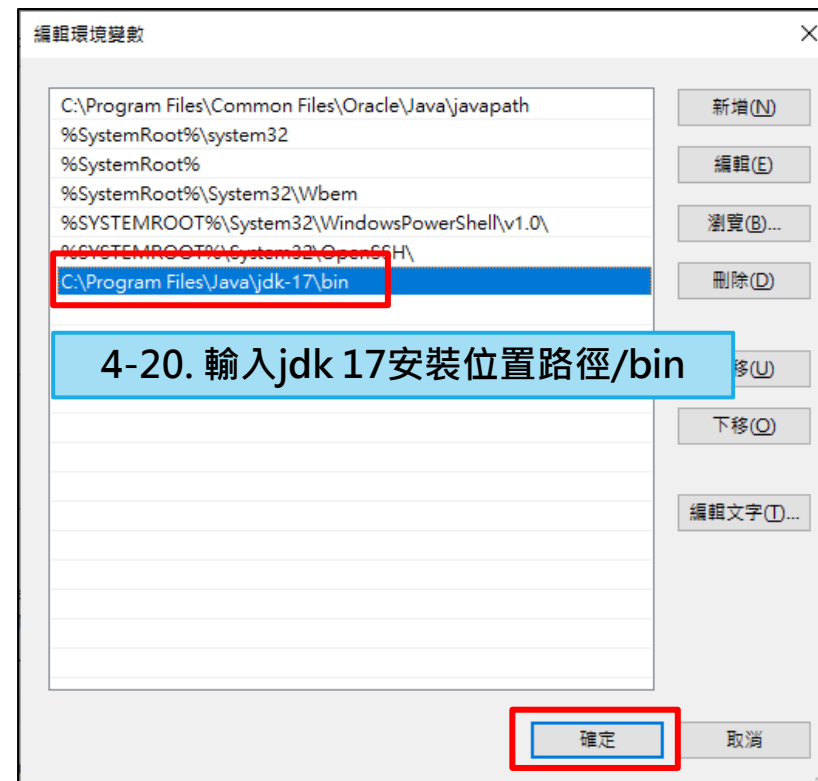
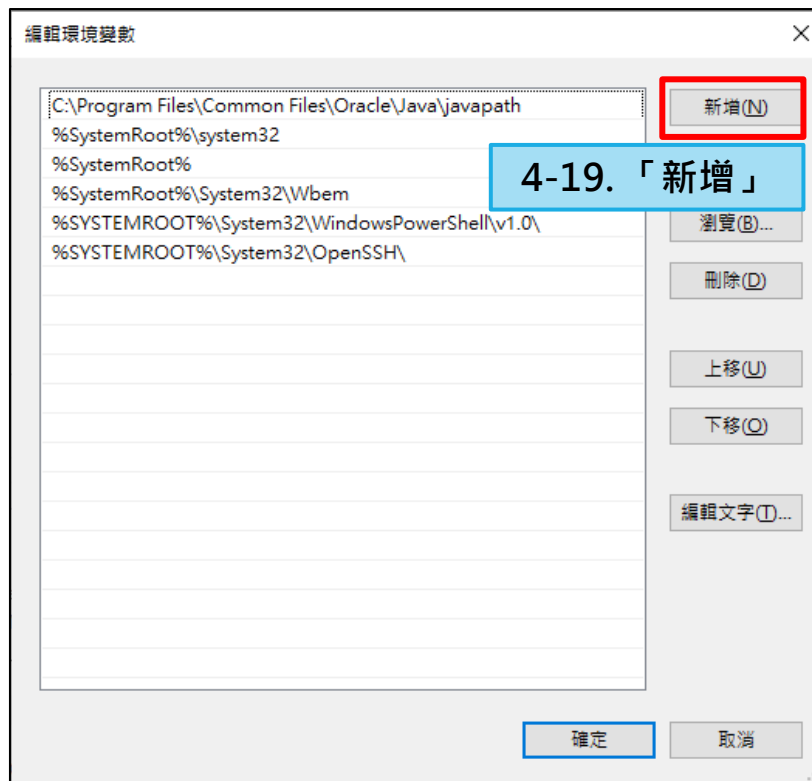
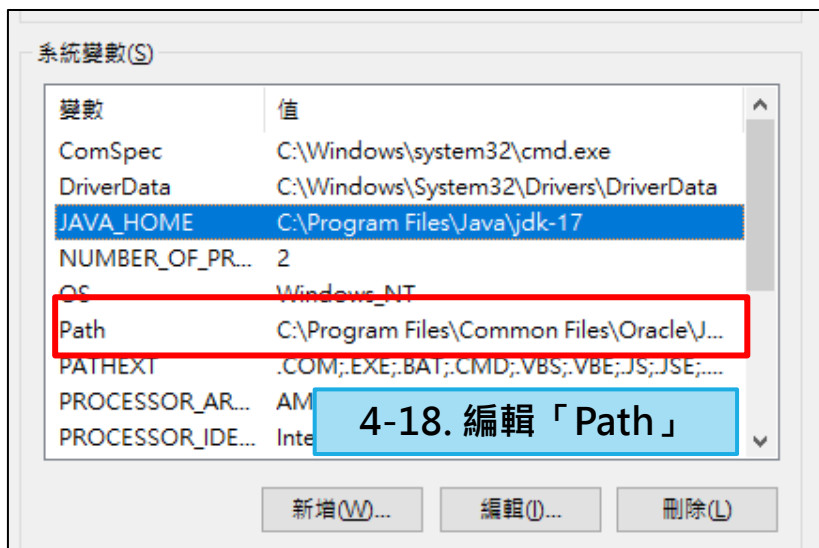
變數名稱：「JAVA\_HOME」

變數值：剛剛 4-7. 步驟中安裝的位置絕對路徑



4-17. 確認是否有剛剛新增的內容


## 4. 安裝jdk



4-21. 「確定」

# 5. 下載Maven

5-1. 在搜尋引擎中搜尋「maven download」  
或網址「<https://maven.apache.org/download.cgi?>。」

**Apache Maven Project**  
<http://maven.apache.org/>

Apache / Maven / Download Apache Maven

Welcome

License

ABOUT MAVEN

What is Maven?

Features

Download

Use

Release Notes

DOCUMENTATION

Maven Plugins

Maven Extensions

Index (category)

User Centre

Plugin Developer Centre

Maven Repository Centre

Maven Developer Centre

Books and Resources

Security

COMMUNITY

Community Overview

Project Roles

How to Contribute

Getting Help


Issue Management

Getting Maven Source

The Maven Team

PROJECT DOCUMENTATION

Project Information

**Maven™**

Download | Get Sources | Last Published: 2024-01-09

## Downloading Apache Maven 3.9.6

Apache Maven 3.9.6 is the latest release; it is the recommended version for all users.

### System Requirements

<b>Java Development Kit (JDK)</b>	Maven 3.9+ requires JDK 8 or above to execute. It still allows you to build against 1.3 and other JDK versions <a href="#">by using toolchains</a> .
<b>Memory</b>	No minimum requirement
<b>Disk</b>	Approximately 10MB is required for the Maven installation itself. In addition to that, disk space will be used for your local Maven repository. The size of your local repository will vary depending on usage but expect at least 500MB.
<b>Operating System</b>	No minimum requirement. Start up scripts are included as shell scripts (tested on many Unix flavors) and Windows batch files.

### Files

Maven is distributed in several formats for your convenience. Simply pick a ready-made binary distribution archive and follow the [installation instructions](#). Use a source archive if you intend to build Maven yourself.

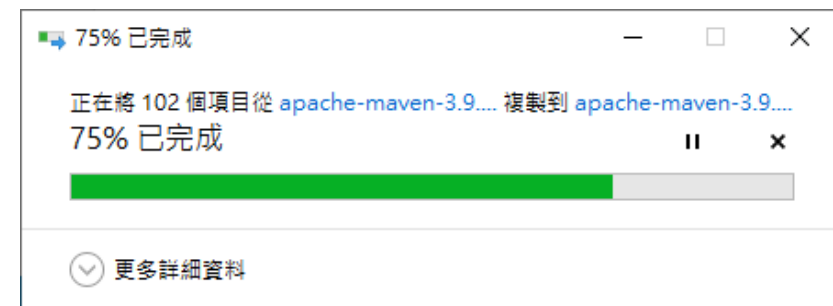
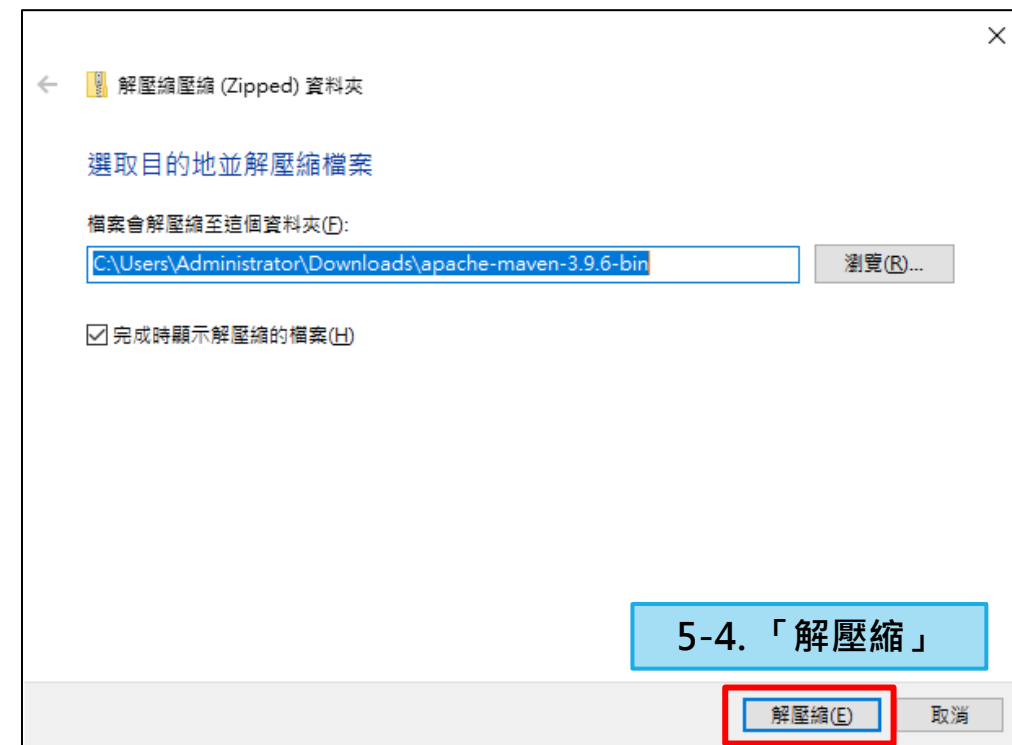
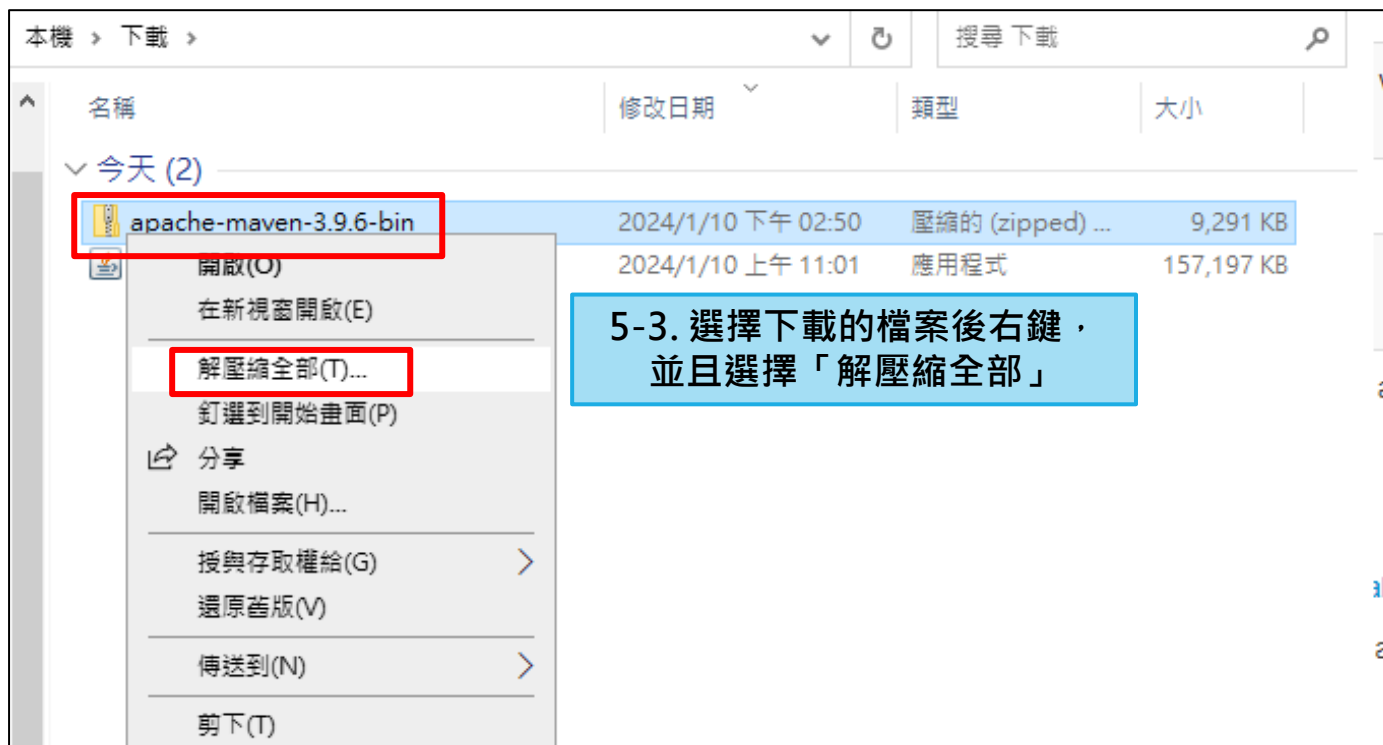
In order to guard against corrupted downloads/installations, it is highly recommended to [verify the signature](#) of the release bundles against the public **KEYS** used by the Apache Maven developers.

	Link	Checksums	Signature
Binary tar.gz archive	<a href="#">apache-maven-3.9.6-bin.tar.gz</a>	<a href="#">apache-maven-3.9.6-bin.tar.gz.sha512</a>	<a href="#">apache-maven-3.9.6-bin.tar.gz.asc</a>
Binary zip archive	<a href="#">apache-maven-3.9.6-bin.zip</a>	<a href="#">apache-maven-3.9.6-bin.zip.sha512</a>	<a href="#">apache-maven-3.9.6-bin.zip.asc</a>
Source tar.gz archive	<a href="#">apache-maven-3.9.6-src.tar.gz</a>	<a href="#">apache-maven-3.9.6-src.tar.gz.sha512</a>	<a href="#">apache-maven-3.9.6-src.tar.gz.asc</a>
Source zip archive	<a href="#">apache-maven-3.9.6-src.zip</a>	<a href="#">apache-maven-3.9.6-src.zip.sha512</a>	<a href="#">apache-maven-3.9.6-src.zip.asc</a>

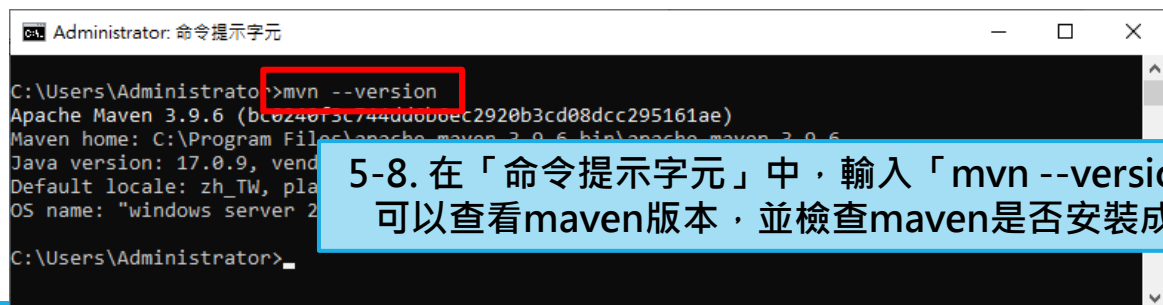
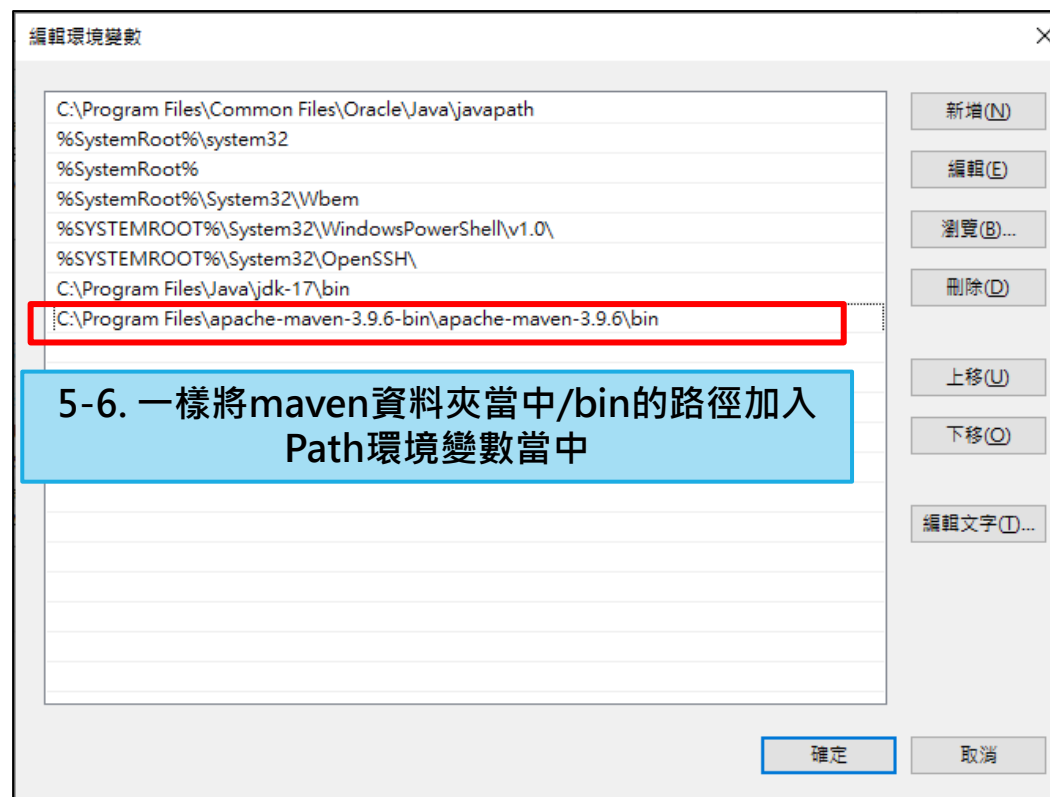
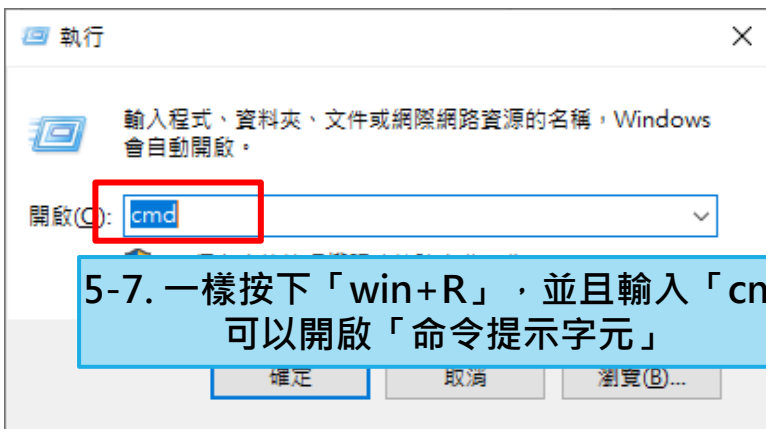
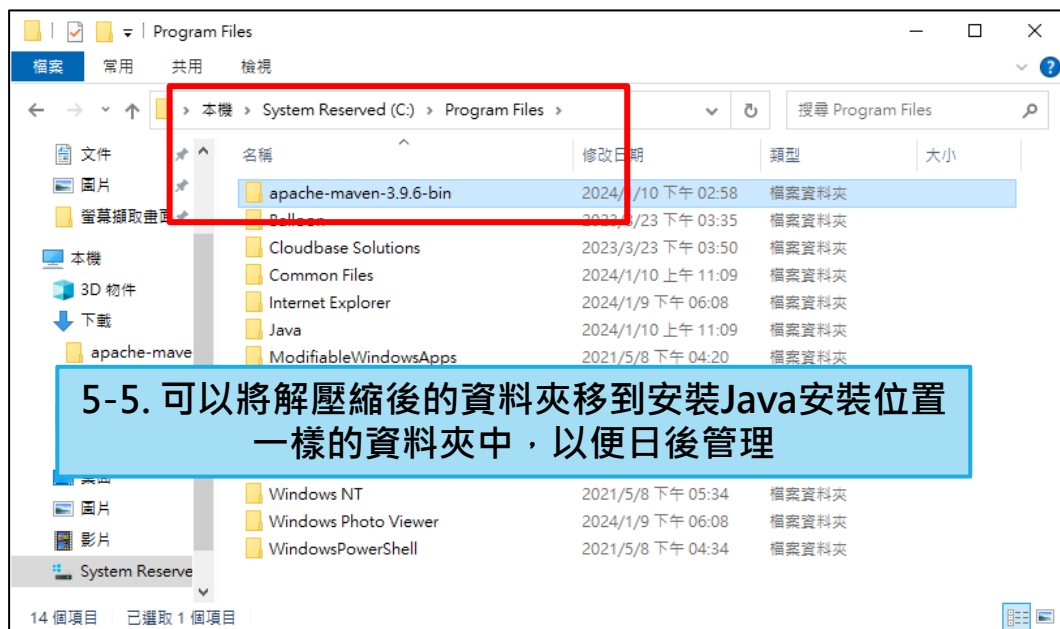
5-2. 下載zip版本

- 3.9.6 Release Notes and Release Reference Documentation
- latest source code from source repository
- Distributed under the Apache License, version 2.0
- other:
  - Apache Maven Website As Documentation Archive
  - All current release sources (plugins, shared libraries,...) available at <https://downloads.apache.org/maven/>

## 5. 下載Maven



## 5. 下載Maven



## 6. 安裝PostgreSQL

6-1. 在搜尋引擎中搜尋「PostgreSQL download」  
或網址「<https://www.postgresql.org/download/windows/>」

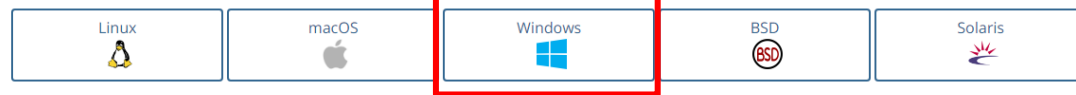
### Downloads

#### PostgreSQL Downloads

PostgreSQL is available for download as ready-to-use packages or installers for various platforms, as well as a source code archive if you want to build it yourself.

#### Packages and Installers

Select your operating system family:



#### Source code

The source code can be found in the main [file browser](#) or you can find [instructions for building from source](#) in the [documentation](#).

#### Beta/RC Releases and development snapshots (unstable)

There are source code and binary [packages](#) of beta and release candidates, and of the current development code available for testing and evaluation of new features. These are **not** intended for production systems and are used **for testing purposes only**.

#### 3rd party distributions

### 6-2. 下載windows版本

### Windows installers

#### Interactive installer by EDB

[Download the installer](#) certified by EDB for all supported PostgreSQL versions.

### 6-3. 下載installer

This installer can run in graphical or silent install modes.

The installer is designed to be a straightforward, fast way to get up and running with PostgreSQL.

*Advanced users can also download a [zip archive](#) of the binaries, without the installer. The*

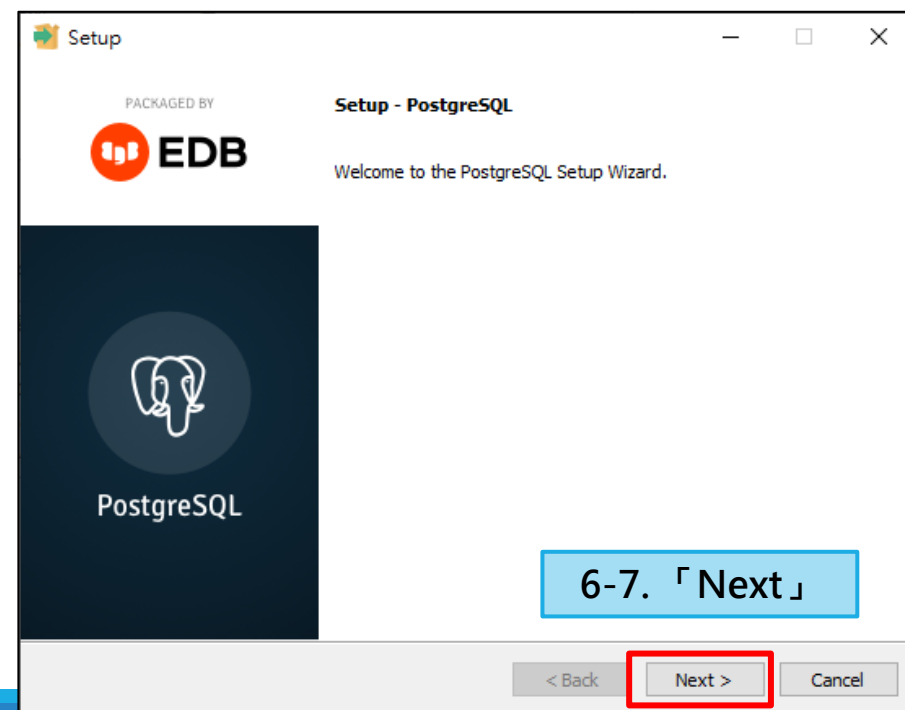
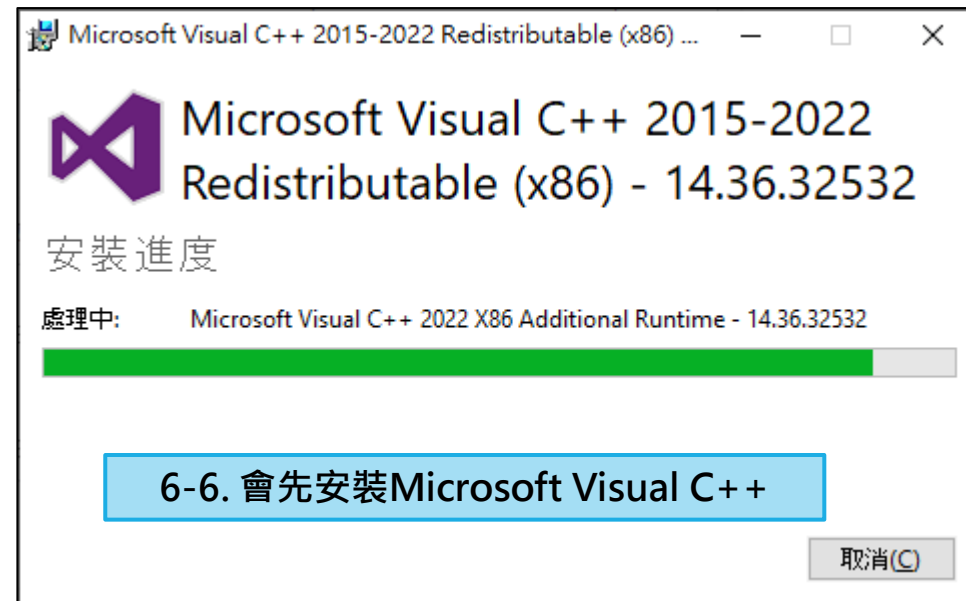
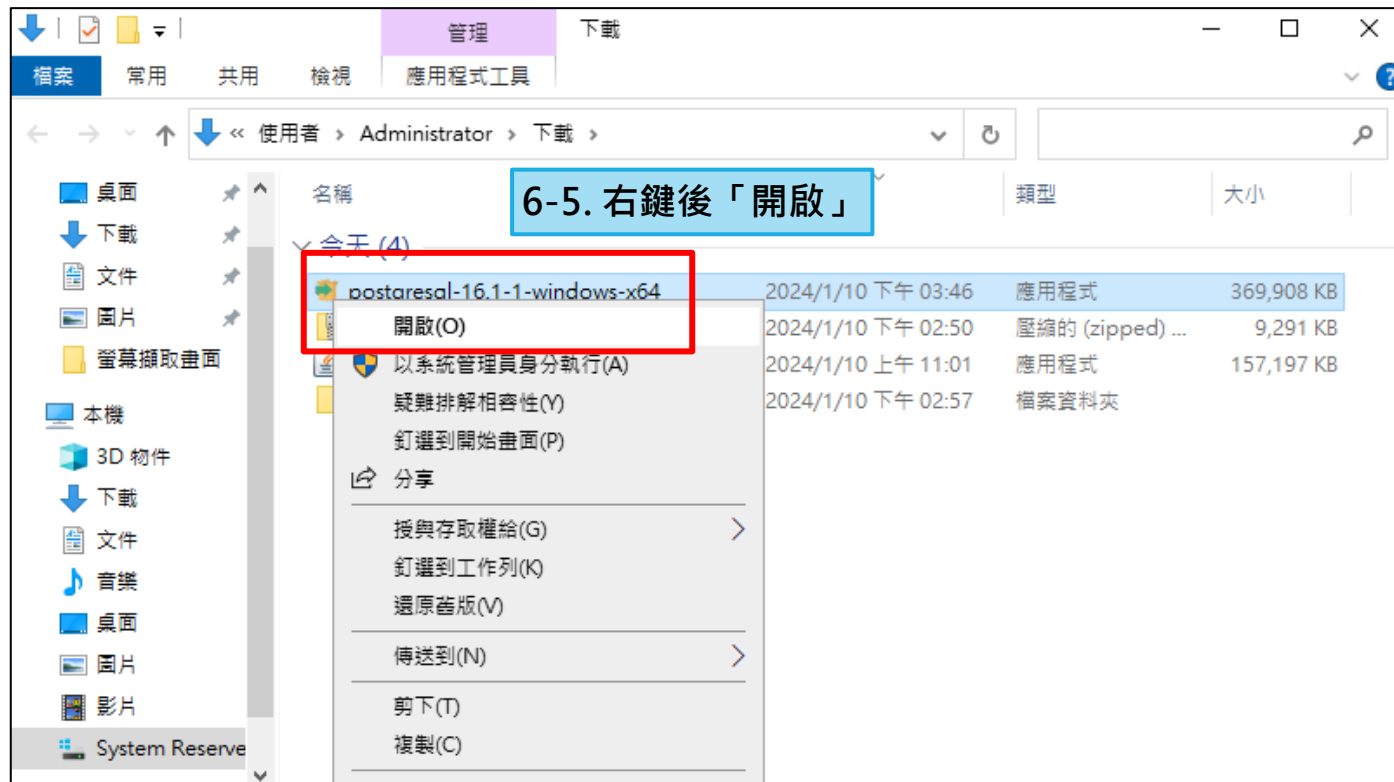
## Download PostgreSQL

Open source PostgreSQL packages and installers from EDB

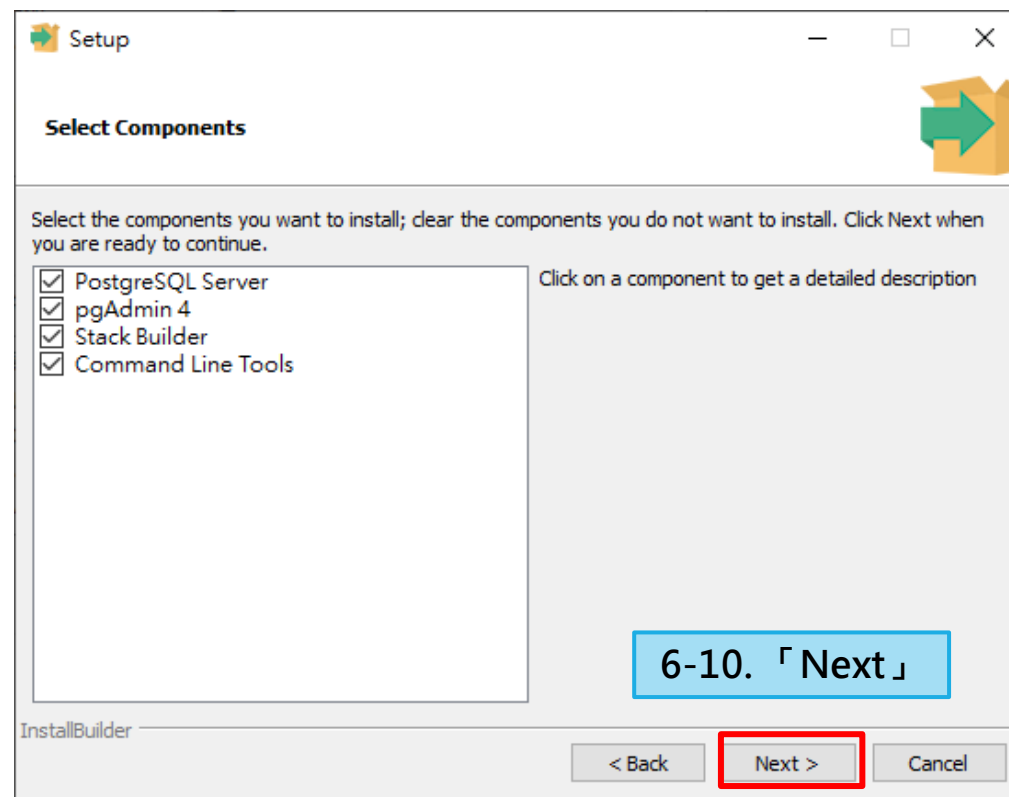
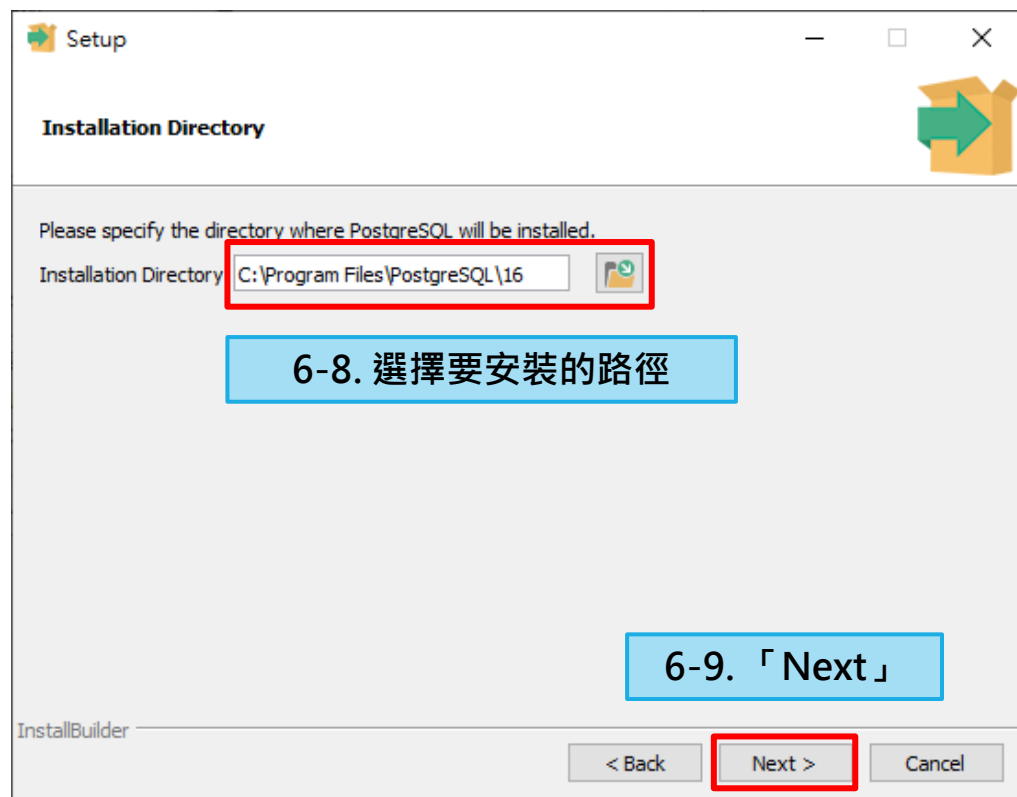
### 6-4. 下載最新版本

PostgreSQL Version	Linux x86-64	Linux x86-32	Mac OS X	Windows x86-64	Windows x86-32
16.1	<a href="#">postgresql.org</a>	<a href="#">postgresql.org</a>	<a href="#">↓</a>	<a href="#">↓</a>	Not supported
15.5	<a href="#">postgresql.org</a>	<a href="#">postgresql.org</a>	<a href="#">↓</a>	<a href="#">↓</a>	Not supported
14.10	<a href="#">postgresql.org</a>	<a href="#">postgresql.org</a>	<a href="#">↓</a>	<a href="#">↓</a>	Not supported
13.13	<a href="#">postgresql.org</a>	<a href="#">postgresql.org</a>	<a href="#">↓</a>	<a href="#">↓</a>	Not supported
12.17	<a href="#">postgresql.org</a>	<a href="#">postgresql.org</a>	<a href="#">↓</a>	<a href="#">↓</a>	Not supported

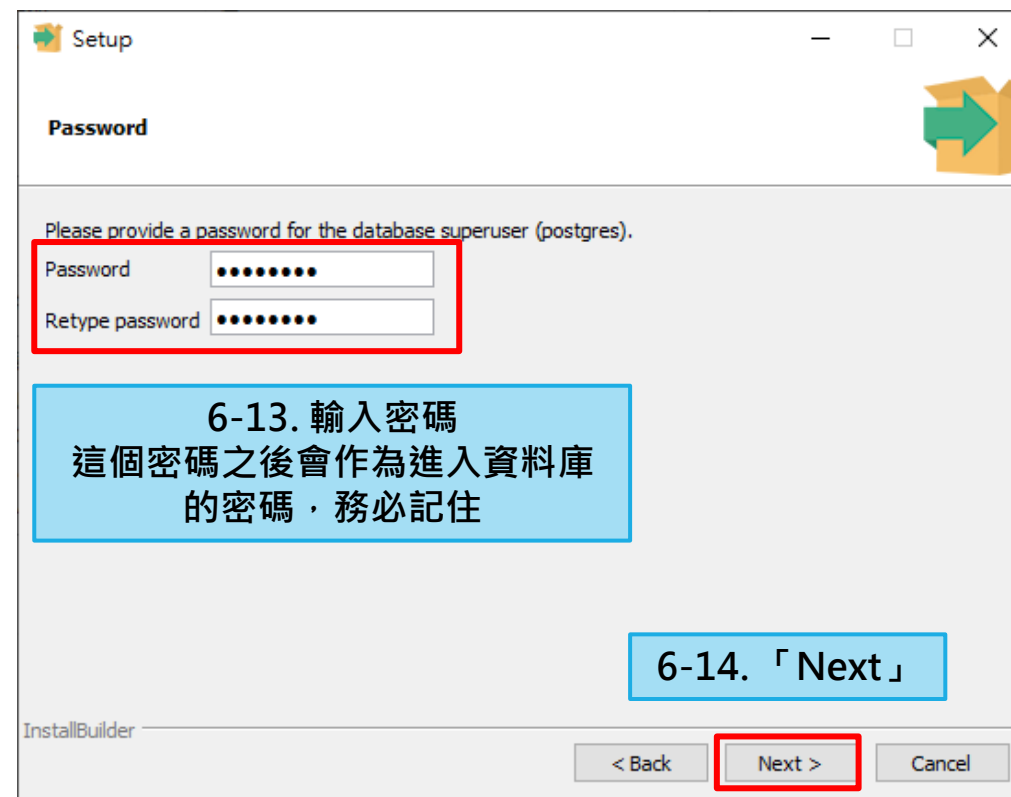
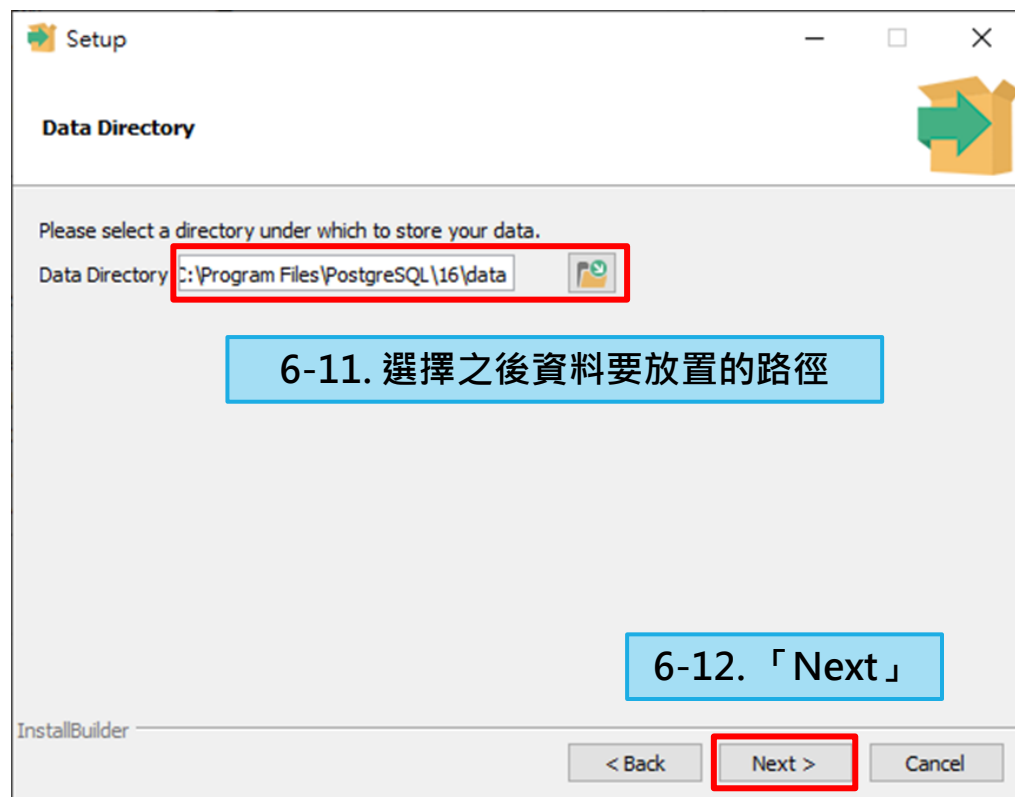
## 6. 安裝PostgreSQL



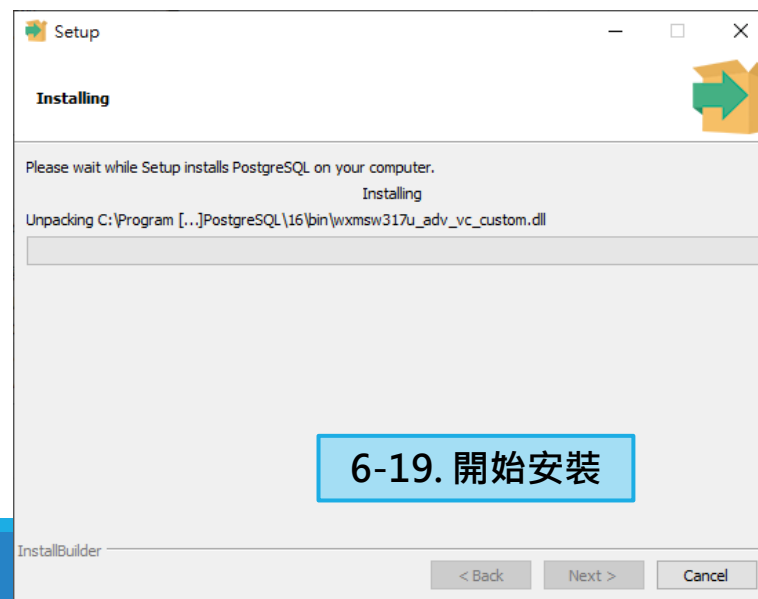
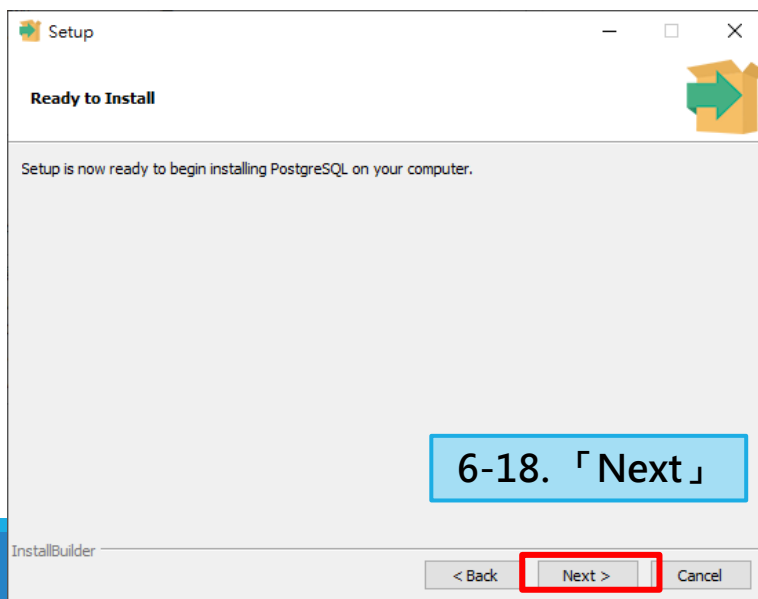
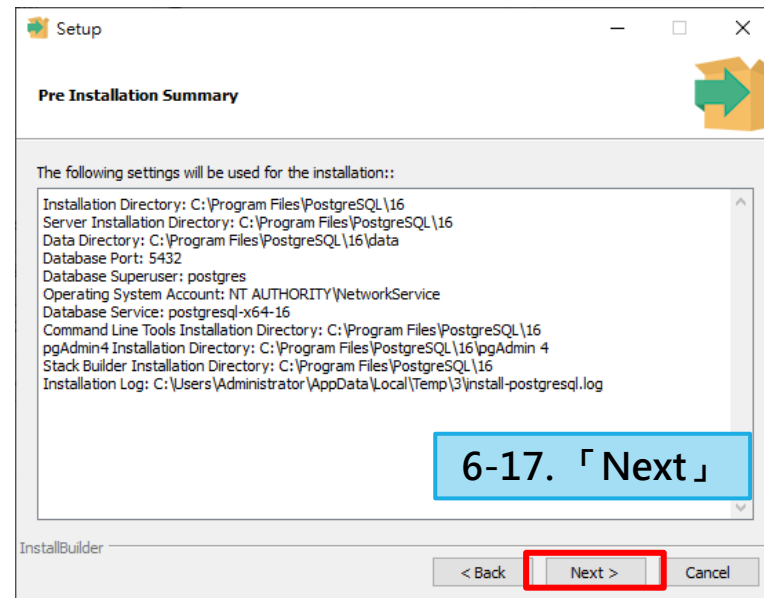
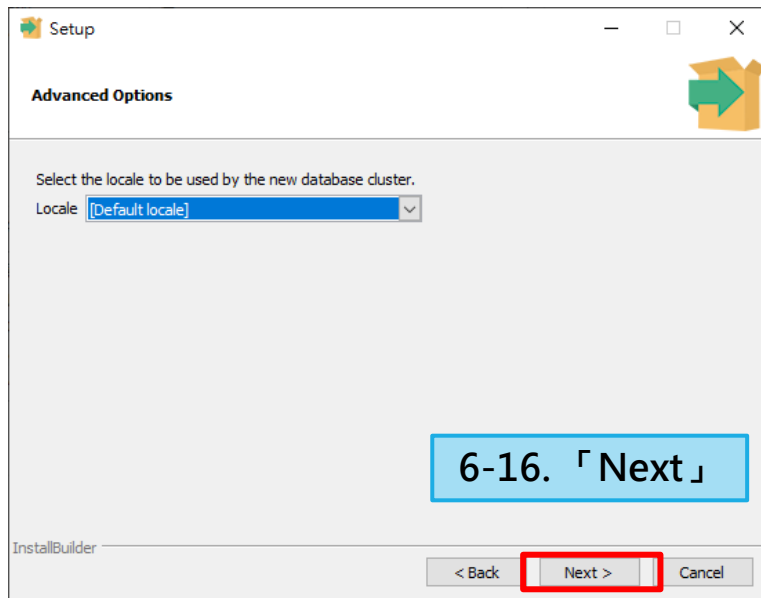
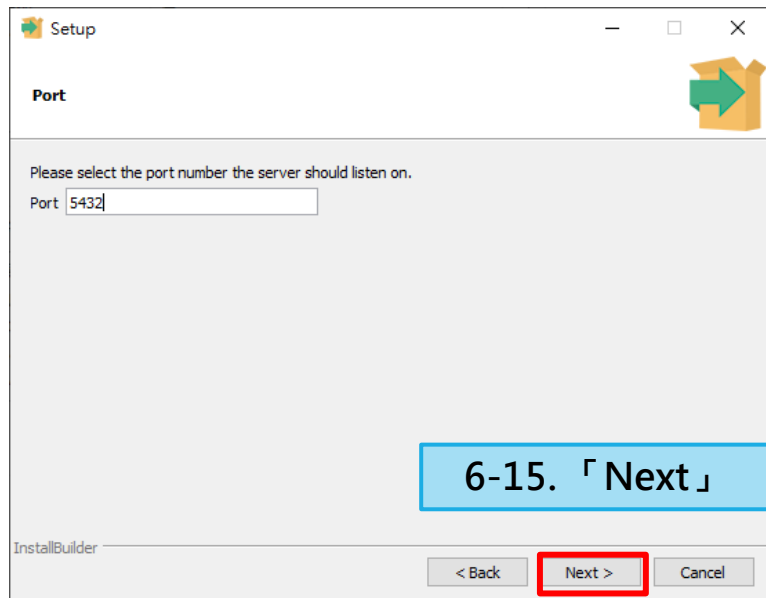
## 6. 安裝PostgreSQL



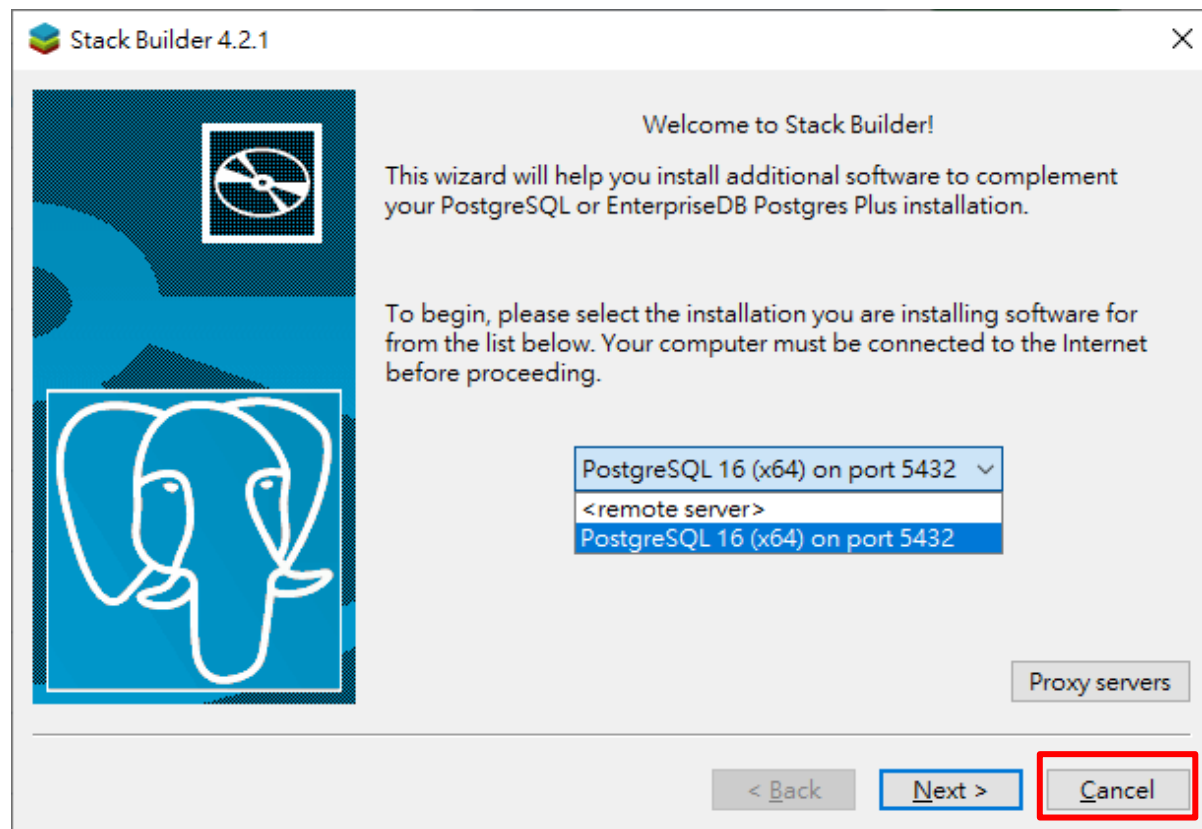
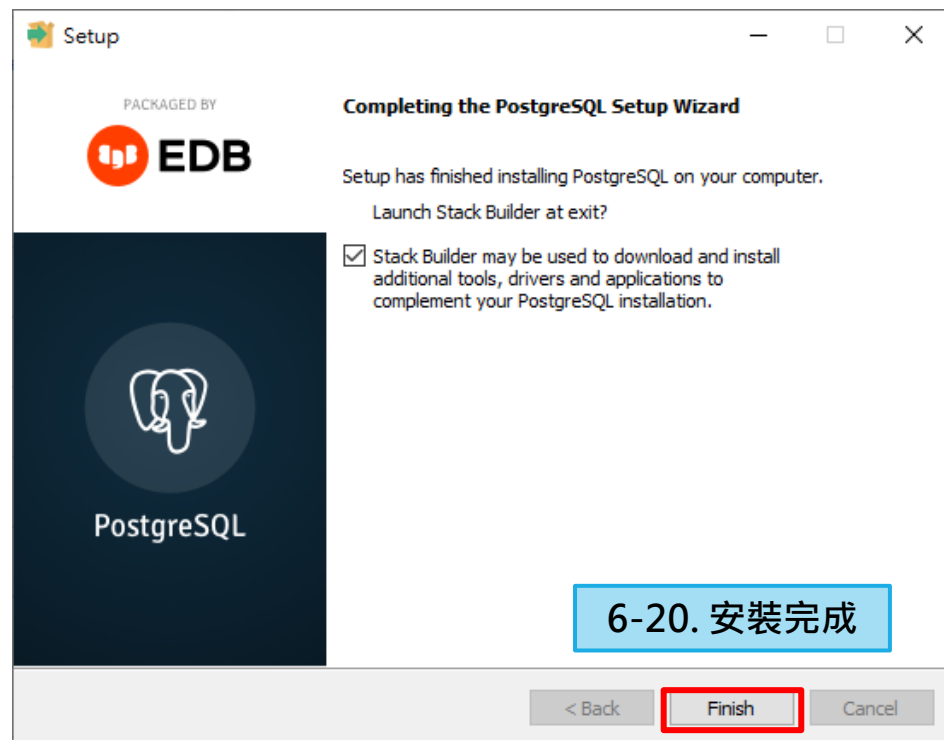
## 6. 安裝PostgreSQL



## 6. 安裝PostgreSQL

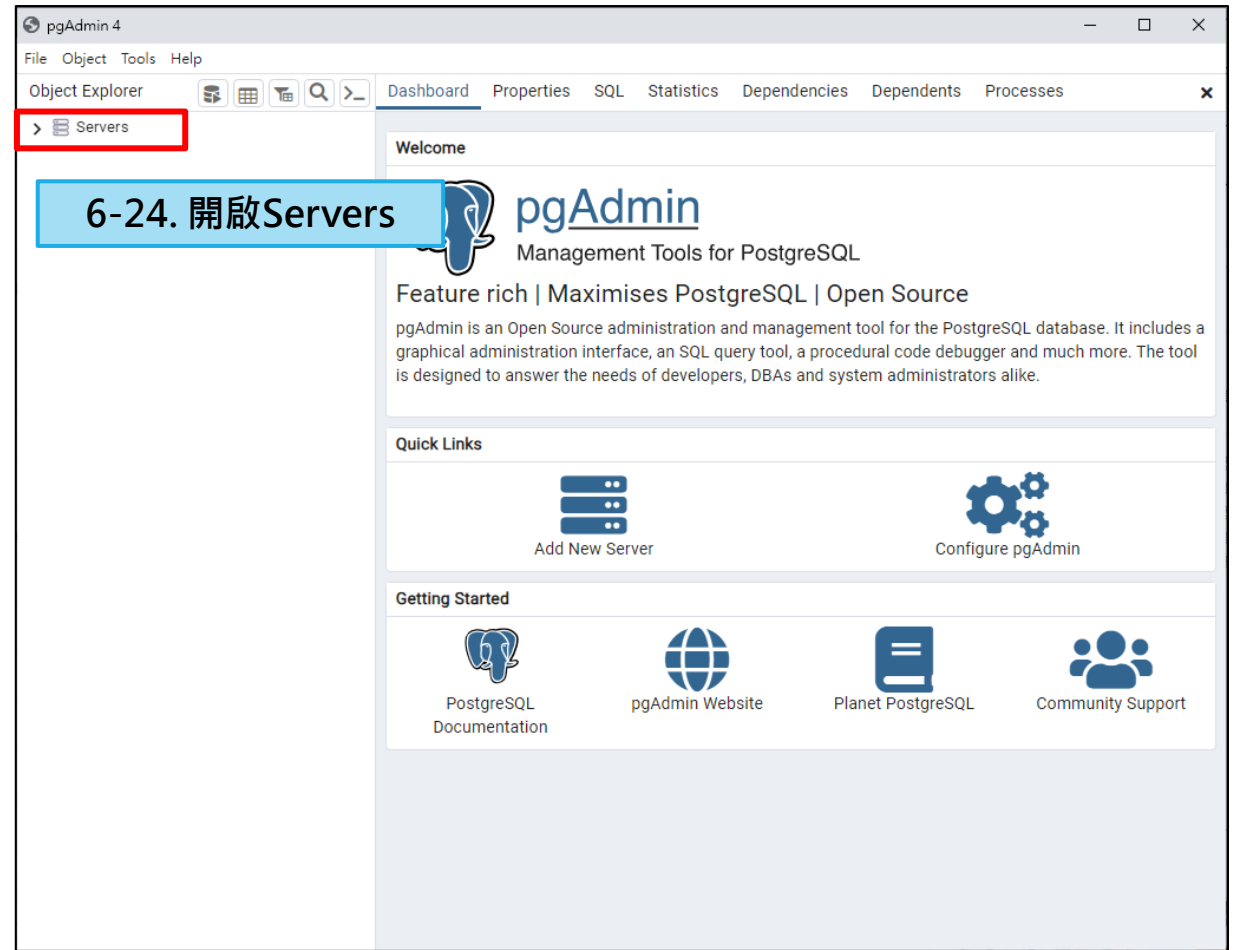
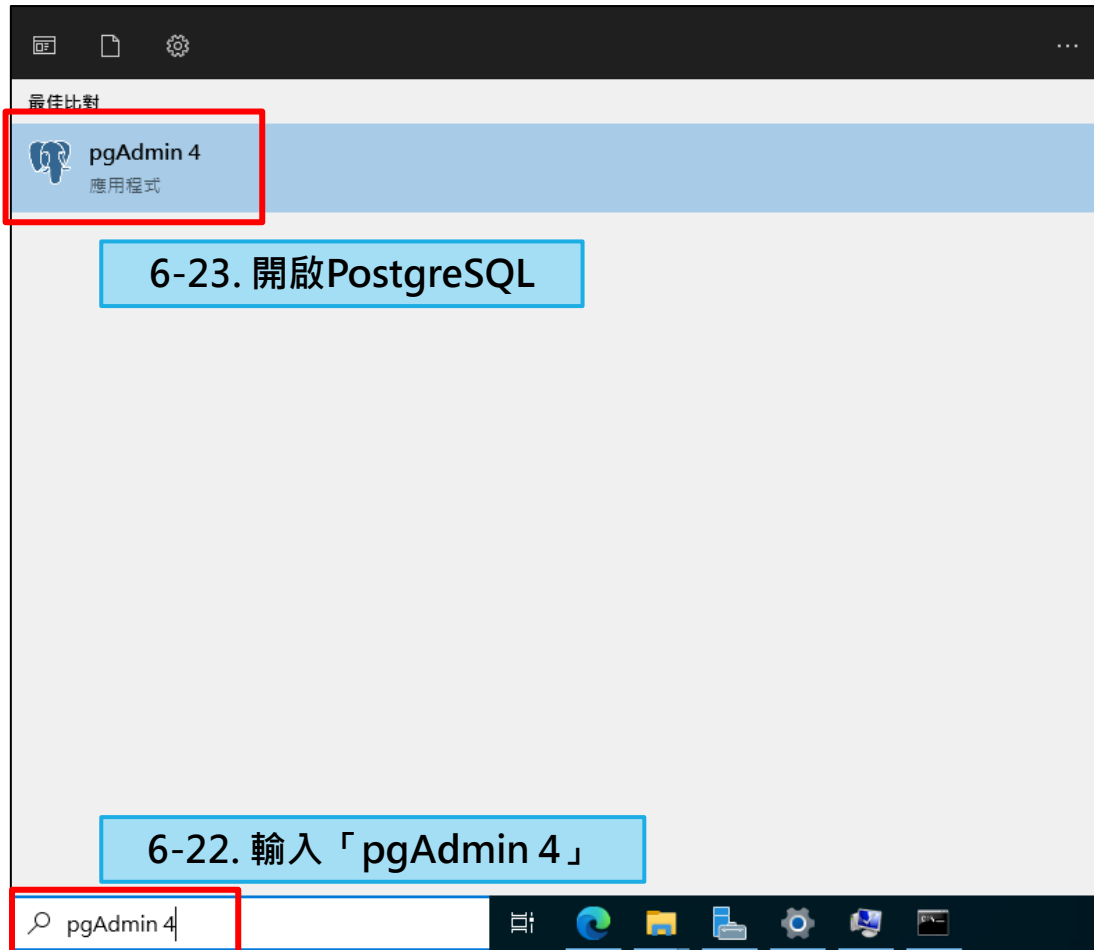


## 6. 安裝PostgreSQL

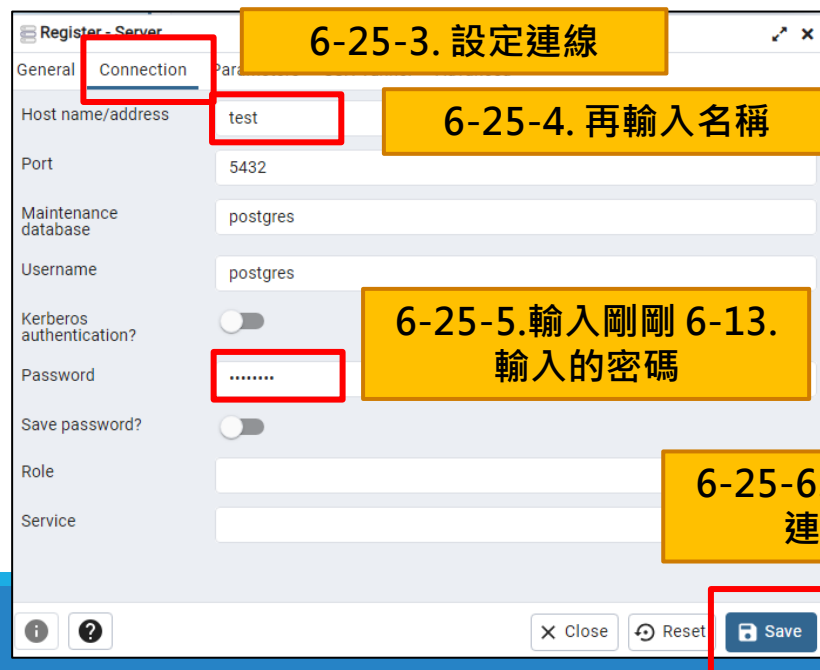
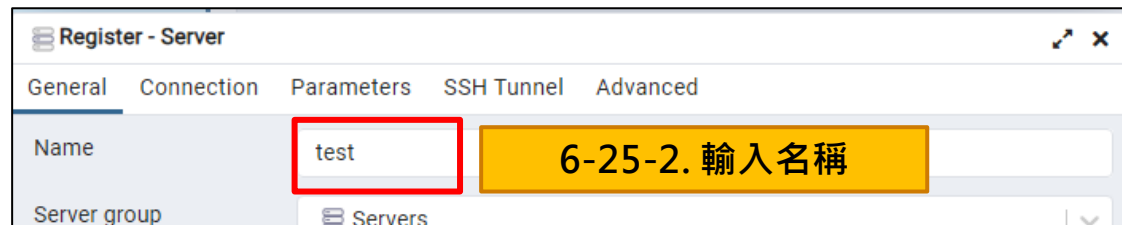
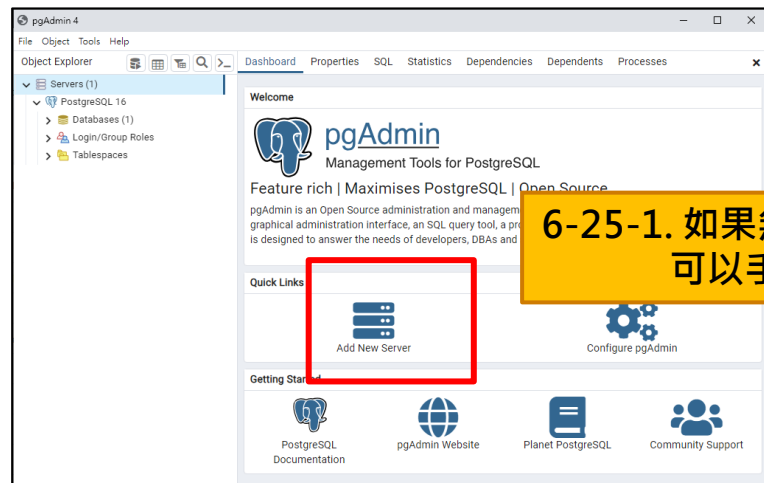
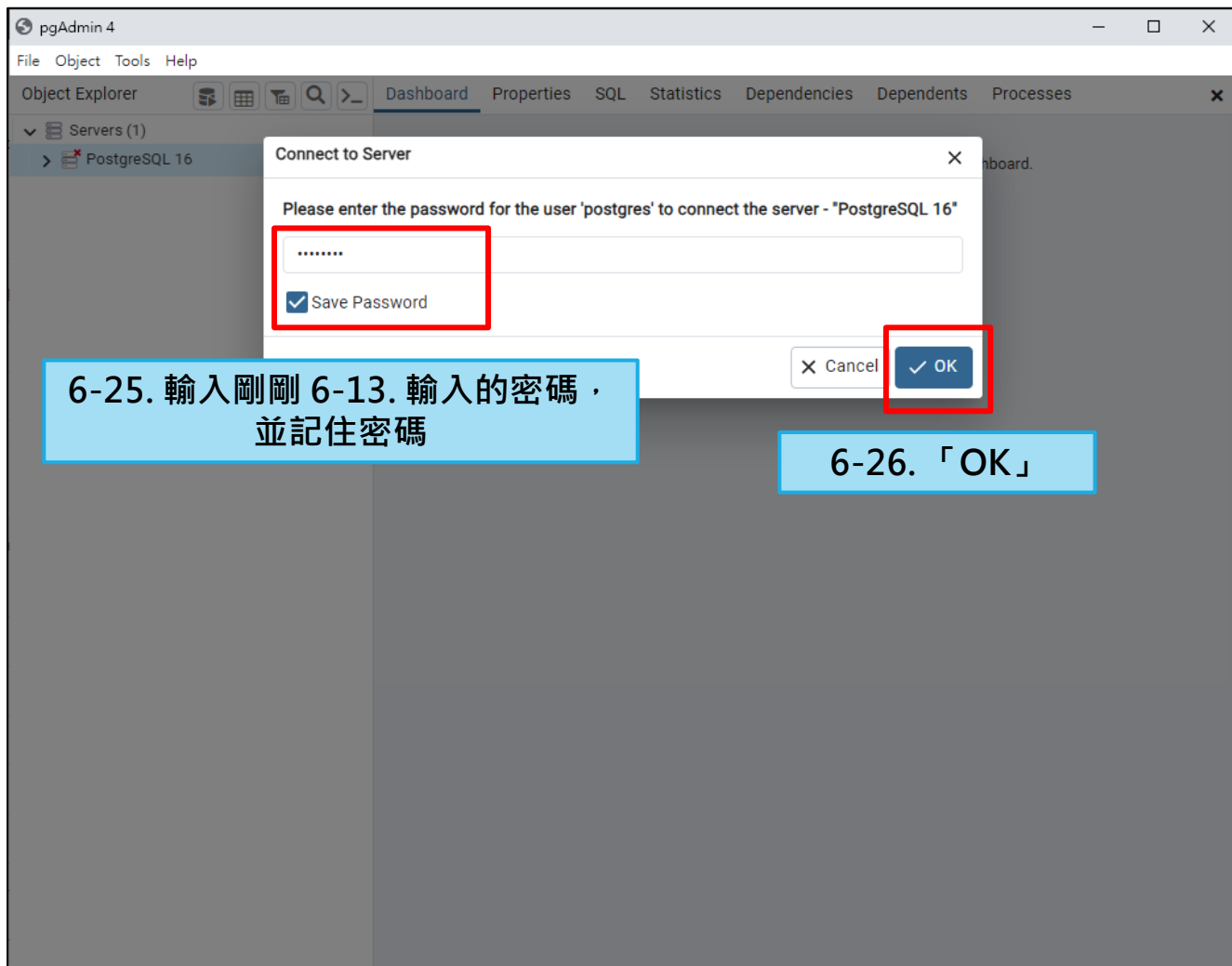


6-21. 如果跳出這個，可以不用安裝  
直接關掉

## 6. 安裝PostgreSQL



## 6. 安裝PostgreSQL



## 6. 安裝PostgreSQL

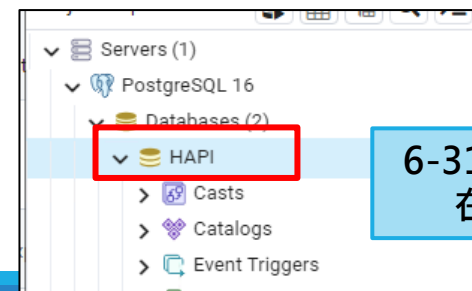
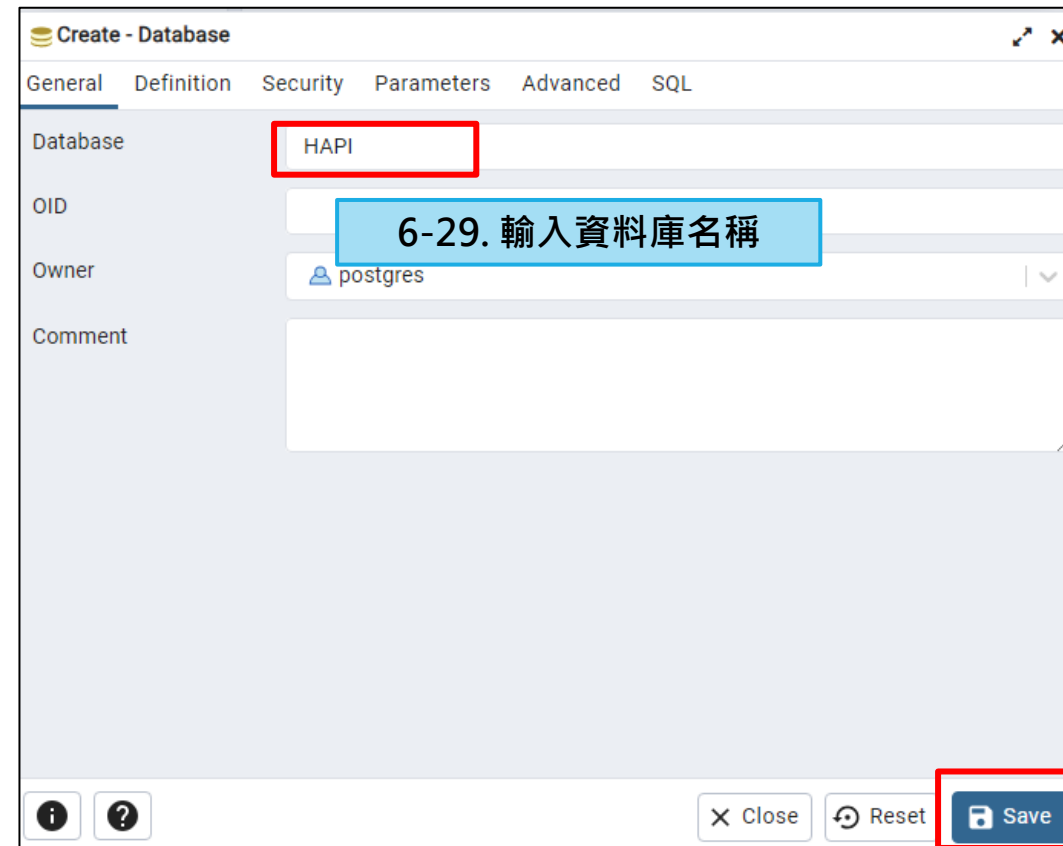
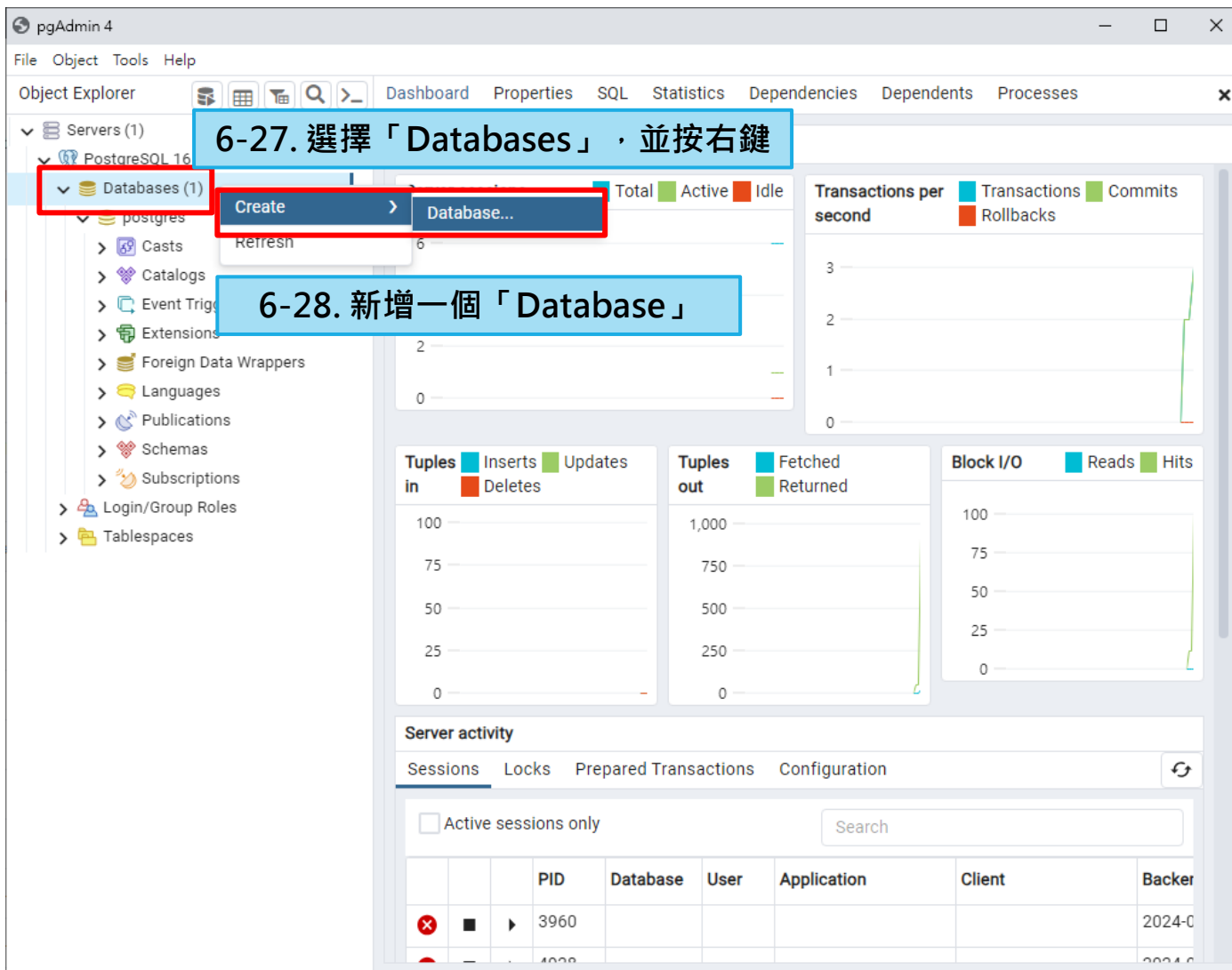
6-27. 選擇「Databases」，並按右鍵

6-28. 新增一個「Database」

6-29. 輸入資料庫名稱

6-30. 儲存

6-31. 設定成功會顯示  
在資料庫清單中



## 7. 安裝HAPI FHIR

7-1. 在搜尋引擎中搜尋「hapi fhir starter」  
或網址「<https://github.com/hapifhir/hapi-fhir-jpaserver-starter>」

The screenshot shows the GitHub repository page for `hapifhir/hapi-fhir-jpaserver-starter`. The repository is public and has 85 issues, 6 pull requests, and 48 tags. The 'Code' button is highlighted with a red box and labeled '7-2. 選擇「Code」'. The 'Download ZIP' option in the clone dropdown is highlighted with a red box and labeled '7-3. 下載ZIP'.

Repository details:

- Repository: `hapifhir/hapi-fhir-jpaserver-starter` (Public)
- Issues: 85
- Pull requests: 6
- Actions: 6
- Projects: 6
- Wiki: 6
- Security: 6
- Insights: 6

Clone options:

- Clone (Which remote URL should I use?)
- HTTPS (Selected)
- GitHub CLI
- Use Git or checkout with SVN using the web URL.
- Open with GitHub Desktop
- Download ZIP (Highlighted)

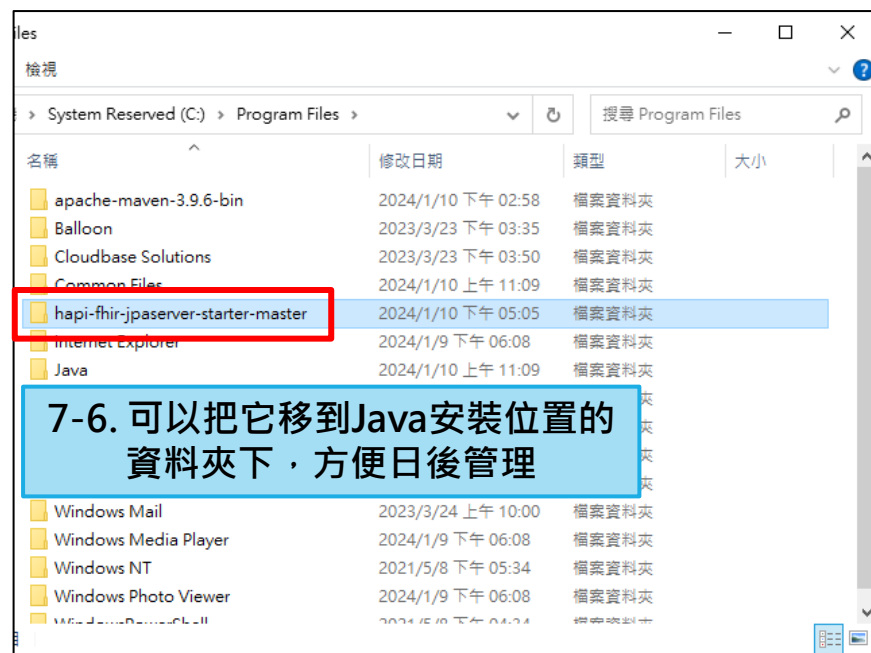
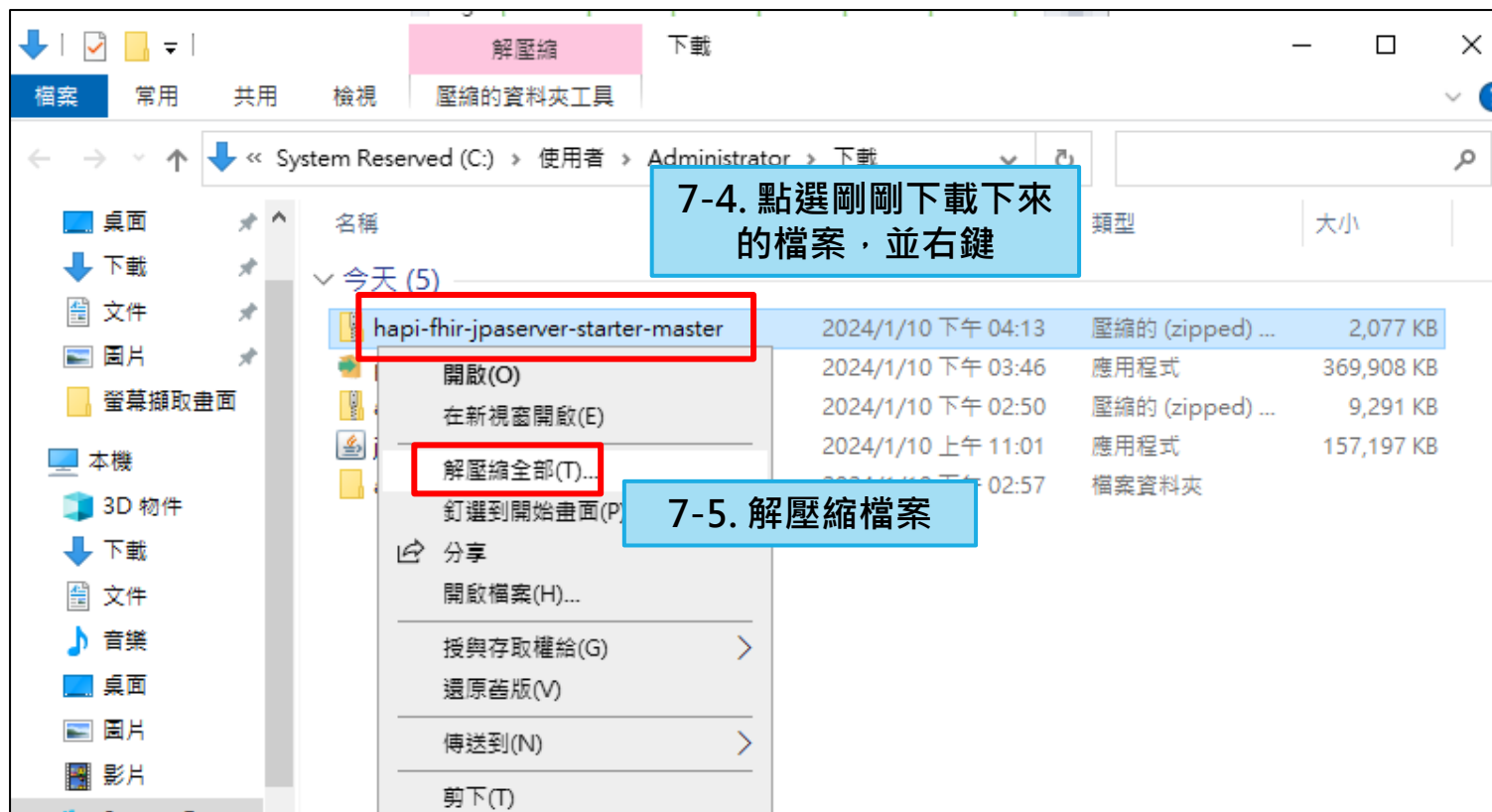
Repository files:

- `dotasek` Explicit profile for smoke test invocation (#627) ✓
- `.github` Explicit profile for smoke test invocation
- `.vscode` Initial IPS + Cql to C
- `charts/hapi-fhir-jpaserver` Updated helm chart
- `src` Cleaned up for run
- `.dockerignore` Adding logging rel
- `.editorconfig` Add repository valid
- `.gitignore` Affected Issue(s): Fil
- `.travis.yml` Travis update
- `Dockerfile` Fixing null beans as mentioned on #591

Repository statistics:

- 310 stars
- 36 watching
- 869 forks
- Report repository
- Releases: 31
- image/v6.10.1 on Nov 29, 2023
- + 30 releases

## 7. 安裝HAPI FHIR



## 7. 安裝HAPI FHIR

### Configurations

Much of this HAPI starter project can be configured using the yaml file in `src/main/resources/application.yaml`. By default, this starter project is configured to use H2 as the database.

### MySQL configuration

HAPI FHIR JPA Server does not support MySQL as it is deprecated.

See more at [https://hapifhir.io/hapi-fhir/docs/server\\_jpa/database\\_support.html](https://hapifhir.io/hapi-fhir/docs/server_jpa/database_support.html)

### PostgreSQL configuration

To configure the starter app to use PostgreSQL, instead of the default H2, update the application.yaml file to have the following:

7-7. 接著找到檔案中的這行

```
spring:
  datasource:
    url: 'jdbc:postgresql://localhost:5432/hapi'
    username: admin
    password: admin
    driverClassName: org.postgresql.Driver
  jpa:
    properties:
      hibernate.dialect: ca.uhn.fhir.jpa.model.dialect.HapiFhirPostgres94Dialect
      hibernate.search.enabled: false

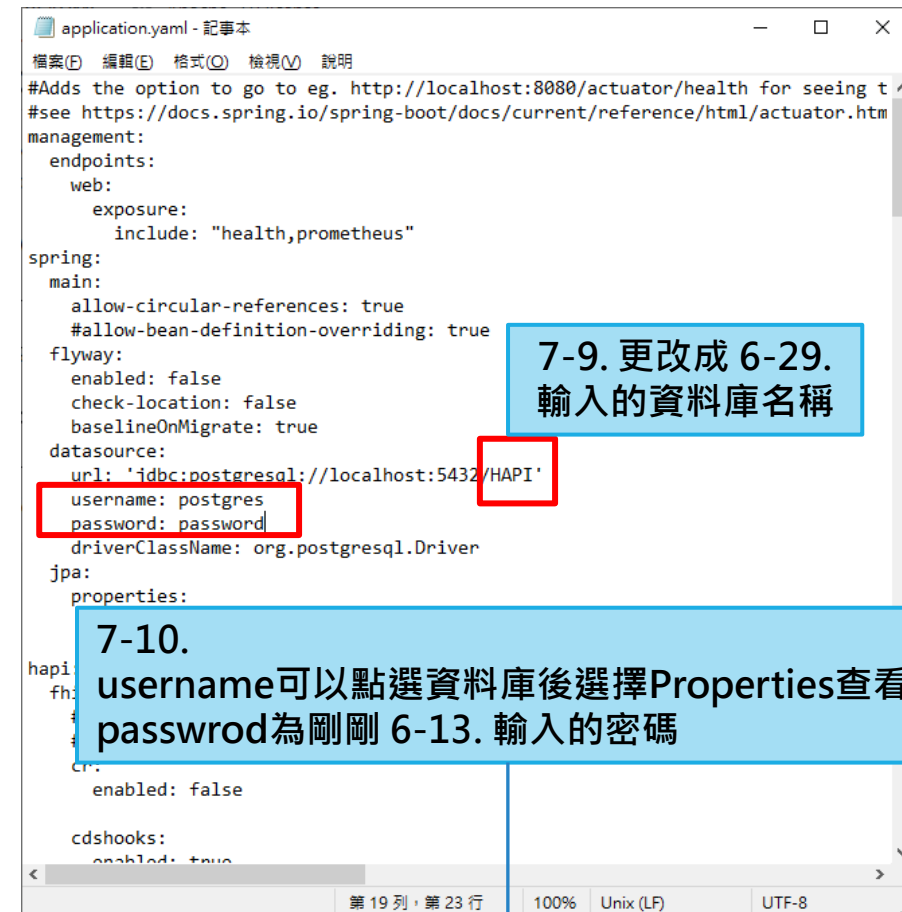
# Then comment all hibernate.search.backend.*
```

7-8. 修改「datasource」及「jpa」中的配置，可以直接把hapi以前的都刪除

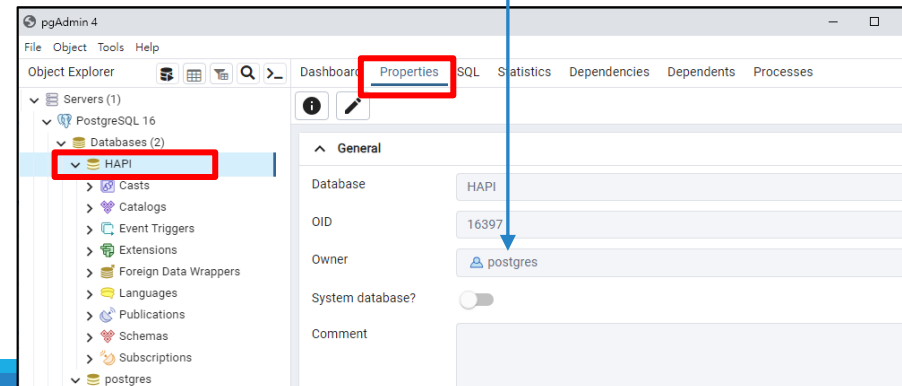
7-7. 根據github網站修改配置  
先找到解壓縮後資料夾中的這個檔案

7-9. 更改成 6-29.  
輸入的資料庫名稱

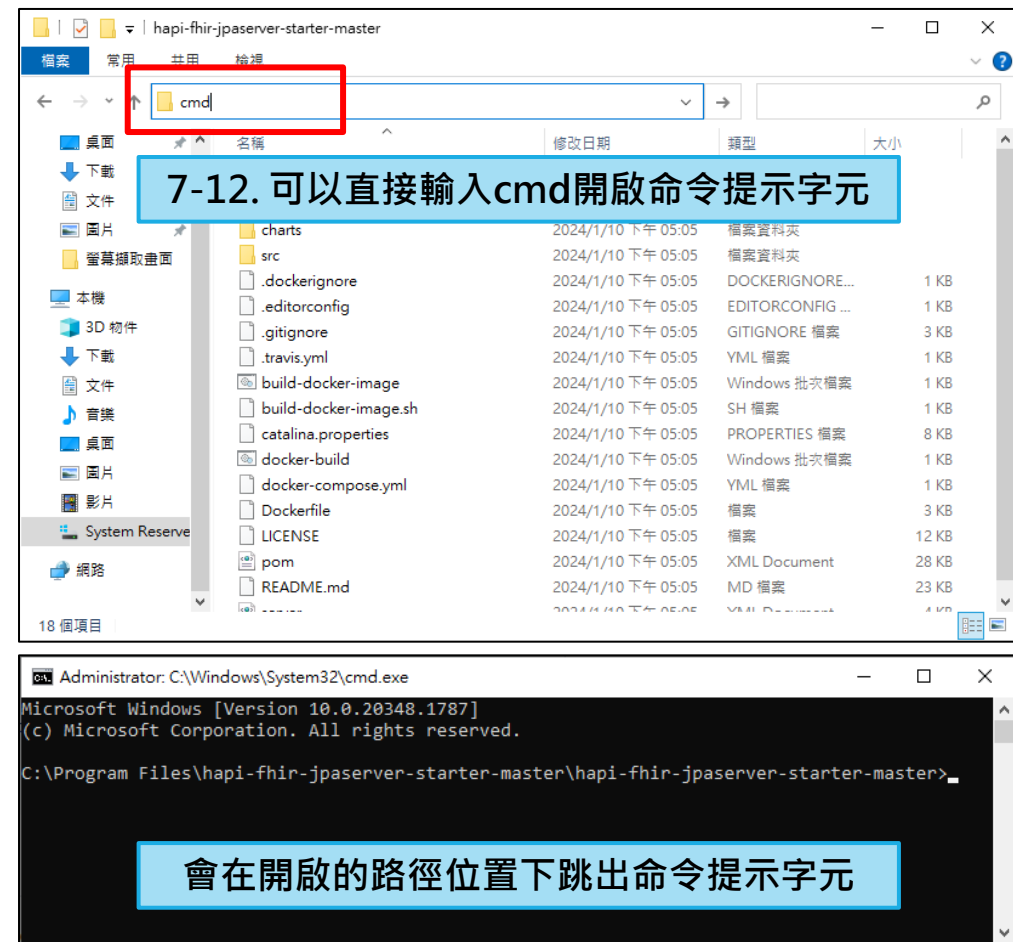
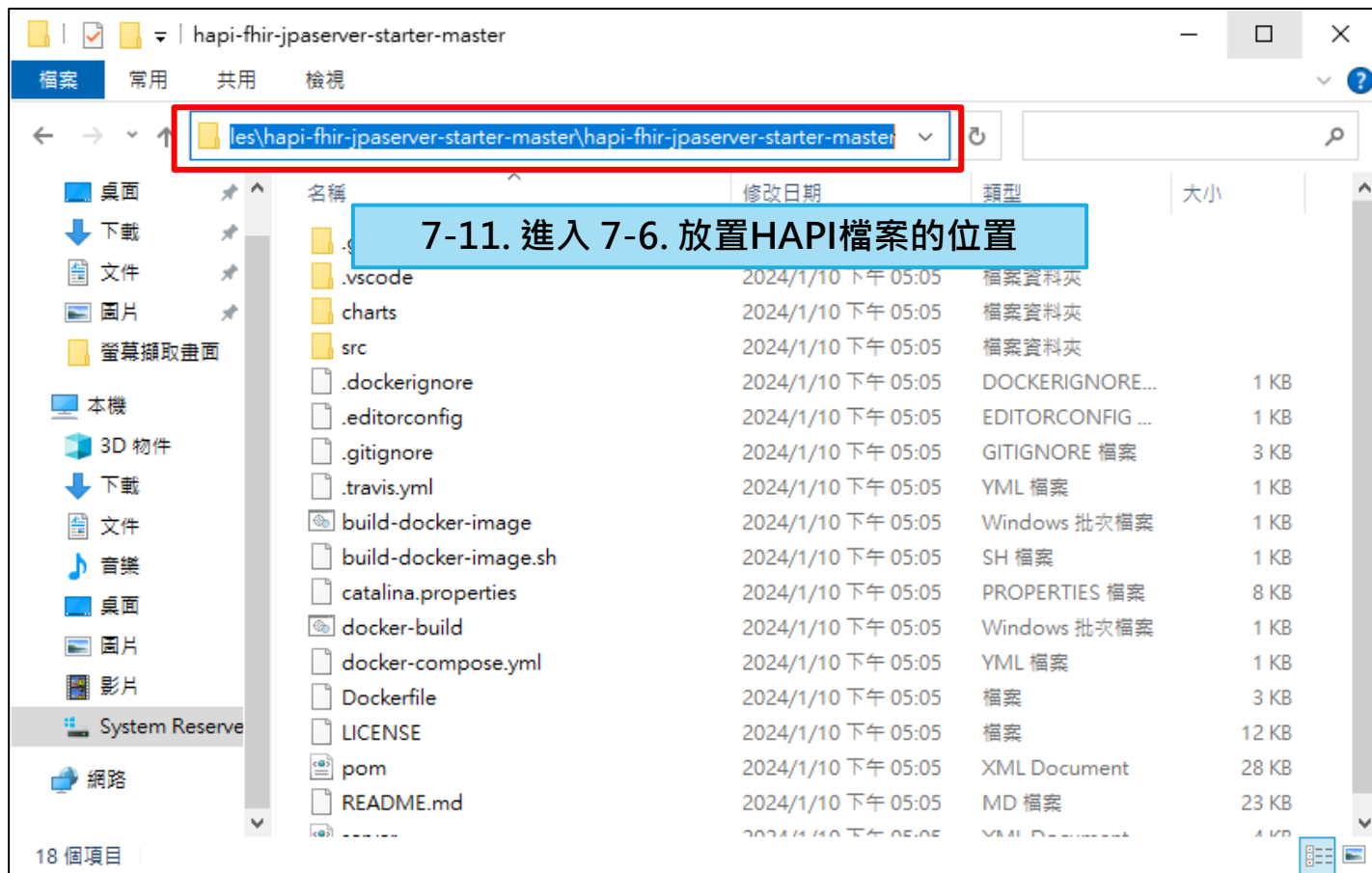
7-10.  
username可以點選資料庫後選擇Properties查看  
password為剛剛 6-13. 輸入的密碼



```
application.yaml - 記事本
檔案(F) 編輯(E) 格式(O) 檢視(V) 說明
#Adds the option to go to eg. http://localhost:8080/actuator/health for seeing t
#see https://docs.spring.io/spring-boot/docs/current/reference/html/actuator.htm
management:
  endpoints:
    web:
      exposure:
        include: "health,prometheus"
spring:
  main:
    allow-circular-references: true
    #allow-bean-definition-overriding: true
  flyway:
    enabled: false
    check-location: false
    baselineOnMigrate: true
  datasource:
    url: 'jdbc:postgresql://localhost:5432/HAPI'
    username: postgres
    password: password
    driverClassName: org.postgresql.Driver
  jpa:
    properties:
      hibernate.dialect: ca.uhn.fhir.jpa.model.dialect.HapiFhirPostgres94Dialect
      hibernate.search.enabled: false
  cdshooks:
    enabled: false
```



## 7. 安裝HAPI FHIR



## 7. 安裝HAPI FHIR

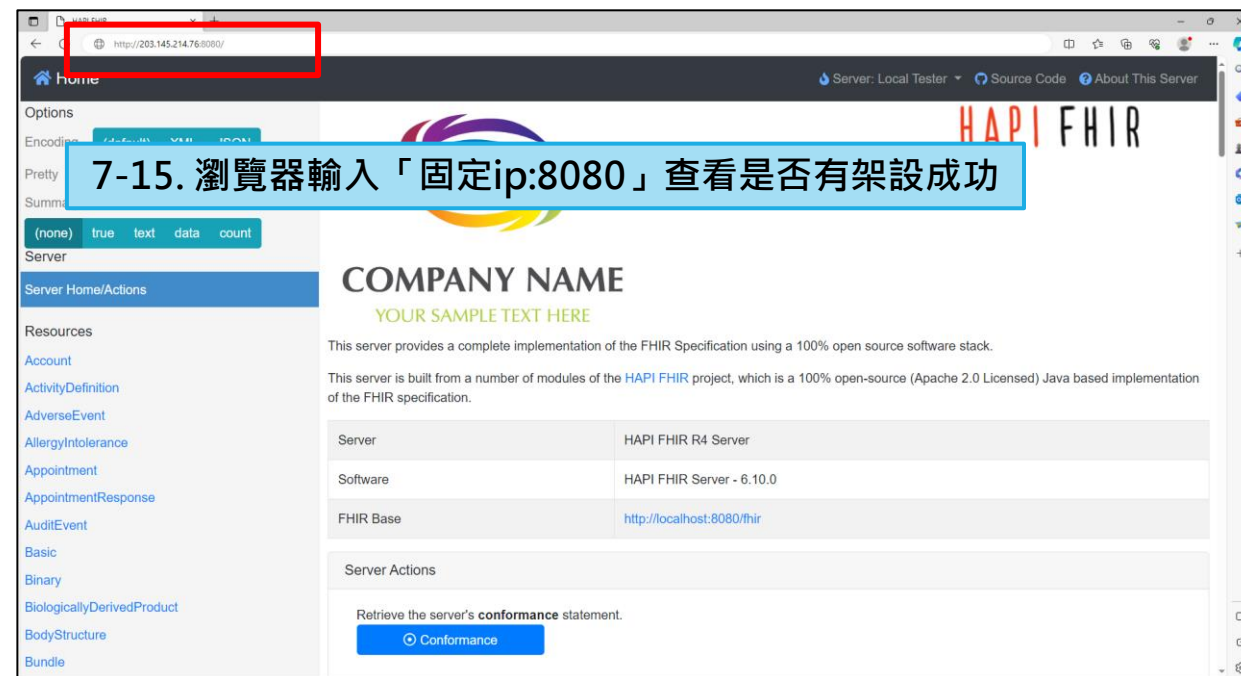
```
選取 Administrator: C:\Windows\System32\cmd.exe - mvn -Pjetty:run
Microsoft Windows [Version 10.0.20348.1787]
(c) Microsoft Corporation. All rights reserved.

C:\Program Files\hapi-fhir-jpaserver-starter-master\hapi-fhir-jpaserver-starter-master>mvn
-Pjetty:run
[INFO] Scanning for projects...
Downloading from oss-snapshots: https://oss.sonatype.org/content/repositories/snapshots/ca/
uhf/hapi-fhir-jpaserver-starter-war/6.10.0/hapi-fhir-jpaserver-starter-war-6.10.0.pom (97 kB at 124 kB/s)
Downloading from oss-snapshots: https://oss.sonatype.org/content/repositories/snapshots/org/
springframework/data/spring-data-bom/2021.2.2/spring-data-bom-2021.2.2.pom
Downloading from central: https://repo.maven.apache.org/maven2/org/springframework/data/spr
ing-data-bom/2021.2.2/spring-data-bom-2021.2.2.pom
Downloading from central: https://repo.maven.apache.org/maven2/org/springframework/data/spr
ing-data-bom/2021.2.2/spring-data-bom-2021.2.2.pom (5.7 kB at 71 kB/s)
Downloading from oss-snapshots: https://oss.sonatype.org/content/repositories/snapshots/org/
junit/junit-bom/5.9.1/junit-bom-5.9.1.pom
Downloading from central: https://repo.maven.apache.org/maven2/org/junit/junit-bom/5.9.1/ju
nit-bom-5.9.1.pom
Downloading from central: https://repo.maven.apache.org/maven2/org/junit/junit-bom/5.9.1/ju
nit-bom-5.9.1.pom (5.6 kB at 59 kB/s)
[WARNING]
[WARNING] Some problems were encountered while building the effective model for ca.uhn.hapi
.fhir:hapi-fhir-jpaserver-starter-war:6.10.0
[WARNING] 'dependencies.dependency.(groupId:artifactId:type:classifier)' must be unique: ch
.qos.logback:logback-classic:jar -> version (?) vs ${logback-classic.version} @ line 395, c
olumn 21
[WARNING]
[WARNING] It is highly recommended to fix these problems because they threaten the stabilit
y of your build.
[WARNING]
[WARNING] For this reason, future Maven versions might no longer support building such malf
ormed projects.
[WARNING]
[WARNING] The project ca.uhn.hapi.fhir:hapi-fhir-jpaserver-starter-war:6.10.0 uses prerequi
sites which is only intended for maven-plugin projects but not for non maven-plugin project
```

7-13. 在命令提示字元中輸入「mvn -Pjetty:run」  
接著下面會開始執行安裝

```
選取 Administrator: C:\Windows\System32\cmd.exe - mvn -Pjetty:run
2024-01-11 10:47:50.371 [background-preinit] INFO o.h.validator.internal.util.Version [Ver
sion.java:21] HV000001: Hibernate Validator 6.1.5.Final
:: Spring Boot ::
(v2.7.12)
2024-01-11 10:47:50.863 [main] INFO ca.uhn.fhir.jpa.starter.Application [StartupInfoLogger
.java:55] Starting Application using Java 17.0.9 on vm1704701118862 with PID 4236 (C:\Progr
am Files\hapi-fhir-jpaserver-starter-master\hapi-fhir-jpaserver-starter-master\target\class
es\st
2024-01-11 10:47:50.928 [main] INFO ca.uhn.fhir.jpa.starter.Application [SpringApplication
.java:631] No active profile set, falling back to 1 default profile: "default"
2024-01-11 10:47:53.780 [main] INFO o.s.d.r.c.RepositoryConfigurationDelegate [RepositoryC
onfigurationDelegate.java:132] Bootstrapping Spring Data JPA repositories in DEFAULT mode.
2024-01-11 10:47:54.324 [main] INFO o.s.d.r.c.RepositoryConfigurationDelegate [RepositoryC
onfigurationDelegate.java:201] Finished Spring Data repository scanning in 519 ms. Found 53
```

7-14. downloading都結束後表示安裝完成



7-15. 瀏覽器輸入「固定ip:8080」查看是否有架設成功