

# IBM FHIR Server

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LINUX (使用GITHUB配置)

# 1. 準備一台Linux環境的電腦(或虛擬機)

```
ubuntu@vm1704854465831-4317628-iaas: ~  
D:\工作\twcc>ssh -i .\kpmopatalpspt.pem ubuntu@103.124.72.82  
The authenticity of host '103.124.72.82 (103.124.72.82)' can't be established.  
ECDSA key fingerprint is SHA256:+5waM1/rBsY+uZxE4P7WauDeLPOWHQprQJiuXDmsJrE.  
Are you sure you want to continue connecting (yes/no/[fingerprint])? y  
Please type 'yes', 'no' or the fingerprint: yes  
Warning: Permanently added '103.124.72.82' (ECDSA) to the list of known hosts.  
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.0-91-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:       https://ubuntu.com/advantage  
  
System information as of Wed Jan 10 02:47:35 PM CST 2024  
  
System load:  0.0          Processes:      97  
Usage of /:   3.3% of 93.73GB  Users logged in: 0  
Memory usage: 1%          IPv4 address for ens3: 192.168.211.18  
Swap usage:   0%  
  
Expanded Security Maintenance for Applications is not enabled.  
  
0 updates can be applied immediately.  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
The list of available updates is more than a week old.  
To check for new updates run: sudo apt update  
  
The programs included with the Ubuntu system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by  
applicable law.  
  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
ubuntu@vm1704854465831-4317628-iaas:~$
```

## 2-1. 連線至Linux電腦(或虛擬機)

## 2. 安裝IBM FHIR Server

```
ubuntu@vm1706249127114-4360249-iaas: ~  
System load: 0.03857421875    Processes:      105  
Usage of /: 3.3% of 93.73GB    Users logged in: 0  
Memory usage: 1%              IPv4 address for ens3: 192.168.211.26  
Swap usage: 0%  
  
Expanded Security Maintenance for Applications is not enabled.  
  
0 updates can be applied immediately.  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
The list of available updates is more than a week old.  
To check for new updates run: sudo apt update  
  
The programs included with the Ubuntu system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Ubuntu appl  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
ubuntu@vm1706249127114-4360249-iaas:~$ sudo snap install docker  
docker 20.10.24 from Canonical✓ installed
```

### 2-1. 輸入 `sudo snap install docker`

```
ubuntu@vm1706249127114-4360249-iaas: ~  
The list of available updates is more than a week old.  
To check for new updates run: sudo apt update  
  
The programs included with the Ubuntu system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by  
applicable law.  
  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
ubuntu@vm1706249127114-4360249-iaas:~$ sudo snap install docker  
docker 20.10.24 from Canonical✓ installed  
ubuntu@vm1706249127114-4360249-iaas:~$ git clone https://github.com/LinuxForHealth/FHIR.git  
Cloning into 'FHIR'...  
remote: Enumerating objects: 752990, done.  
remote: Counting objects: 100% (13487/13487), done.  
remote: Compressing objects: 100% (1526/1526), done.  
remote: Total 752990 (compressed 1526): 13487kB (1526 compressed 1526)  
Receiving objects: 100% (13487/13487), 13487kB | 1.0MB/s  
Resolving deltas: 100% (1526/1526), done.  
FHIR  
ubuntu@vm1706249127114-4360249-iaas:~$
```

### 2-2. 輸入 `git clone https://github.com/LinuxForHealth/FHIR.git` 並且可以輸入 `ls` 確認是否有下載成功

## 2. 安裝IBM FHIR Server

```
ca: 選取 ubuntu@vm1706249127114-4360249-iaas: ~/FHIR
0aa3f65ea36c ghcr.io/linuxforhealth/fhir-server "/opt/fhir-server/bo..." 2 days ago Exited (129) 2 days ago
nifty_jennings
ubuntu@vm1706249127114-4360249-iaas:~$ ls
FHIR snap
ubuntu@vm1706249127114-4360249-iaas:~$ cd FHIR
ubuntu@vm1706249127114-4360249-iaas:~/FHIR$ docker run -p 9443:9443 -e BOOTSTRAP_DB=true ghcr.io/linuxforhealth/fhir-server
docker: Got permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Post "http://%2Fvar%2Frun%2Fdocker.sock/v1.24/containers/create": dial unix /var/run/docker.sock: connect: permission denied.
See 'docker run --help'.
ubuntu@vm1706249127114-4360249-iaas:~/FHIR$ sudo docker run -p 9443:9443 -e BOOTSTRAP_DB=true ghcr.io/linuxforhealth/fhir-server
bootstrap.sh - [INFO]: 2024-01-29_02:26:05 - Current directory: /opt/fhir-server
bootstrap.sh - [INFO]: 2024-01-29_02:26:05 - Performing Derby database bootstrapping
2024-01-29 02:26:10.775 00000001 INFO ma.control.FhirSchemaGenerator Requesting update lease for schema init [attempt 1]
2024-01-29 02:26:10.788 00000001 WARNING ls.pool.PoolConnectionProvider Connection open count is > 1
2024-01-29 02:26:10.790 00000001 WARNING ls.pool.PoolConnectionProvider Connection open count is > 1
2024-01-29 02:26:10.828 00000001 WARNING ma.control.FhirSchemaGenerator Passed resource type 'MEDICINALPRODUCTUNDESIRABLEEFFECT' has been retired in FHIR 4.3; corresponding tables will not be created
2024-01-29 02:26:10.832 00000001 WARNING ma.control.FhirSchemaGenerator Passed resource type 'MEDICINALPRODUCTPACKAGED' has been retired in FHIR 4.3; corresponding tables will not be created
2024-01-29 02:26:10.835 00000001 WARNING ma.control.FhirSchemaGenerator Passed resource type 'SUBSTANCEPOLYMER' has been retired in FHIR 4.3; corresponding tables will not be created
2024-01-29 02:26:10.862 00000001 WARNING ma.control.FhirSchemaGenerator Passed resource type 'MEDICINALPRODUCTAUTHORIZATION' has been retired in FHIR 4.3; corresponding tables will not be created
2024-01-29 02:26:10.871 00000001 WARNING ma.control.FhirSchemaGenerator Passed resource type 'MEDICINALPRODUCTINGREDIENT'
```

2-3. 輸入`cd FHIR` 進入剛剛下載的資料夾中

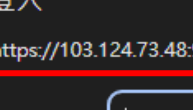
2-4. 輸入`docker run -p 9443:9443 -e BOOTSTRAP_DB=true ghcr.io/linuxforhealth/fhir-server`  
或可輸入`docker run -p 9443:9443 -e BOOTSTRAP_DB=true ghcr.io/linuxforhealth/fhir-server`在背景執行(則沒有2-4-1. 步驟)

## 2. 安裝IBM FHIR Server

```
ubuntu@vm1706249127114-4360249-iaas: ~/FHIR
[1/29/24, 3:22:55:070 UTC] 0000002c FHIRBuildIden I Build properties file successfully loaded: buildinfo.fhirserver.pr
operties
[1/29/24, 3:22:55:071 UTC] 0000002c FHIRBuildIden I Build properties file contains:
{fhir.server.build.version=5.1.1, fhir.server.build.id=Integration_refs/tags/5.1.1_15ceac548eed999c170164a7ffa9b592c2e2c
f16}
[1/29/24, 3:22:55:072 UTC] 0000002c FHIRApplicati I FHIR Server version 5.1.1 build id 'Integration_refs/tags/5.1.1_15
ceac548eed999c170164a7ffa9b592c2e2cf16' starting.
[1/29/24, 3:22:55:121 UTC] 0000002c cl22122022110 I Setting the server's publish address to be /
[1/29/24, 3:22:55:151 UTC] 0000002c servlet I com.ibm.ws.webcontainer.servlet.ServletWrapper init SRVE0242I: [fhir
-server-webapp] [/fhir-server/api/v4] [FHIRRestServlet]: Initialization successful.
[1/29/24, 3:22:55:155 UTC] 0000002c FHIRRestServl I Configured tenant-id header name is: X-FHIR-TENANT-ID
[1/29/24, 3:22:55:156 UTC] 0000002c FHIRRestServl I Configured datastore-id header name is: X-FHIR-DSID
[1/29/24, 3:22:55:156 UTC] 0000002c FHIRRestServl I Configured original-request-uri header name is: X-FHIR-FORWARDED-U
RL
[1/29/24, 3:22:55:156 UTC] 0000002c FHIRRestServl I Configured default tenant-id value is: default
[1/29/24, 3:22:55:157 UTC] 0000002c FHIRRestServl I Configured shard-key header name is: 'X-FHIR-SHARD-KEY'
[1/29/24, 3:22:55:167 UTC] 0000002c AppMessageHel A CWWKZ0001I: Application fhir-server-webapp started in 8.423 second
s.
[1/29/24, 3:22:55:185 UTC] 00000029 TCPPort I CWWK00219I: TCP Channel defaultHttpEndpoint-ssl has been started a
nd is now listening for requests on host * (IPv4) port 9443.
[1/29/24, 3:22:55:221 UTC] 0000002d PluginGenerat I SRVE9103I: A configuration file for a web server plugin was automa
tically generated for this server at /opt/ol/wlp/output/defaultServer/logs/state/plugin-cfg.xml.
[1/29/24, 3:22:55:284 UTC] 00000029 FeatureManage A CWWKF0012I: The server installed the following features: [appSecur
ity-2.0, appSecurity-3.0, batch-1.0, batchManagement-1.0, cdi-2.0, distributedMap-1.0, el-3.0, jaxrs-2.1, jaxrsClient-2.
1, jdbc-4.1, jndi-1.0, json-1.0, jsonp-1.1, jwt-1.0, localConnector-1.0, monitor-1.0, mpConfig-2.0, mpJwt-1.2, mpOpenAPI
-2.0, servlet-4.0, ssl-1.0, transportSecurity-1.0, websocket-1.1].
[1/29/24, 3:22:55:284 UTC] 00000029 FeatureManage I CWWKF0008I: Feature update completed in 10.378 seconds
[1/29/24, 3:22:55:285 UTC] 00000029 FeatureManage A CWWKF0011I: The defaultServer server is ready to run a smarter pla
net. The defaultServer server started in 10.863 seconds.
```

2-4-1. 跑出server started表示成功，  
並且這個必須一直執行使用者才能連的到伺服器

## 2. 安裝IBM FHIR Server



The screenshot shows a login interface with a dark background. At the top, the text "登入" (Login) is displayed in white. Below it, the URL "https://103.124.73.48-9443" is shown in a lighter gray. A red rectangular box highlights the login form area, which contains two input fields: "使用者名稱" (Username) and "密碼" (Password). Both fields are empty and have a light blue border. At the bottom of the form, there are two buttons: "登入" (Login) and "取消" (Cancel), both with a light blue background and white text.

2-6.  
帳號：fhiruser  
密碼：change-password

