

新壽 - 環境部屬指南 (第一次建置適用)

最後編輯時間: 2025-05-08 (siang)

▼ SKL_EI Docker 部署流程 v2.0

▼ 載入映像檔

```
# 載入映像檔 (依照版本命名)
docker load -i skl_ap0507.tar
docker load -i skl_web0507.tar
docker load -i skl_init0507.tar
```

驗證映像檔是否正確載入

```
siang@siang-ubuntu24:~/dev/src/SKL/SKL_IFRS9_CICD$ docker images
REPOSITORY          TAG         IMAGE ID      CREATED        SIZE
skl-ei-tomcat        2.0         8cce0dd05276  15 seconds ago 2.74GB
skl-ei-httpd         2.0         cbe3a134d6b7  About a minute ago 842MB
skl-ei-init          2.0         339094150ca7  2 minutes ago  4.28MB
openjdk              17.0.14     ed4185088f38  2 minutes ago  626MB
```

▼ 步驟 1：移除舊容器 (若已存在)

```
docker rm -f skl_ei_web skl_ei_ap
```

▼ 步驟 2：建立網路 (若不存在)

```
docker network create \
--driver=bridge \
--subnet=172.22.0.0/16 \
--ip-range=172.22.0.0/16 \
--gateway=172.22.1.1 \
sklsit
```

驗證網路是否成功建立

```
siang@siang-ubuntu24:~/dev/src/SKL/SKL_IFRS9_CICD$ docker network ls
NETWORK ID     NAME      DRIVER    SCOPE
a516249a8b9a   bridge    bridge    local
1d09951b7a0f   dev_default bridge    local
b96793a6e8c0   host      host      local
7364af817c43   none      null      local
d23005cd8fab   sklsit    bridge    local
```

▼ 步驟 3：建立 Volume

- **SKL_EI_VOL_DATA**：用於持久化應用運行過程中的資料與日誌，部署後無需重建，可跨版本保留。

- **SKL_EI_AP_DATA**：用於 **AP** 與 **WEB** 共用的資料夾，應用更新前需重新建立以確保資料更新一致性。 <每次部版都要重新建立>

```
docker volume create SKL_EI_VOL_DATA  
docker volume create SKL_EI_AP_DATA
```

驗證 **volume** 是否正確建立

```
● siang@siang-ubuntu24:~/dev/src/SKL/SKL_IFRS9_CICD$ docker volume ls  
DRIVER      VOLUME NAME  
local       SKL_EI_AP_DATA  
local       SKL_EI_VOL_DATA
```

▼ 步驟 4：初始化資料 **Volume**（只需執行一次，後續不需重建）

```
docker run --rm \  
-v SKL_EI_VOL_DATA:/data \  
skl-ei-init:2.0
```

▼ 步驟 5：驗證 **Volume** 資料初始化結果

```
docker run --rm \  
-v SKL_EI_VOL_DATA:/data \  
skl-ei-init:2.0 \  
ls -lR /data
```

驗證 **volume** 目錄結構是否正確建立

```

● siang@siang-ubuntu24:~/dev/src/SKL/SKL_IFRS9_CICD$ docker run --rm \
  -v SKL_EI_VOL_DATA:/data \
  skl-ei-init:2.0 \
  ls -lR /data
/data:
total 12
drwxr-xr-x 6 1000 1000 4096 May 8 08:38 ap
drwxr-xr-x 2 1000 1000 4096 May 8 08:21 apache-logs
drwxr-xr-x 2 1000 1000 4096 May 8 08:21 tomcat-logs

/data/ap:
total 16
drwxr-xr-x 2 1000 1000 4096 May 8 08:21 API_LOG
drwxr-xr-x 2 1000 1000 4096 May 8 08:21 HISTUPLOAD
drwxr-xr-x 2 1000 1000 4096 May 8 08:21 OUTFILE
drwxr-xr-x 2 1000 1000 4096 May 8 08:21 UPLOAD

/data/ap/API_LOG:
total 0

/data/ap/HISTUPLOAD:
total 0

/data/ap/OUTFILE:
total 0

/data/ap/UPLOAD:
total 0

/data/apache-logs:
total 0

/data/tomcat-logs:
total 0

```

本機實體位置參考：

```

# 需切換至 root 權限
sudo su
cd /var/lib/docker/volumes/SKL_EI_VOL_DATA/_data

```

```

root@siang-ubuntu24:/var/lib/docker/volumes/SKL_EI_VOL_DATA/_data# ls -l
總用量 12
drwxr-xr-x 6 jhuser jhuser 4096 5月 8 16:38 ap
drwxr-xr-x 2 jhuser jhuser 4096 5月 8 16:21 apache-logs
drwxr-xr-x 2 jhuser jhuser 4096 5月 8 16:21 tomcat-logs
root@siang-ubuntu24:/var/lib/docker/volumes/SKL_EI_VOL_DATA/_data# tree
.
├── ap
│   ├── API_LOG
│   ├── HISTUPLOAD
│   ├── OUTFILE
│   └── UPLOAD
├── apache-logs
└── tomcat-logs

```

▼ 步驟 6：啟動 httpd 容器（前端）

```
docker run -dt \
  --network sklsit \
  --restart unless-stopped \
  --name skl_ei_web \
  --hostname skl_ei_web \
  --user apuser \
  -p 9001:443 \
  --ip 172.22.0.2 \
  -v SKL_EI_VOL_DATA:/data \
  -v SKL_EI_AP_DATA:/home/skladmin/tomcat/jhapps/DATA/DOWNLOAD \
  skl-ei-httpd:2.0
```

驗證服務是否正常啟動

```
# 日誌判斷 (success RUNNING)
docker logs skl_ei_web -f

# 狀態判斷 (healthy)
docker ps -a

# 網址判斷
https://test-vipfrontend.skl.com.tw:9001
```

```
siang@siang-ubuntu24:~/dev/src/SKL/SKL_IPRS9_CICDS$ docker logs skl_ei_web -f
2025-05-08 16:45:15.454, [INFO], <docker-entrypoint.sh>, Checking if OpenSSL is installed...
2025-05-08 16:45:15.456, [INFO], <docker-entrypoint.sh>, OpenSSL version: OpenSSL 3.2.2 4 Jun 2024 (Library: OpenSSL 3.2.2 4 Jun 2024)
2025-05-08 16:45:15.457, [INFO], <docker-entrypoint.sh>, Starting certificate verification process...
2025-05-08 16:45:15.458, [INFO], <docker-entrypoint.sh>, Certificate or private key not found. Starting generation...
2025-05-08 16:45:15.462, [INFO], <docker-entrypoint.sh>, Generating OpenSSL config: /etc/httpd/private/openssl.cnf
2025-05-08 16:45:15.464, [INFO], <docker-entrypoint.sh>, Generating private key: /etc/httpd/private/skl_server.key
2025-05-08 16:45:15.508, [INFO], <docker-entrypoint.sh>, Generating self-signed certificate: /etc/httpd/private/skl_server.crt
2025-05-08 16:45:15.510, [INFO], <docker-entrypoint.sh>, OpenSSL config deleted
2025-05-08 16:45:15.510, [INFO], <docker-entrypoint.sh>, Certificate generation completed and saved to /etc/httpd/private
2025-05-08 16:45:15.511, [INFO], <docker-entrypoint.sh>, Executing command: supervisord -c /etc/supervisord.conf
2025-05-08 16:45:15.583 INFO supervisord started with pid 1
2025-05-08 16:45:16.585 INFO spawned: 'httpd' with pid 26
[Thu May 08 16:45:16.685229 2025] [lbmethod:heartbeat:notice] [pid 26:tid 26] AH02282: No slotmem from mod_heartbeat
[Thu May 08 16:45:16.662998 2025] [pm.event:notice] [pid 26:tid 26] AH00489: Apache/2.4.62 (Red Hat Enterprise Linux) OpenSSL/3.2.2 configured -- resuming normal operations
[Thu May 08 16:45:16.663087 2025] [core:notice] [pid 26:tid 26] AH00094: Command line: '/usr/sbin/httpd -D FOREGROUND'
2025-05-08 16:45:17.064 INFO success: httpd entered RUNNING state, process has stayed up for > than 1 seconds (startsecs)
```

```
siang@siang-ubuntu24:~/dev/src/SKL/SKL_IPRS9_CICDS$ docker ps -a
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS
a84d26ee9739   skl-ei-httpd:2.0                   "/etc/httpd/docker-e..." 45 seconds ago Up 45 seconds (healthy) 0.0.0.0:9001->443/tcp, [::]:9001->443/tcp
kl_ei_web
```

▼ 步驟 7：啟動 tomcat 容器（後端）

```
docker run -dt \
  --network sklsit \
  --restart unless-stopped \
  --name skl_ei_ap \
  --hostname skl_ei_ap \
  --user apuser \
  -p 9002:8443 \
  --ip 172.22.0.3 \
  -v SKL_EI_VOL_DATA:/data \
  -v SKL_EI_AP_DATA:/home/skladmin/tomcat/jhapps/DATA/DOWNLOAD \
  skl-ei-tomcat:2.0
```

驗證服務是否正常啟動

```
# 日誌判斷 (success RUNNING)
docker logs skl_ei_ap -f
# 08-May-2025 16:50:03.390 INFO [main] org.apache.catalina.startup.HostConfig.deployL

# 狀態判斷 (healthy)
docker ps -a

# 網址判斷

# [ServiceMgr 應用]
https://test-vipfrontend.skl.com.tw:9002/ServiceMgr/

# [MiddleWare 應用]
https://test-vipfrontend.skl.com.tw:9002/MiddleWare/jh/CLIENT/ip/CIP/99
```

```
siang@siang-ubuntu24:~/dev/src/SKL/SKL_IFRS9_CICD$ docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
NAME
9ce55349c0d8   skl-ei-tomcat:2.0  "/bin/run_tomcat.sh"    26 seconds ago Up 26 seconds (healthy)  0.0.0.0:9002->8443/tcp, [::]:9002->8443/tcp
skl_ei_ap      a84d26ee9739   skl-ei-httpd:2.0        "/etc/httpd/docker-e..." 5 minutes ago Up 5 minutes (healthy)  0.0.0.0:9001->443/tcp, [::]:9001->443/tcp
kl_ei_web
```