

전자정부 표준프레임워크 MSA 템플릿 개발 환경 실습



1. MSA 템플릿 개발 환경 실습

● (Windows) cmdr - <https://cmdr.app>

- ① 프로그램 다운로드 - "Download Full"(git 이 함께 설치됨)
- ② 압축을 풀고 "Cmder.exe" 실행
- ③ + 아이콘 클릭 > bash > bash 선택

The image shows the cmdr website and its terminal interface. The website part on the left includes a 'Download' button, the latest version 'v1.3.18', a link to the 'GitHub Repository', and two download options: 'Download Mini' (-9.8MB) and 'Download Full' (with Git for Windows) (-117MB or -63MB 7z). Below this is an 'Installation' section with three steps: 1. Unzip, 2. (optional) Place your own executable files into the 'bin' folder to be injected into your PATH, and 3. Run Cmder (Cmder.exe).

The terminal window on the right shows the execution of 'cmdr.exe'. It displays the following output:

```
Generating clink initial settings in "C:\Users\egov_\Downloads\cmdr\config\clink_settings"
1개 파일이 복사되었습니다.
Additional *.lua files in "C:\Users\egov_\Downloads\cmdr\config" are loaded on startup.
Creating initial user_aliases store in "C:\Users\egov_\Downloads\cmdr\config\user_aliases.cmd"...
1개 파일이 복사되었습니다.
Running Git for Windows one time Post Install....
"running post-install"
'C:\WINDOWS\system32\drivers\etc\hosts' -> '/etc/hosts'
'C:\WINDOWS\system32\drivers\etc\protocol' -> '/etc/protocols'
'C:\WINDOWS\system32\drivers\etc\services' -> '/etc/services'
'C:\WINDOWS\system32\drivers\etc\networks' -> '/etc/networks'
해당 파일을 찾을 수 없습니다.
Creating user startup file: "C:\Users\egov_\Downloads\cmdr\config\user_profile.cmd"
1개 파일이 복사되었습니다.

C:\Users\egov_\Downloads\cmdr
λ git version
git version 2.29.1.windows.1

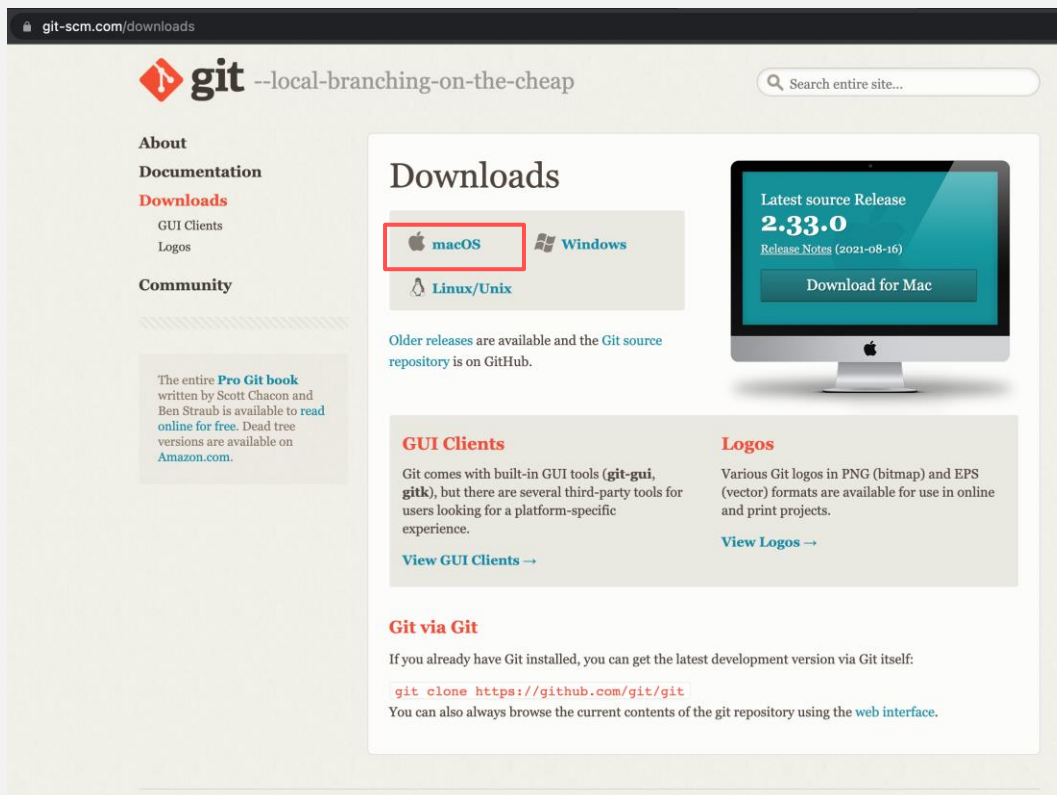
C:\Users\egov_\Downloads\cmdr
λ |
```

At the bottom right, a context menu is open over the terminal window, showing options: 'Setup tasks...', '4: (WSL)', '3: (bash)', '1: (PowerShell)', 'cmd /k ""%ConEmuDir%\Winit.bat ""', and 'New console dialog...'. The '3: (bash)' option is selected, and a sub-menu is visible with '4: (bash)', '3: (bash as Admin)', '2: (mintty)', and '1: (mintty as Admin)'.

1. MSA 템플릿 개발 환경 실습

🌀 (macOS) git - <https://git-scm.com/downloads>

- ① git-scm.com 에서 macOS 용 다운 받아 설치
- ② 또는 brew install git 명령으로 설치



The screenshot shows the git-scm.com/downloads page. The macOS download button is highlighted with a red box. The page displays the latest source release 2.33.0 and provides links for GUI clients and logos.

Downloads

Latest source Release
2.33.0
Release Notes (2021-08-16)
Download for Mac

Older releases are available and the Git source repository is on GitHub.

GUI Clients
Git comes with built-in GUI tools (**git-gui**, **gitk**), but there are several third-party tools for users looking for a platform-specific experience.
[View GUI Clients →](#)

Logos
Various Git logos in PNG (bitmap) and EPS (vector) formats are available for use in online and print projects.
[View Logos →](#)

Git via Git
If you already have Git installed, you can get the latest development version via Git itself:
`git clone https://github.com/git/git`
You can also always browse the current contents of the git repository using the [web interface](#).

1. MSA 템플릿 개발 환경 실습

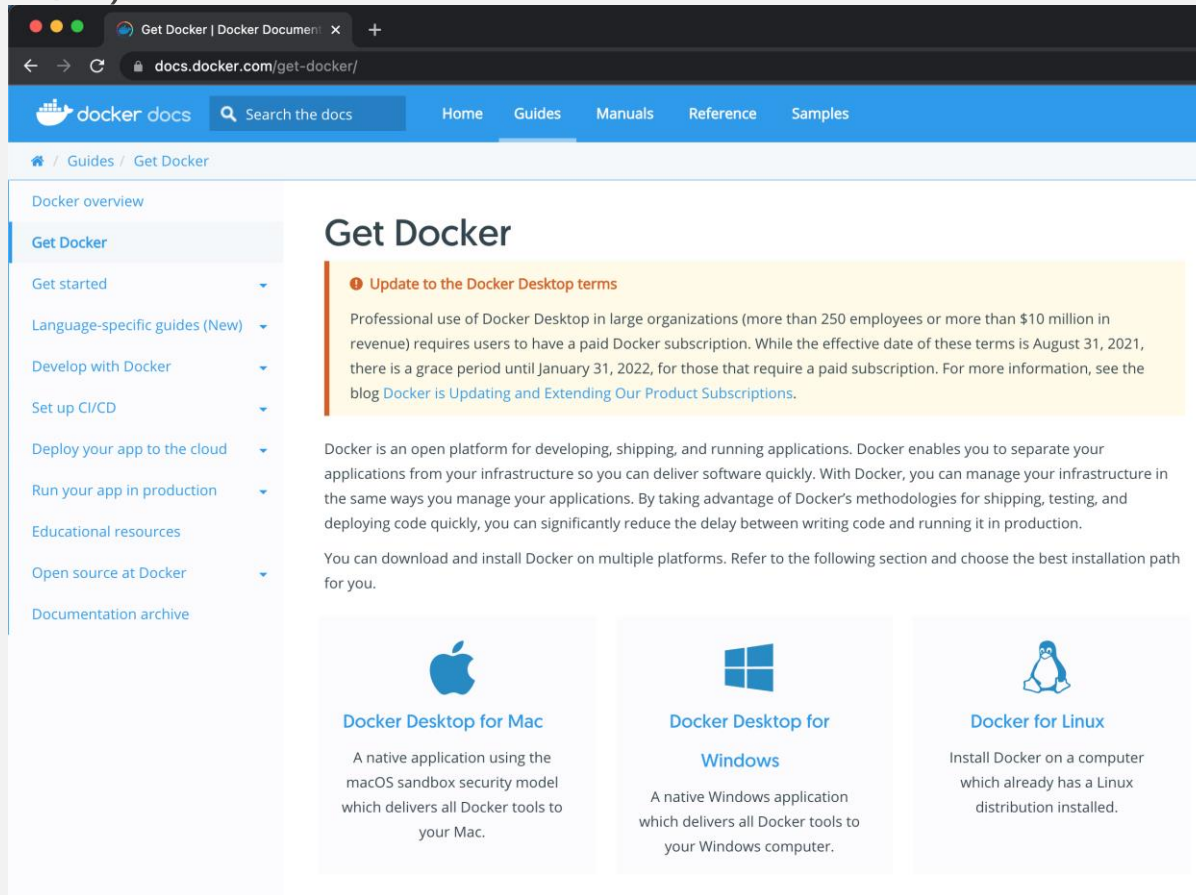
● 실습 자료 다운로드

- ① cmdder bash 창에서
- ② “git version” 명령으로 git 이 설치되어 있는지 확인한다.
- ③ “mkdir \${HOME}/workspace.edu”
- ④ “cd \${HOME}/workspace.edu”
- ⑤ “git clone https://github.com/eGovFramework/egovframe-msa-edu.git”

1. MSA 템플릿 개발 환경 실습

🕒 Docker - <https://docs.docker.com/get-docker/>

💡 Windows Home은 WSL2(Windows Subsystem for Linux 2) 설치하여 ubuntu 환경에서 진행(보장)



1. MSA 템플릿 개발 환경 실습

MySQL(docker-compose)

- ① cmdder bash 창에서
- ② 도커 네트워크 생성 후 docker-compose 파일이 있는 위치로 이동
- ③ "docker network create egov-network"
- ④ "cd \${HOME}/workspace.edu/egovframe-msa-edu/docker-compose/mysql"
- ⑤ mysql 컨테이너 생성 및 확인(데이터베이스 생성 및 데이터는 자동 입력됨)
- ⑥ "docker-compose up -d"
- ⑦ "docker exec -it mysql bash"컨테이너 내부에 접속
- ⑧ "mysql -u msaportal -p"패스워드는 msaportal
- ⑨ "show databases;"로 msaportal, reservation 데이터베이스 생성 확인
- ⑩ "exit;"두 번 반복하여 컨테이너에서 나옴

MySQL 설치 및 데이터 생성(Docker 미사용시)

- ① `cd /c/eGovFrame-4.1.0/bin/mysql-5.7.32-winx64/bin`
- ② 해당 경로에 MySql 이 없을 경우 <https://downloads.mysql.com/archives/community/> 에서 'mysql-5.7.35-winx64.zip'파일을 다운로드 한 후 c 드라이브에 압축을 풉니다.
- ③ `cd /c/mysql-5.7.35-winx64/bin`
- ④ `./mysqld --initialize-insecure`
- ⑤ `./mysqld -install`
- ⑥ `net start mysql`
- ⑦ `./mysql -u root -p`
- ⑧ `create database msaportal;`
- ⑨ `create database reservation;`
- ⑩ `create user 'msaportal' identified by 'msaportal';`
- ⑪ `grant all privileges on msaportal.* to msaportal;`
- ⑫ `grant all privileges on reservation.* to msaportal;`
- ⑬ `exit`

MySQL 설치 및 데이터 생성(Docker 미사용시)

- ① `"/mysql -u msaportal -p msaportal < ${HOME}/workspace.edu/egovframe-msa-edu/docker-compose/mysql/msaportal.sql"`
- ② `"/mysql -u msaportal -p reservation < ${HOME}/workspace.edu/egovframe-msa-edu/docker-compose/mysql/reservation.sql"`

1. MSA 템플릿 개발 환경 실습

RabbitMQ(docker run)

- ① cmdder bash 창에서 RabbitMQ 컨테이너 실행
- ② "docker run -d -e TZ=Asia/Seoul --name rabbitmq -p 5672:5672 -p 15672:15672 rabbitmq:management"
- ③ "http://localhost:15672" 접속
- ④ "Username: guest, Password: guest"로그인

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🌀 RabbitMQ(Docker 미 사용시 설치하기)

💡 <https://www.rabbitmq.com/install-windows.html>

Direct Downloads

Description	Download	Signature
Installer for Windows systems (from GitHub)	rabbitmq-server-3.9.8.exe	Signature

- ① RabbitMQ 설치 시 erlang 설치 안내가 나오면 “Windows 64-bit Binary File”을 설치한다.
- ② RabbitMQ 설치 완료 후 RabbitMQ Command Prompt 창에서
- ③ “rabbitmq-plugins enable rabbitmq_management”로 관리 기능을 활성화.

1. MSA 템플릿 개발 환경 실습

Zipkin(docker run)

- ① cmdder bash 창에서 Zipkin 컨테이너 실행
- ② "docker run --name zipkin -d -p 9411:9411 -e TZ=Asia/Seoul
openzipkin/zipkin"
- ③ "http://localhost:9411" 접속

1. MSA 템플릿 개발 환경 실습

Zipkin(Docker 미 사용시 설치하기)

💡 <https://zipkin.io/pages/quickstart>

Java

If you have Java 8 or higher installed, the quickest way to get started is to fetch the **latest release** as a self-contained executable jar:

```
curl -sSL https://zipkin.io/quickstart.sh | bash -s  
java -jar zipkin.jar
```

- ① cmdder bash 창에서 다운 받은 위치로 이동 후
- ② "java -jar zipkin-server-2.23.4-exec.jar" 명령 실행