



Mobius Terraform WSL

Version 0.0
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Installation



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Introduction

The scripts should be executed in sequence, from 00*.cmd to 06*.sh

```
C:\git\kubeterraform>dir
Volume in drive C is Windows
Volume Serial Number is B2D3-AE1A

Directory of C:\git\kubeterraform

10/28/2025  07:34 AM    <DIR>          .
10/27/2025  05:57 PM    <DIR>          ..
10/20/2025  09:16 AM            1,556 00_install_wsl.cmd
10/28/2025  07:45 AM            6,919 01_install_docker_wsl_ubuntu.sh
10/28/2025  07:34 AM            902 02_install_helm_kubectl.sh
10/28/2025  07:54 AM            8,922 03_install_k3s_rancher_terraform.sh
10/28/2025  07:33 AM            374 04_configure_env_kubelocal.sh
10/28/2025  07:40 AM            319 05_pullimages.sh
10/27/2025  05:08 PM            122 06_terraform.sh
10/27/2025  05:45 PM    <DIR>          conf
10/27/2025  05:17 PM            612 env_kubelocal.sh
10/28/2025  07:25 AM    <DIR>          lib
10/27/2025  05:51 PM    <DIR>          terraform
10/28/2025  07:46 AM            1,532 tools.sh
10/14/2025  03:51 PM            352,983,274 ubuntu22.04.tar.gz
                           10 File(s)   353,004,532 bytes
                           5 Dir(s)   1,701,527,334,912 bytes free
```

The script **00_install_wsl.cmd** will create the WSL distribution in **dirName**, change this folder by default in the script if needed.

```
@echo off
setlocal enabledelayedexpansion

set "%DEFAULT_DISTNAME=mobius"
set /p "DISTNAME=Enter WSL name (default: %DEFAULT_DISTNAME%): "
if "%DISTNAME%"=="" set "DISTNAME=%DEFAULT_DISTNAME%"

set "dirName=C:\rocket\wsl\%DISTNAME%"
set "CURR_DIR=%~dp0"
```

00_install_wsl.cmd

Before running this script verify the existing WSL distributions to define a new one with another name.

```
C:\git\kubeterraform>wsl -l -v
  NAME      STATE        VERSION
* rdrs      Stopped      2
```

This script will create an Ubuntu 22.04 WSL distribution with user “**rocket**”, password “**rocket**”

```
C:\git\kubeterraform>00_install_wsl.cmd
Enter WSL name (default: mobius): mobius

===== WSL Installation =====
Distribution Name: mobius
Directory: C:\rocket\wsl\mobius
Current Directory: C:\git\kubeterraform\
Checking if WSL distribution "mobius" exists...
Checking directory "C:\rocket\wsl\mobius"...
Directory created successfully.
Importing WSL distribution...
Command: wsl --import mobius "C:\rocket\wsl\mobius" "C:\git\kubeterraform\ubuntu22.04.tar.gz"
--version 2
The operation completed successfully.
WSL import completed.
Initial User Credentials:
user=rocket password=rocket
To access the new distribution, run: wsl -d mobius
```

Verify the WSL distribution created, and access to it

```
C:\git\kubeterraform>wsl -l -v
  NAME      STATE        VERSION
* rdrs      Stopped      2
  mobius    Stopped      2

C:\git\kubeterraform>wsl -d mobius
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 6.6.87.2-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

System information as of Tue Oct 28 08:19:48 -03 2025

System load: 0.0          Processes:           80
Usage of /:   0.1% of 1006.85GB  Users logged in:    0
Memory usage: 3%          IPv4 address for eth0: 172.24.226.241
Swap usage:   0%

This message is shown once a day. To disable it please create the
/home/rocket/.hushlogin file.
rocket@RS-PF4XAR20:/mnt/c/git/kubeterra$
```

01_install_docker_wsl_ubuntu.sh

This script installs docker, at the end, execute “**newgrp docker**”

```
rocket@RS-PF4XAR20:/mnt/c/git/kubeterra$ ./01_install_docker_wsl_ubuntu.sh
2025-10-28 08:23:00 [INFO] --- Starting Docker and Docker Compose Installation Script ---
2025-10-28 08:23:00 [INFO] 1. Configuring sudo NOPASSWD for user: rocket
2025-10-28 08:23:00 [INFO]      - 'NOPASSWD' configuration added to /etc/sudoers.d/99-rocket-
nopasswd.
.....
.....
2025-10-28 08:23:47 [INFO] --- Script execution finished ---
2025-10-28 08:23:47 [WARN] ATTENTION: To use 'docker' and 'docker-compose' commands without
'sudo' IMMEDIATELY,
2025-10-28 08:23:47 [WARN] !!!! =====>>>> YOU MUST RUN: newgrp docker
2025-10-28 08:23:47 [WARN] Otherwise, the group change will only take effect after you log
out and log back in.
rocket@RS-PF4XAR20:/mnt/c/git/kubeterra$ newgrp docker
rocket@RS-PF4XAR20:/mnt/c/git/kubeterra$
```

02_install_helm_kubectl.sh

Install **kubectl**, **helm**, and other tools

```
rocket@RS-PF4XAR20:/mnt/c/git/kubeterra$ ./02_install_helm_kubectl.sh
2025-10-28 08:37:30 [INFO] Installing kubectl
% Total    % Received % Xferd  Average Speed   Time     Time     Time  Current
                                         Dload  Upload   Total Spent   Left  Speed
100  138  100  138    0      0  410       0 --::-- --::-- --::--  411
100 57.3M  100 57.3M    0      0 2910k       0  0:00:20  0:00:20 --::-- 2571k
2025-10-28 08:37:50 [INFO] Starting Helm installation process...
2025-10-28 08:37:50 [INFO] Downloading the 'get-helm-3' script...
2025-10-28 08:37:50 [INFO] Making the script executable...
2025-10-28 08:37:50 [INFO] Executing the Helm installation. This might require 'sudo'
permissions depending on the default install path.
Downloading https://get.helm.sh/helm-v3.19.0-linux-amd64.tar.gz
Verifying checksum... Done.
...
HTTP request sent, awaiting response... 200 OK
Length: 11485368 (11M) [application/octet-stream]
Saving to: '/usr/local/bin/yq'

/usr/local/bin/yq          100%[=====] 10.95M  5.92MB/s    in 1.8s

2025-10-28 08:38:05 (5.92 MB/s) - '/usr/local/bin/yq' saved [11485368/11485368]

rocket@RS-PF4XAR20:/mnt/c/git/kubeterra$
```

Verify tools installed

```
rocket@RS-PF4XAR20:/mnt/c/git/kubeterra$ ls -l /usr/local/bin
total 128740
lrwxrwxrwx 1 root root      46 Oct 28 08:59 docker-compose -> /usr/libexec/docker/cli-
plugins/docker-compose
-rwxr-xr-x 1 root root 60211384 Oct 28 09:04 helm
-rwxr-xr-x 1 root root 60121272 Oct 28 09:04 kubectl
-rwxr-xr-x 1 root root 11485368 Oct 12 00:35 yq
```

03_install_k3s_rancher_terraform.sh

This script installs:

- **K3s and Rancher:** Installs **K3s**. If a previous version exists, it is uninstalled first.
- **Local Docker Registry:** Sets up a **Docker Registry** on port **5000** (local IP) and adjusts Docker/K3s daemons.
- **NFS Server:** Installs and configures the **NFS Server**, exporting `/home/rocket/mobius_data`.
- **Rancher WebUI:** Deploys the **Rancher WebUI** and outputs the command to get the initial password:

```
kubectl get secret --namespace cattle-system bootstrap-secret -o go-template='{{.data.bootstrapPassword|base64decode}}{{n}}'
```

```
rocket@RS-PF4XAR20:/mnt/c/git/kubeterra$ ./03_install_k3s_rancher_terraform.sh
2025-10-28 08:43:40 [INFO] ✅ WSL IP obtained: 172.24.226.241
2025-10-28 08:43:40 [INFO] ✅ Rancher Hostname: RS-PF4XAR20
2025-10-28 08:43:40 [INFO] 2025-10-28 08:43:40 [INFO] 🔒 1. Installing K3s...
[INFO] Using v1.33.5+k3s1 as release
...
[INFO] systemd: Enabling k3s unit
Created symlink /etc/systemd/system/multi-user.target.wants/k3s.service →
/etc/systemd/system/k3s.service.
[INFO] systemd: Starting k3s
2025-10-28 09:20:26 [INFO] =====
2025-10-28 09:20:26 [INFO] 🎉 INSTALLATION COMPLETE! 🎉
2025-10-28 09:20:26 [INFO] =====
2025-10-28 09:20:26 [INFO] 🌐 WSL IP: 172.24.226.241
2025-10-28 09:46:35 [INFO] 📜 Rancher Manager is being installed. To access it, edit your
Windows 'hosts' file
2025-10-28 09:46:35 [INFO]     (C:\Windows\System32\driversc\hosts) and add the following
line:
2025-10-28 09:46:35 [INFO]     172.24.226.241 rs-pf4xar20 rs-pf4xar20.rocketsoftware.com
2025-10-28 09:46:35 [INFO]     Then, access https://rs-pf4xar20
2025-10-28 09:46:35 [INFO] 2025-10-28 09:46:35 [INFO]
2025-10-28 09:46:35 [INFO] 🎯 Key Checks:
2025-10-28 09:46:35 [INFO]     - Cert-Manager Pods: kubectl get pods -n cert-manager
2025-10-28 09:46:35 [INFO]     - Rancher Pods: kubectl get pods -n cattle-system
2025-10-28 09:46:35 [INFO]     - NFS Provisioner Pods: kubectl get pods -l app=nfs-client-
provisioner
2025-10-28 09:46:35 [INFO]     - Terraform: terraform -version
2025-10-28 09:46:35 [INFO] =====
```

Notes

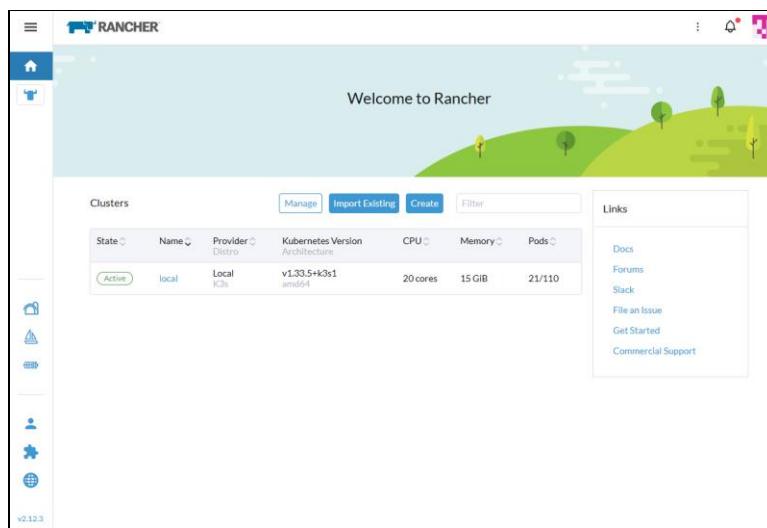
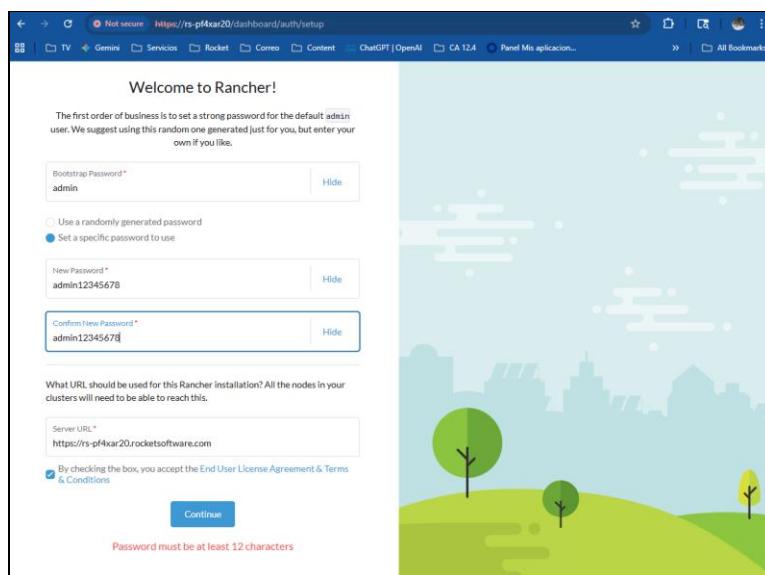
- K3s Kubernetes can be restarted with:

```
sudo systemctl restart k3s.service
```

- Add to (C:\Windows\System32\driversc\hosts) your hostname, and your WSL IP:

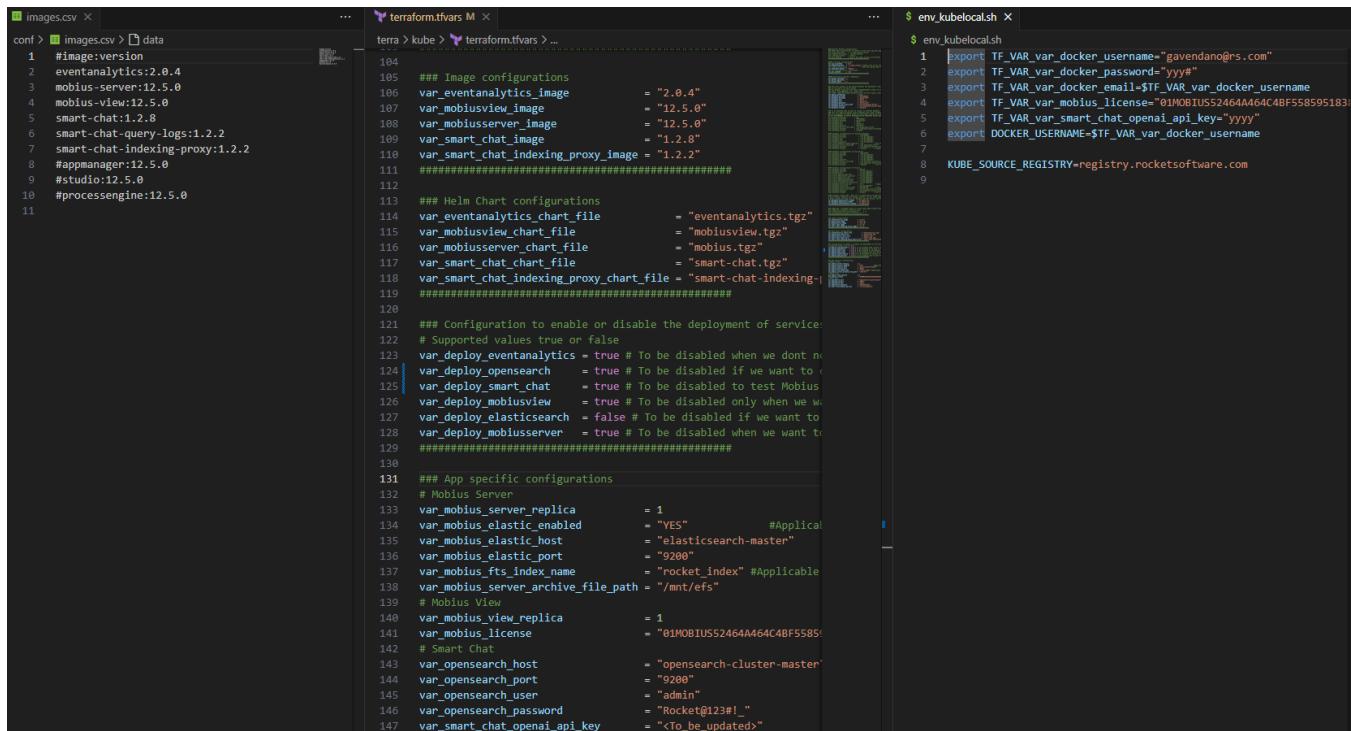
```
172.24.226.241 rs-pf4xar20 rs-pf4xar20.rocketsoftware.com
```

Access to Rancher Web UI (<https://rs-pf4xar20>)



04_configure_env_kubelocal.sh

- The environment variables **TF_VAR_*** will overwrite the variables in **terra/kube/terraform.tfvars** if they are setup before running '**terraform apply**'
- The variables **var_*_image** in **terra/kube/terraform.tfvars** must be coincident with **conf/images.csv** used in pull/push images.



The screenshot shows three terminal windows side-by-side:

- images.csv**: A CSV file with the following content:

```

1 #image:version
2 eventanalytics:2.0.4
3 mobius-server:12.5.0
4 mobius-view:12.5.0
5 smart-chat:1.2.8
6 smart-chat-query-logs:1.2.2
7 smart-chat-indexing-proxy:1.2.2
8 appmanager:12.5.0
9 studio:12.5.0
10 processengine:12.5.0
11

```

- terraform.tfvars**: A Terraform configuration file with variable assignments:

```

104
105     ## Image configurations
106     var_eventanalytics_image      = "2.0.4"
107     var_mobiusview_image          = "12.5.0"
108     var_mobiusserver_image        = "12.5.0"
109     var_smart_chat_image          = "1.2.8"
110     var_smart_chat_indexing_proxy_image = "1.2.2"
111
112     ## Helm Chart configurations
113     var_eventanalytics_chart_file = "eventanalytics.tgz"
114     var_mobiusview_chart_file    = "mobiusview.tgz"
115     var_mobiusserver_chart_file  = "mobius.tgz"
116     var_smart_chat_chart_file   = "smart-chat.tgz"
117     var_smart_chat_indexing_proxy_chart_file = "smart-chat-indexing-proxy.tgz"
118
119
120     ## Configuration to enable or disable the deployment of services
121     # Supported values true or false
122     var_deploy_eventalytics = true # To be disabled when we dont need it
123     var_deploy_opensearch   = true # To be disabled if we want to use another provider
124     var_deploy_smart_chat   = true # To be disabled to test Mobius
125     var_deploy_mobiusview   = true # To be disabled only when we want to use another provider
126     var_deploy_elasticsearch = false # To be disabled if we want to use another provider
127     var_deploy_mobiusserver = true # To be disabled when we want to use another provider
128
129
130     ## App specific configurations
131     # Mobius Server
132     var_mobius_server_replica      = 1
133     var_mobius_elastic_enabled     = "YES"           #Applicable
134     var_mobius_elastic_host        = "elasticsearch-master"
135     var_mobius_elastic_port        = "9200"
136     var_mobius_fts_index_name     = "rocket_index" #Applicable
137     var_mobius_server_archive_file_path = "/mnt/efs"
138
139     # Mobius View
140     var_mobius_view_replica       = 1
141     var_mobius_license            = "01MOBIUS52464A64C4BF5585"
142     # Smart Chat
143     var_opensearch_host           = "opensearch-cluster-master"
144     var_opensearch_port            = "9200"
145     var_opensearch_user            = "admin"
146     var_opensearch_password        = "Rocket@123#1_"
147     var_smart_chat_openai_api_key = "<To_be_updated>"

```

- env_kubelocal.sh**: A shell script with environment variable exports:

```

$ env_kubelocal.sh
1 export TF_VAR_var_docker_username="gavendano@ns.com"
2 export TF_VAR_var_docker_password="yyy"
3 export TF_VAR_var_docker_email=$TF_VAR_var_docker_username
4 export TF_VAR_var_mobius_license="01MOBIUS52464A64C4BF558595183"
5 export TF_VAR_var_smart_chat_openai_api_key="yyy"
6 export DOCKER_USERNAME=$TF_VAR_var_docker_username
7
8 KUBE_SOURCE_REGISTRY=registry.rocketsoftware.com
9

```

05_pullimages.sh

This script pull the images form registry.rocketsoftware.com and push into the local docker registry.

The script uses the variables:

- `TF_VAR_var_docker_username`
- `DOCKER_USERNAME`, and
- `KUBE_SOURCE_REGISTRY`

in `./env_kubelocal.sh`

```
rocket@RS-PF4XAR20:/mnt/c/git/kubeterra$ source ./env_kubelocal.sh
rocket@RS-PF4XAR20:/mnt/c/git/kubeterra$ ./05_pullimages.sh

2025-10-28 10:21:09 [INFO] 🚀 Executing Pull, Tag, and Push...
Do you want to pull images? Y
2025-10-28 11:54:46 [INFO] User answered 'Y' to question: Do you want to pull images?
2025-10-28 11:54:46 [INFO] Pulling images from registry.rocketsoftware.com using
/mnt/c/git/kubeterra/conf/images.csv
Docker password for gavendano@rs.com :
*****
>>>> Pulling registry.rocketsoftware.com/eventanalytics:2.0.4
>>>> Pulling registry.rocketsoftware.com/mobius-server:12.5.0
...
*****
** Using default file: /mnt/c/git/kubeterra/conf/images.csv
*****
>>>> Tagging registry.rocketsoftware.com/eventanalytics:2.0.4 to
172.24.226.241:5000/eventanalytics:2.0.4
>>>> Tagging registry.rocketsoftware.com/mobius-server:12.5.0 to 172.24.226.241:5000/mobius-
server:12.5.0
...
Do you want to push the images? Y
Login Succeeded
>>>> Pushing 172.24.226.241:5000/eventanalytics:2.0.4
>>>> Pushing 172.24.226.241:5000/mobius-server:12.5.0
...
```

This script uses `./tools.sh` explore the other options

06_terraform.sh

- This script creates 'mobius' namespace, and deploy using terraform scripts in **terra/kube**
- **terra/kube/terraform.log** contains all the console messages and errors
- In a separate terminal it's possible to check the status of the deployment using **kubectl** command.

```
rocket@RS-PF4XAR20:/mnt/c/git/kubeterra$ ./06_terraform.sh
[INFO] Creating namespace mobius...
namespace/mobius created
"opensearch" already exists with the same configuration, skipping
Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "nfs-subdir-external-provisioner" chart repository
...
Update Complete. *Happy Helming!*
2025-10-28 16:57:36 [INFO] Initializing Terraform...
Initializing the backend...
Initializing provider plugins...
- Reusing previous version of cyrilgdn/postgresql from the dependency lock file
...
Terraform has been successfully initialized!

You have successfully deployed the Mobius Stack in Kube. Please use the below command to get
Mobius View URL.

for pod in $(kubectl get pods -o name -n mobius | grep mobiusview); do NODE_PORT=$(kubectl
get -o jsonpath=".spec.ports[0].nodePort" services mobiusview -n mobius); NODE_IP=$(kubectl
describe $pod -n mobius | grep "Node:" | cut -d'/' -f2 | awk '{print $1}'); echo
"http://$NODE_IP:$NODE_PORT/mobius/"; done

EOT
rocket@RS-PF4XAR20:/mnt/c/git/kubeterra$ for pod in $(kubectl get pods -o name -n mobius |
grep mobiusview); do NODE_PORT=$(kubectl get -o jsonpath=".spec.ports[0].nodePort" services
mobiusview -n mobius); NODE_IP=$(kubectl describe $pod -n mobius | grep "Node:" | cut -d'/' -
f2 | awk '{print $1}'); echo "http://$NODE_IP:$NODE_PORT/mobius/"; done
http://172.24.226.241:31355/mobius/
```

mobius repository is not mapped by default.

