

TUGAS AKHIR

KOMPUTASI UBIQUITOUS DAN PERVASIF

INSTALASI DAN KONFIGURASI DASHBOARD IOTA DOCKER



DISUSUN OLEH :

MERI JUWITA (09021182025002)

MUHAMMAD FAISAL AKBAR (09021282025097)

ZINEDINE MAYLANO (09021182025011)

JURUSAN TEKNIK INFORMATIKA

FAKULTAS ILMU KOMPUTER

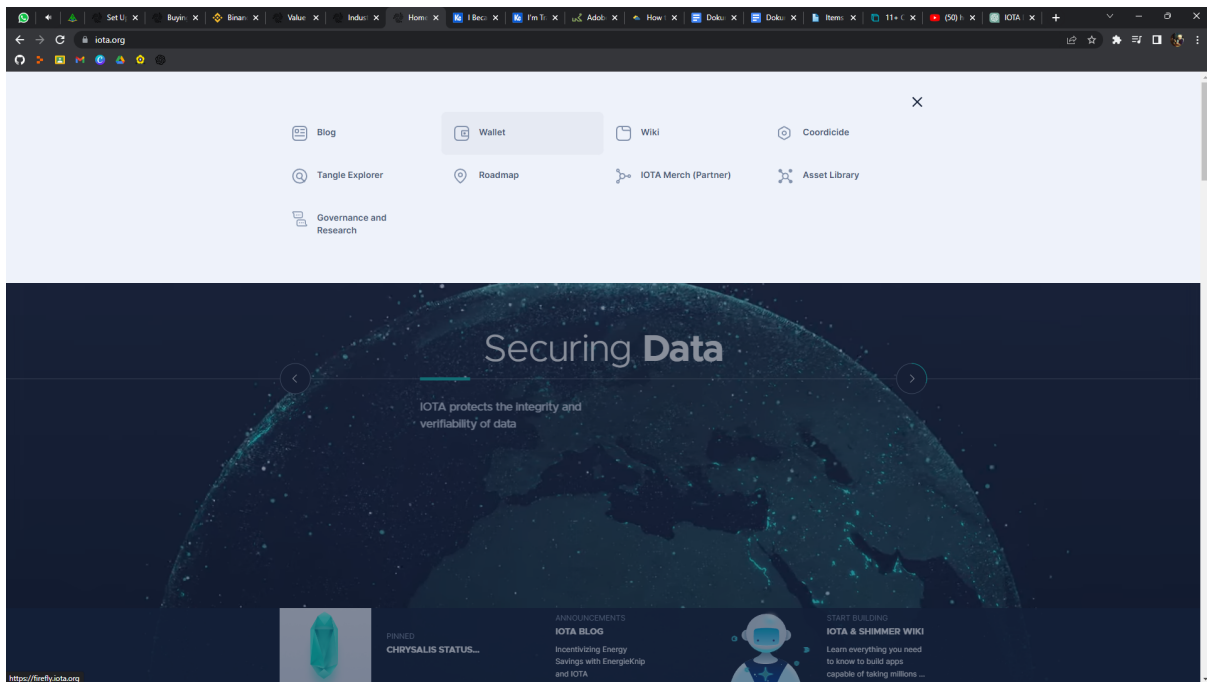
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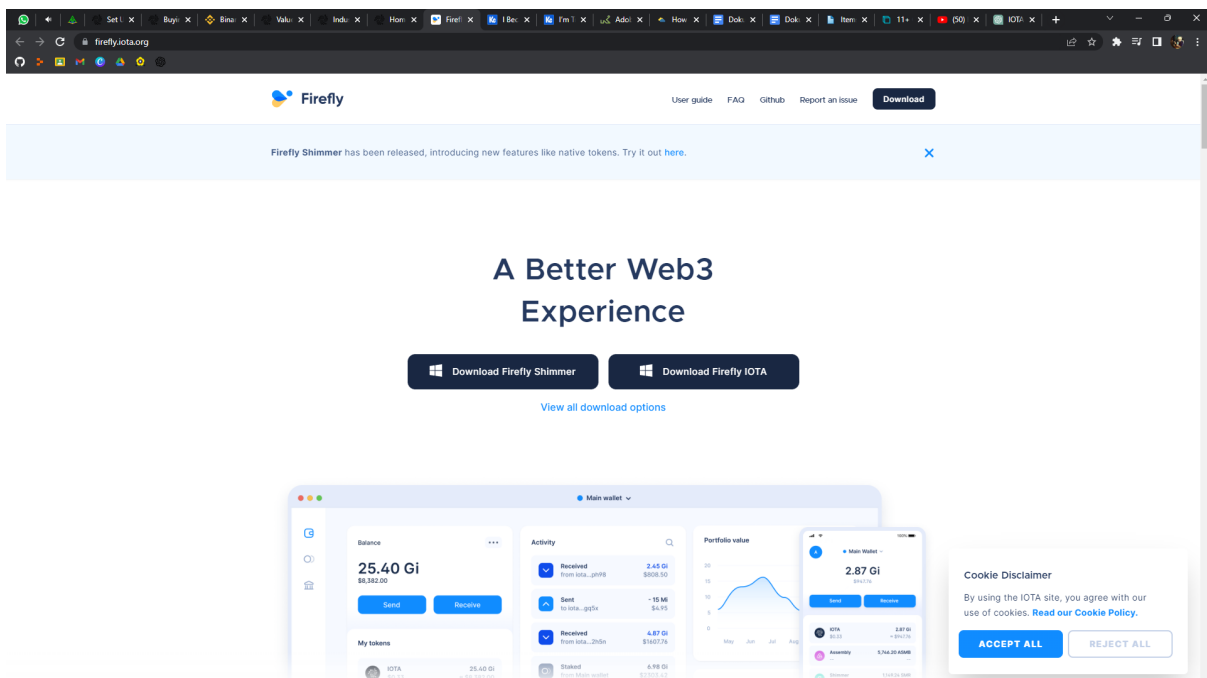
Intalasi IOTA Wallet

Firefly IOTA adalah wallet kriptocurrency yang dirancang khusus untuk menyimpan dan mengelola IOTA. Berikut langkah-langkah untuk instalasi Firefly IOTA.

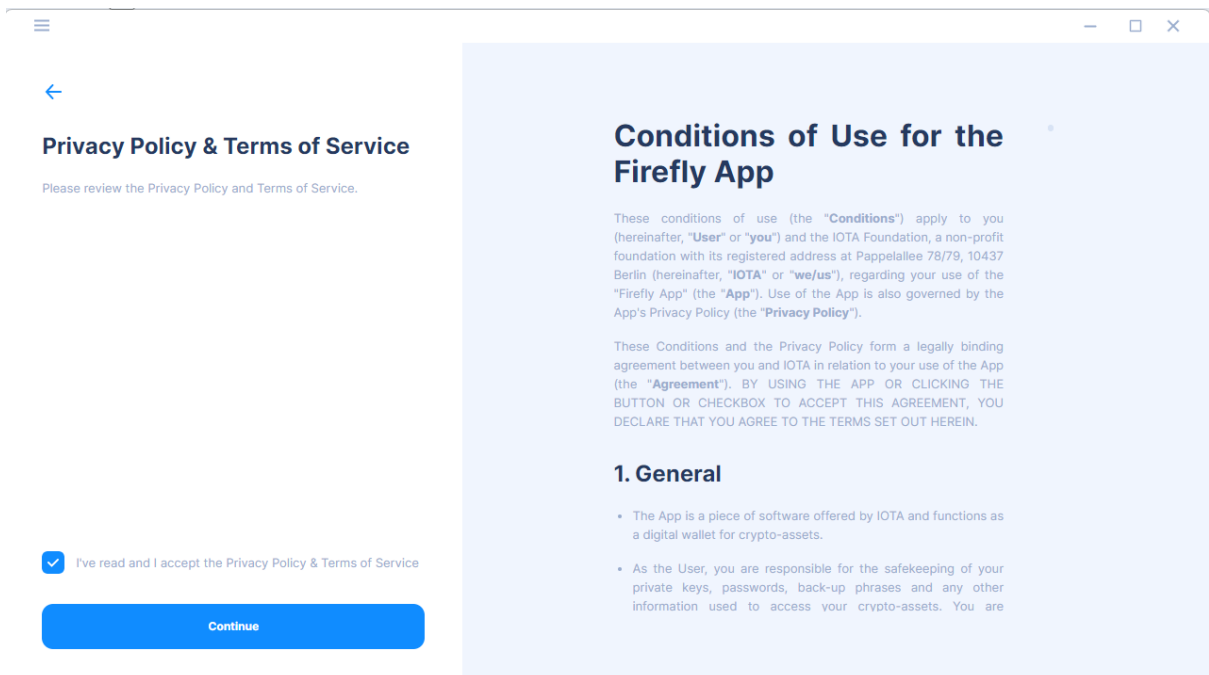
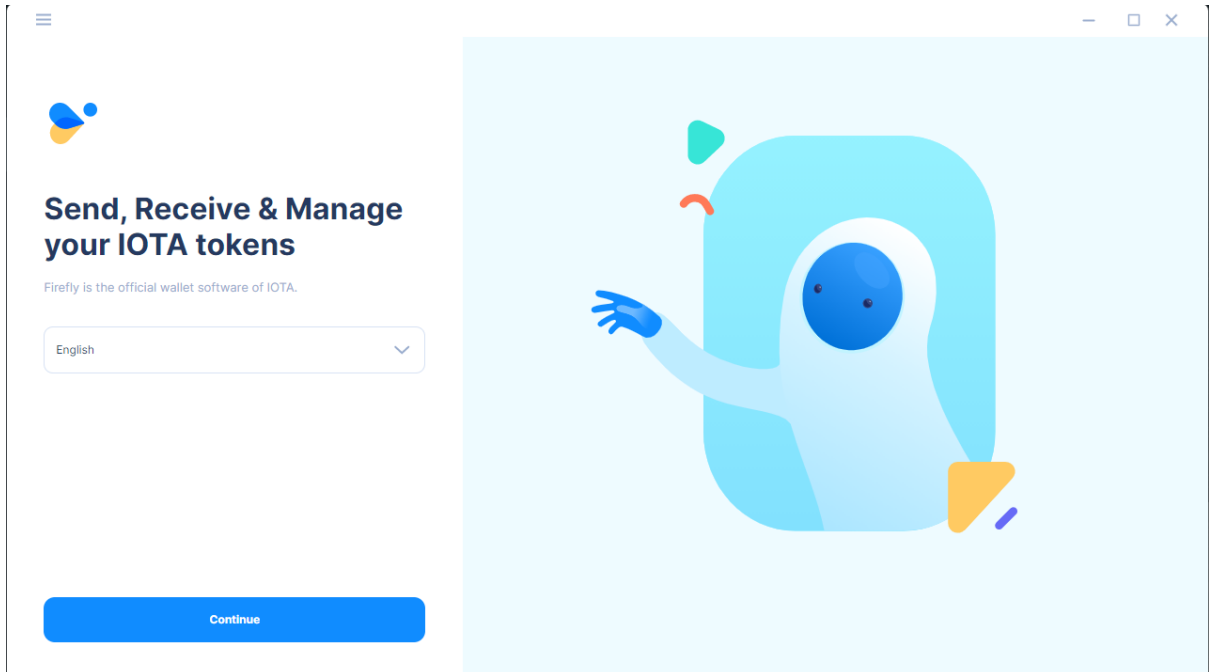
- Download IOTA wallet di <https://www.iota.org/>.
- Pada menu Explore IOTA tekan Wallet.

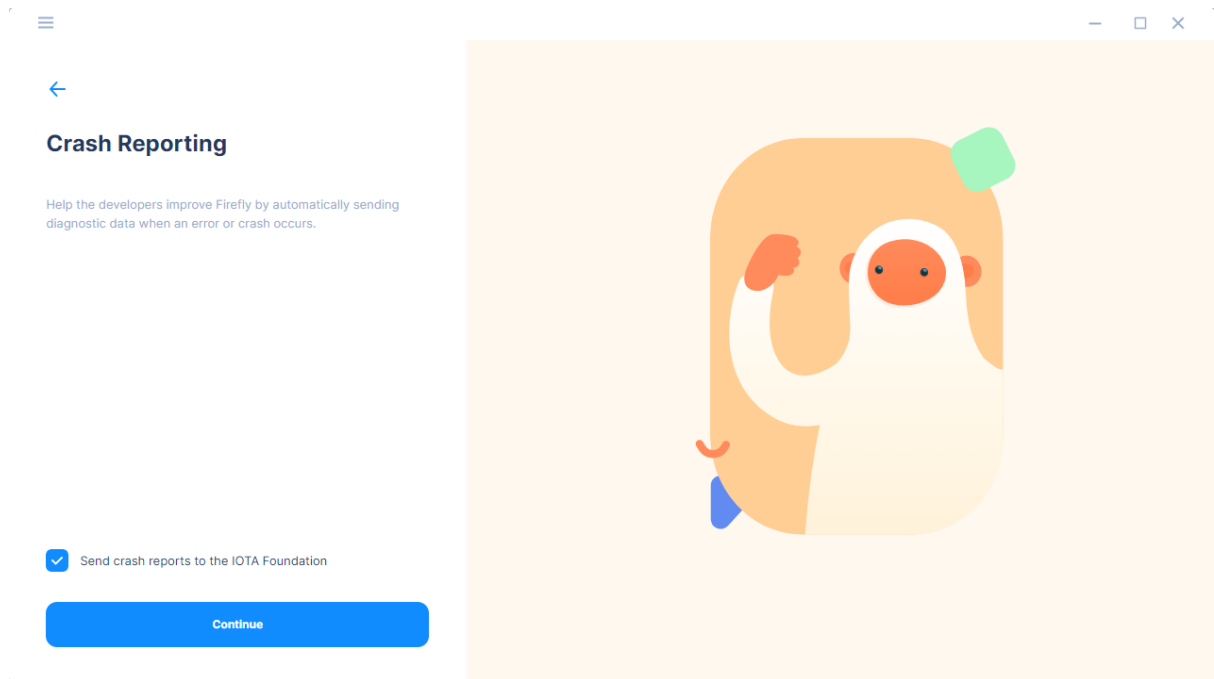


- Tekan Download Firefly IOTA untuk memulai download.

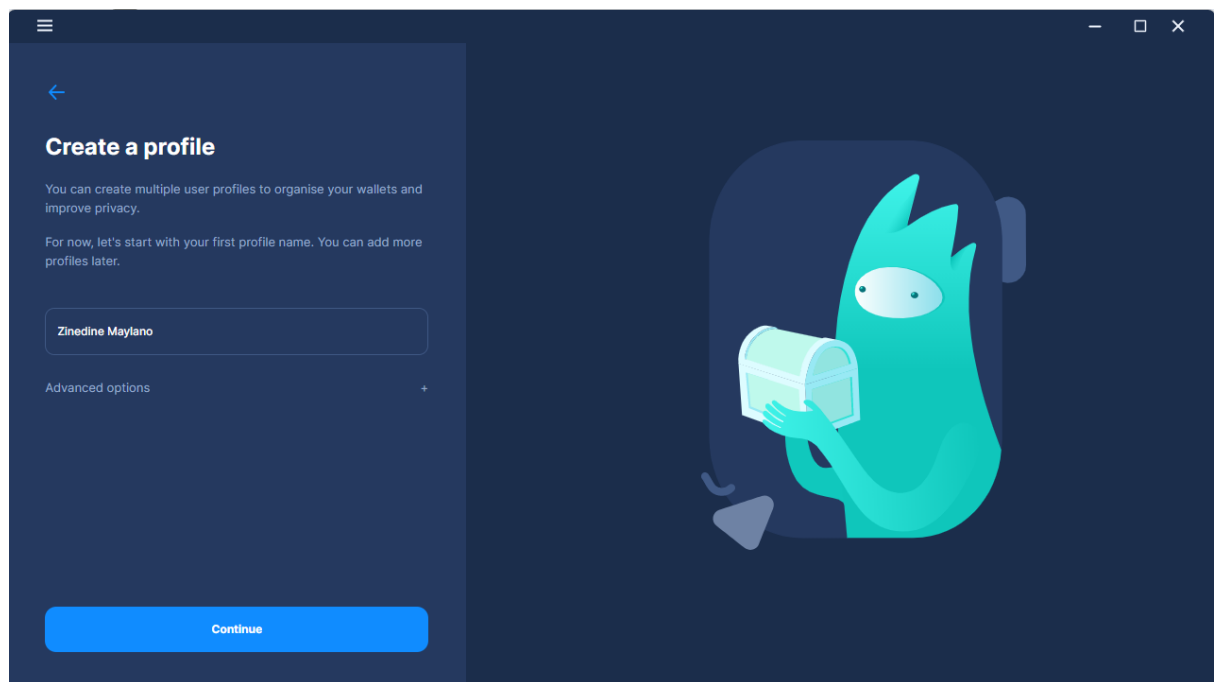


- Buka file yang telah didownload untuk mulai proses instalasi

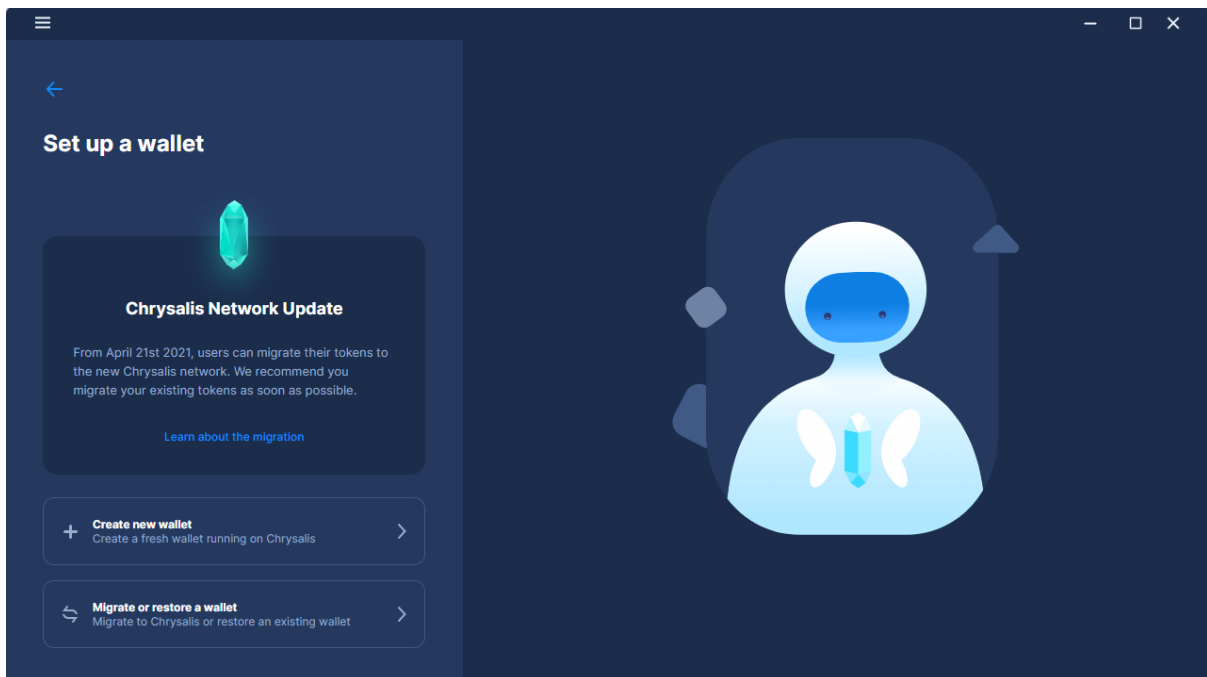




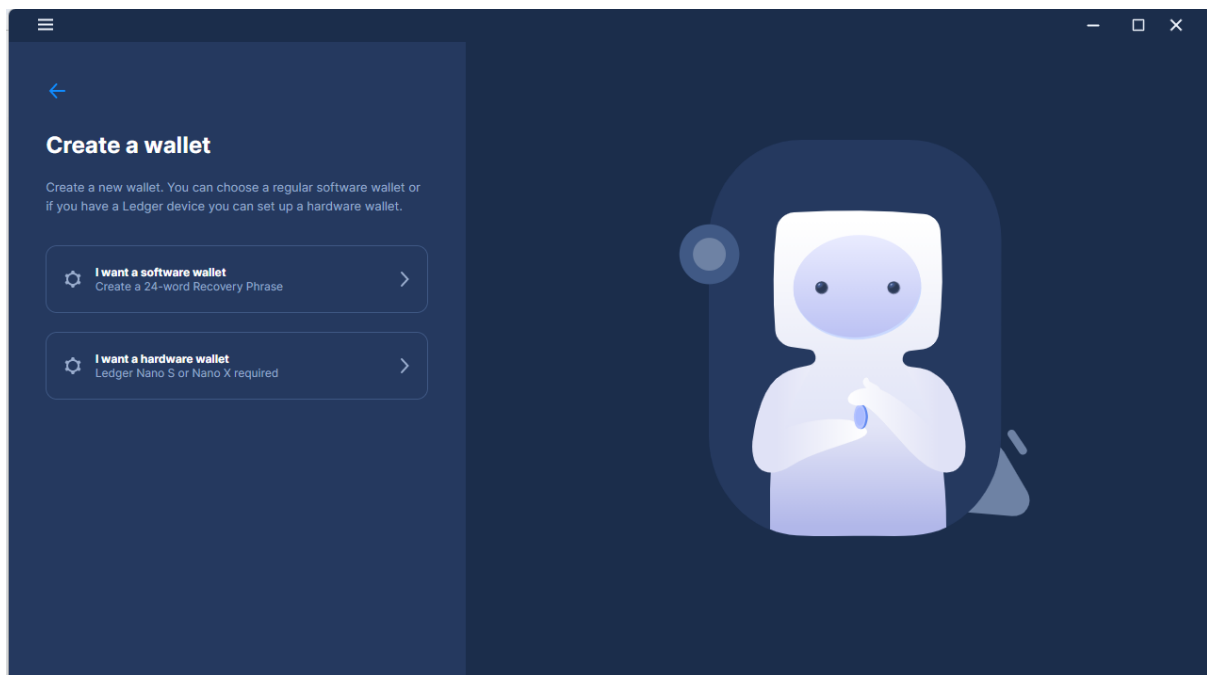
- Buat akun dengan membuat nama profile.



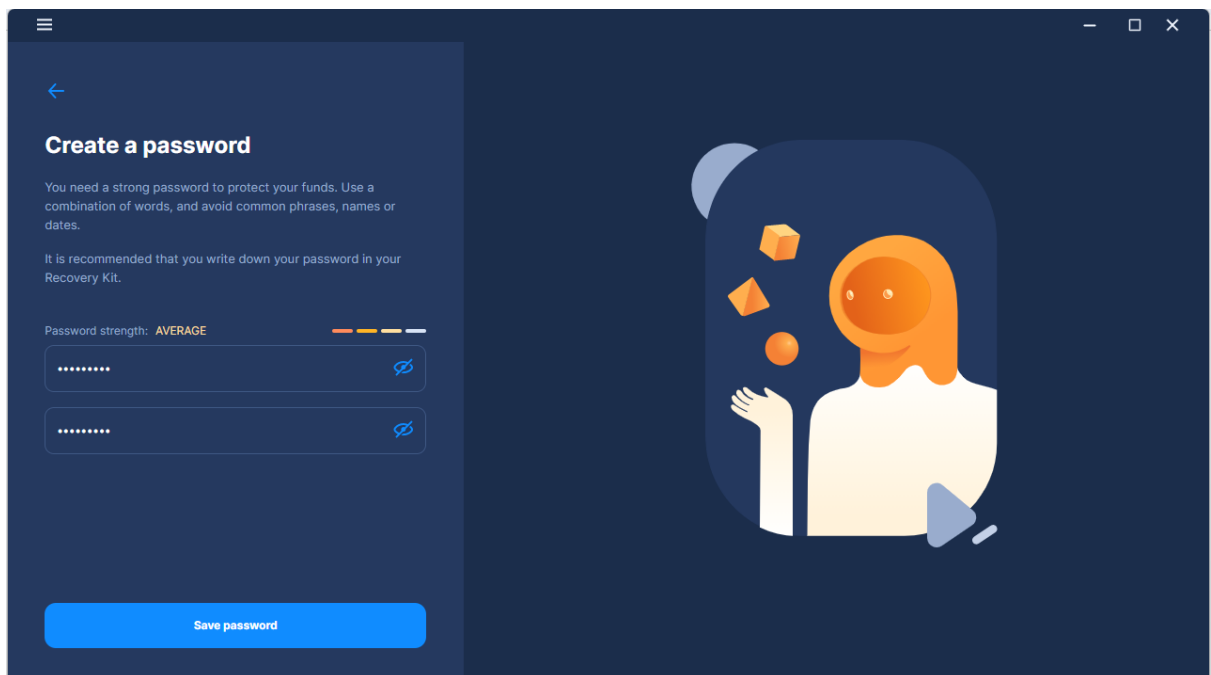
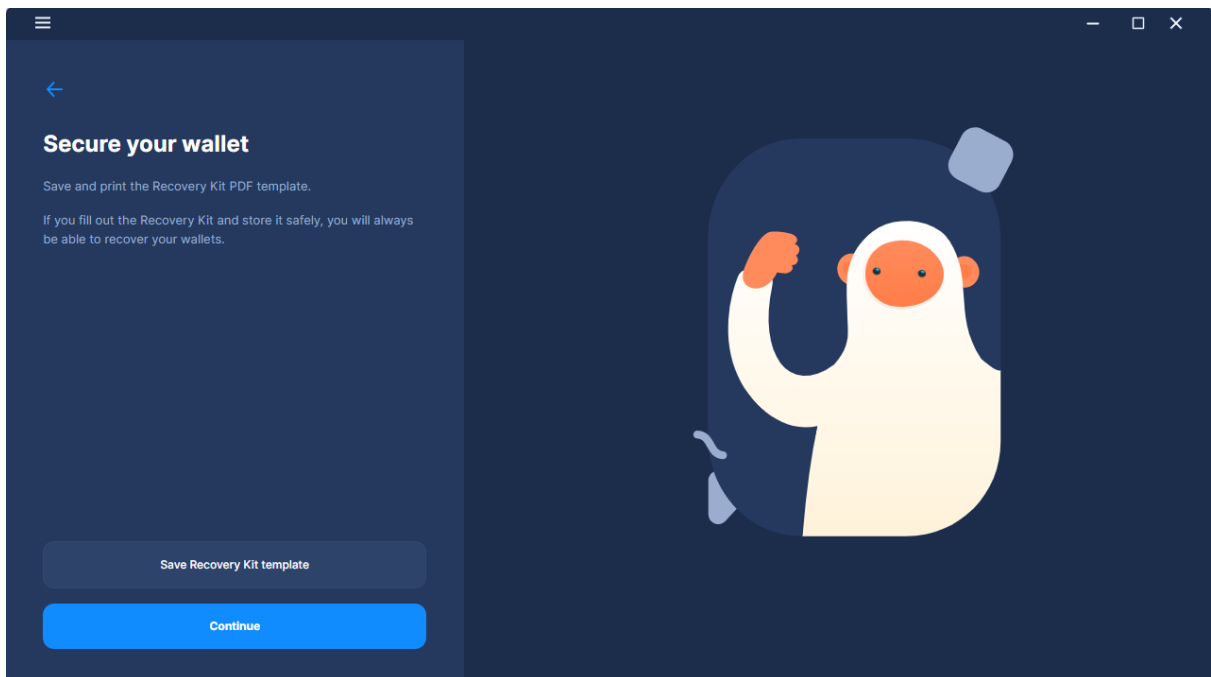
- Pilih Create new wallet untuk membuat wallet baru

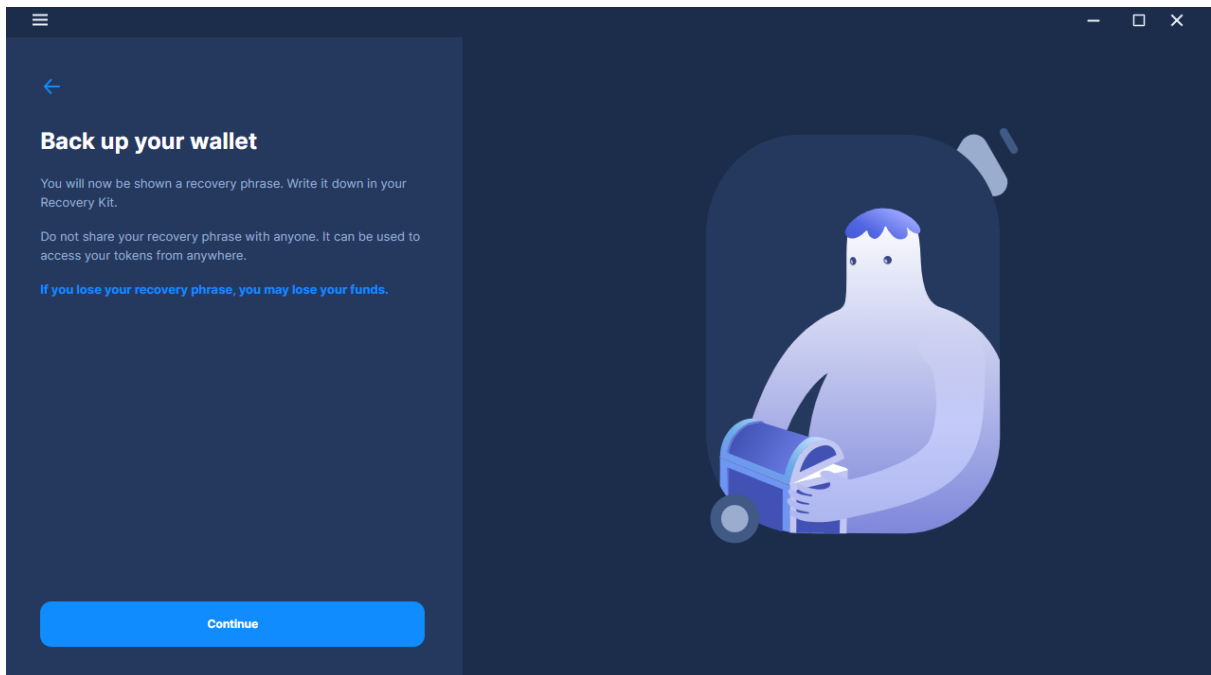
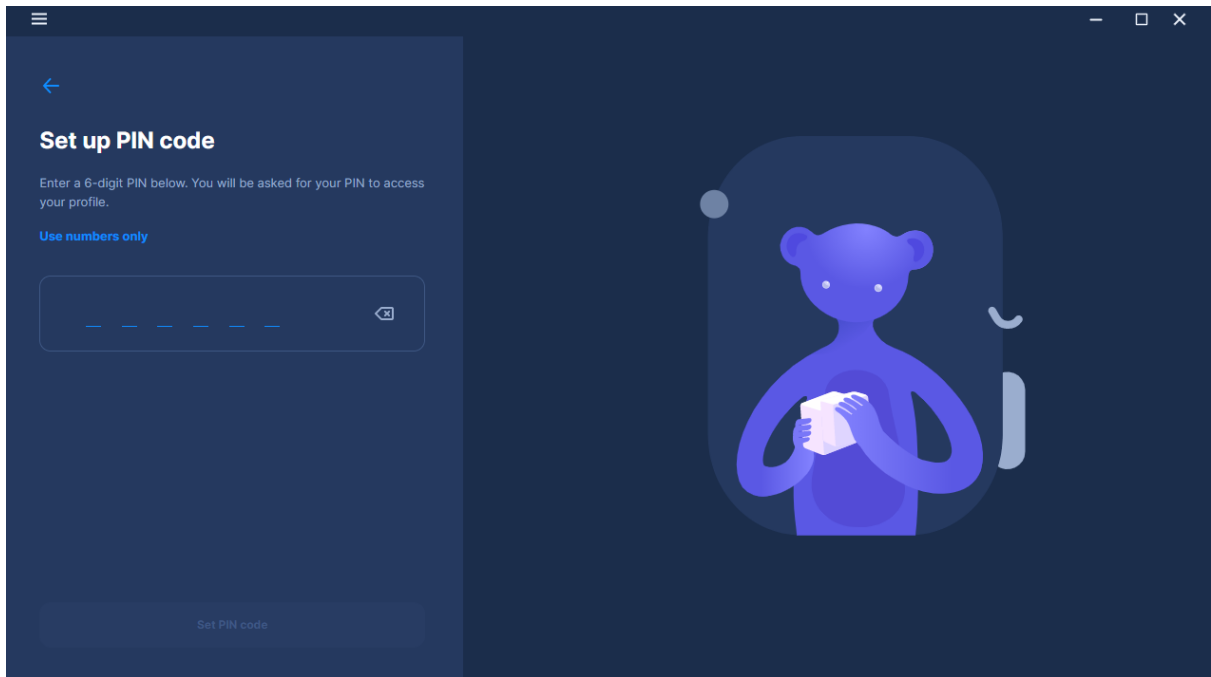


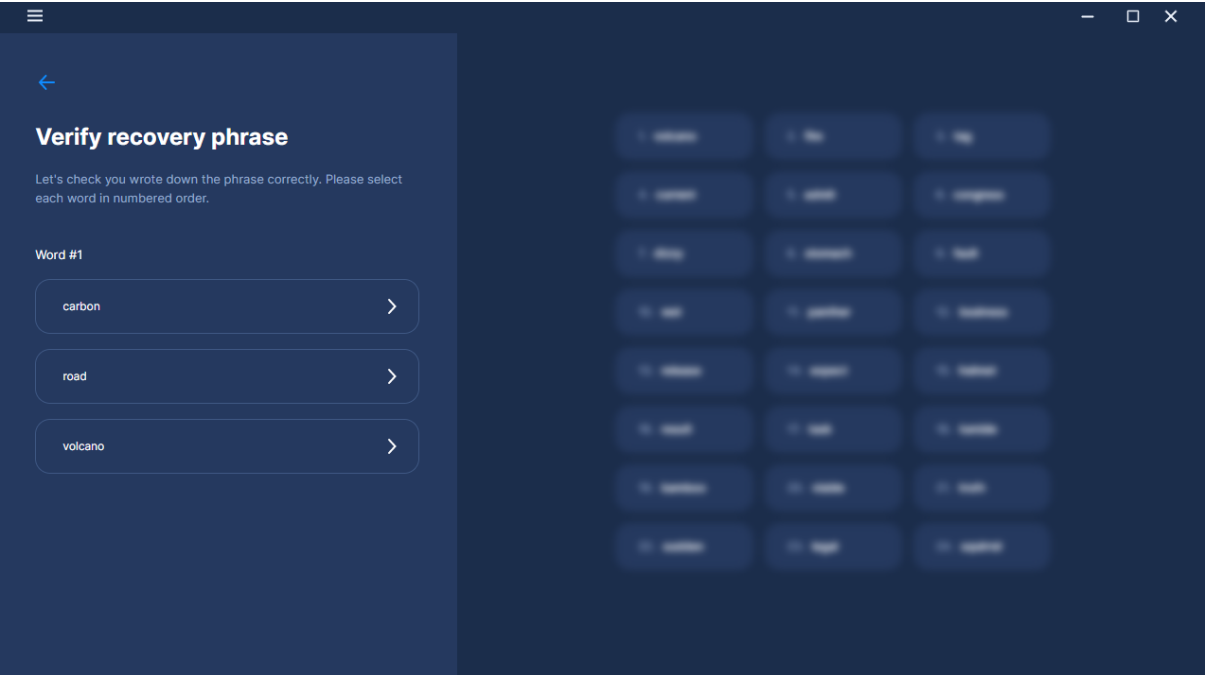
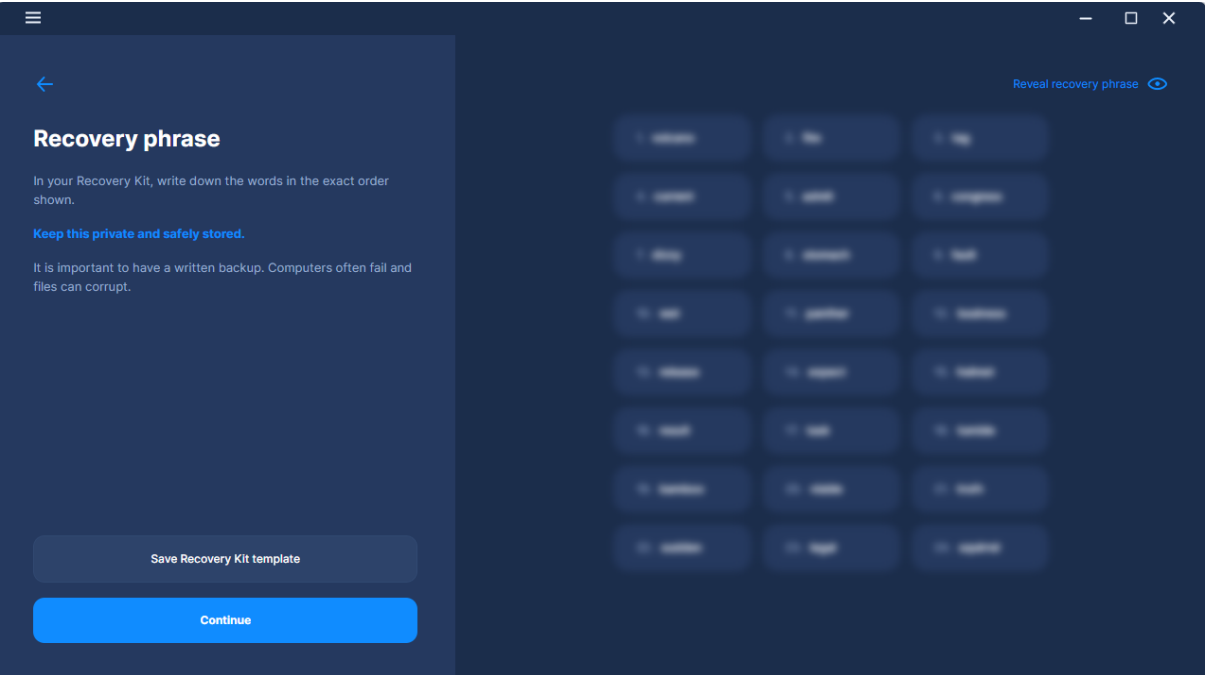
- Pilih jenis wallet.

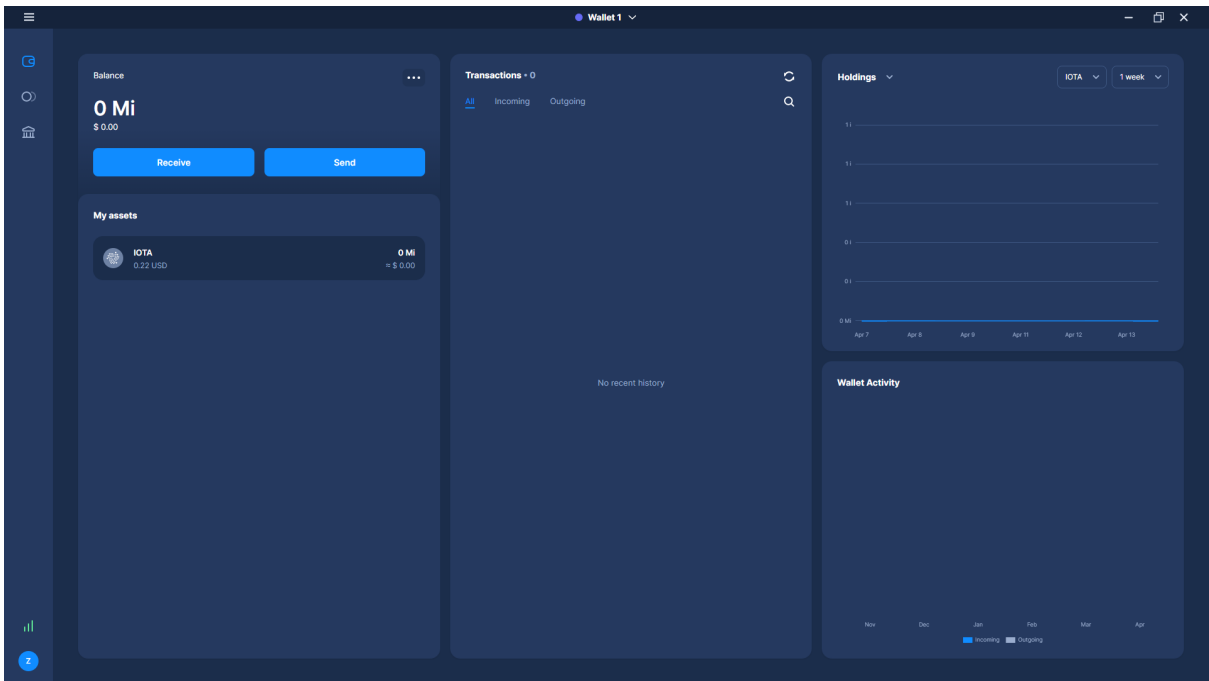
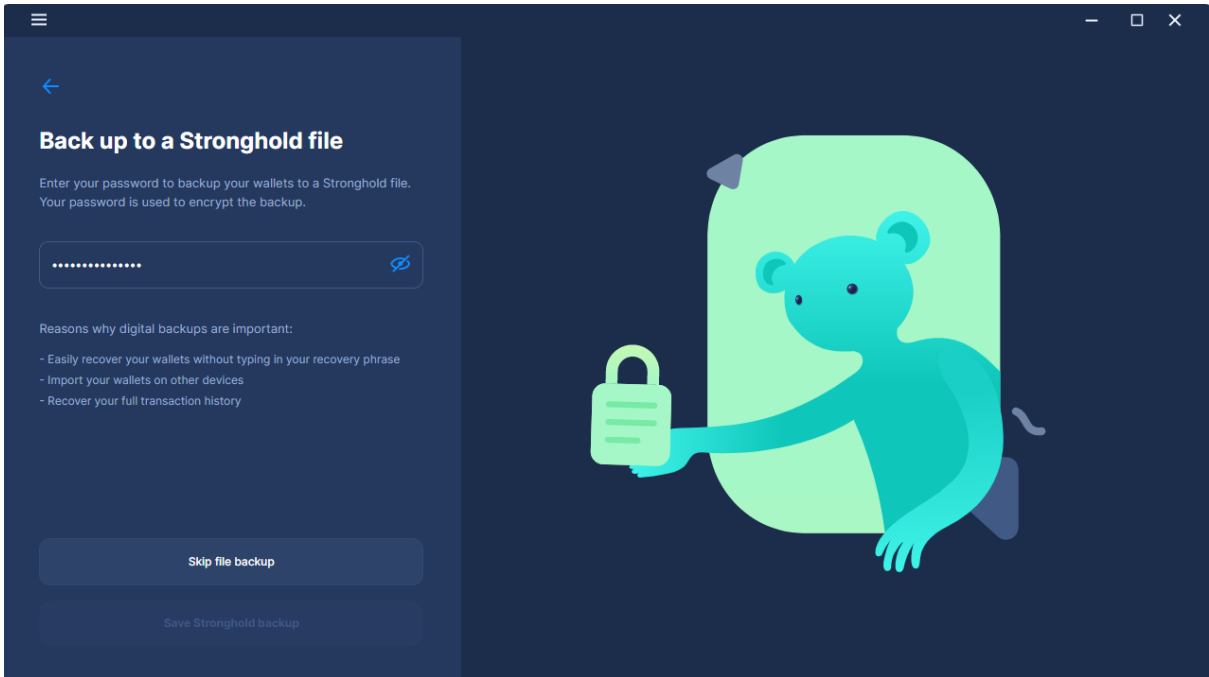


- Amankan wallet

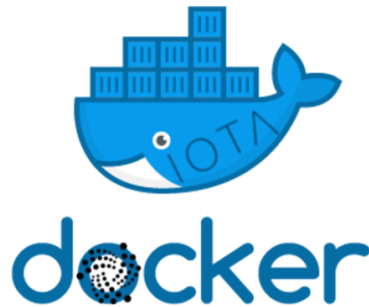








Instalasi Docker dan IOTA



Docker adalah **sistem operasi (atau waktu proses) untuk kontainer**. Mesin Docker diinstal pada setiap server tempat Anda ingin menjalankan kontainer dan menyediakan sekumpulan perintah sederhana yang dapat digunakan untuk membuat, memulai, atau menghentikan kontainer.

- bukak <https://www.docker.com/>

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<https://www.docker.com/blog/key-insights-from-stack-overflow-2022-developer-survey/>

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Learn / Windows / Development environment / WSL /

Install Linux on Windows with WSL

Article • 01/12/2023 • 8 contributors

Feedback

Developers can access the power of both Windows and Linux at the same time on a Windows machine. The Windows Subsystem for Linux (WSL) lets developers install a Linux distribution (such as Ubuntu, OpenSUSE, Kali, Debian, Arch Linux, etc) and use Linux applications, utilities, and Bash command-line tools directly on Windows, unmodified, without the overhead of a traditional virtual machine or dualboot setup.

Prerequisites

You must be running Windows 10 version 2004 and higher (Build 19041 and higher) or Windows 11 to use the commands below. If you are on earlier versions please see the [manual install page](#).

Install WSL command

You can now install everything you need to run WSL with a single command. Open PowerShell or Windows Command Prompt in **administrator** mode by right-clicking and selecting "Run as administrator", enter the `wsl --install` command, then restart your machine.

```
PowerShell wsl --install
```

Copy

This command will enable the features necessary to run WSL and install the Ubuntu distribution of Linux. (This default distribution can be changed).

If you're running an older build, or just prefer not to use the install command and would like step-by-step directions, see [WSL manual installation steps for older versions](#).

The first time you launch a newly installed Linux distribution, a console window will open and you'll be asked to wait for files to de-compress and be stored on your machine. All future launches should take less than a second.

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[Note](#)

In this article

- Prerequisites
- Install WSL command
- Change the default Linux distribution installed
- Set up your Linux user info

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```
Administrator: Windows PowerShell
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

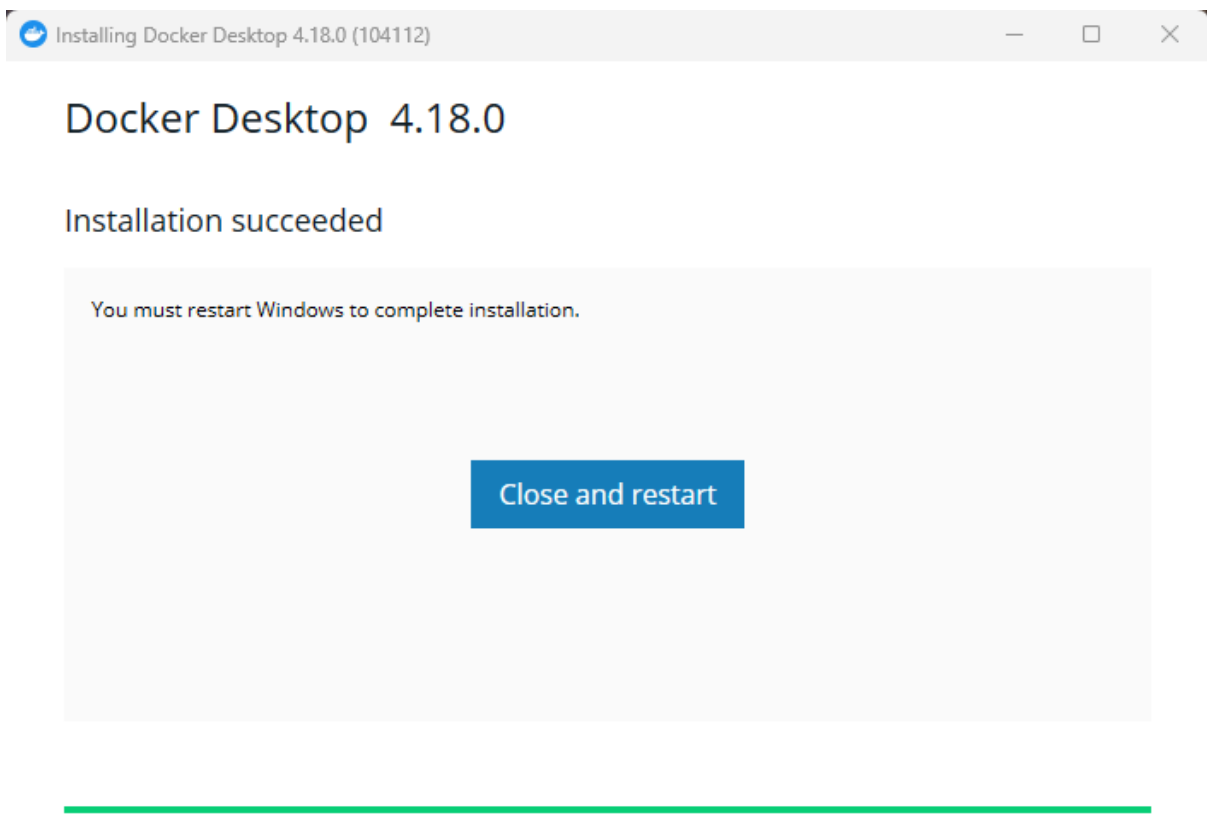
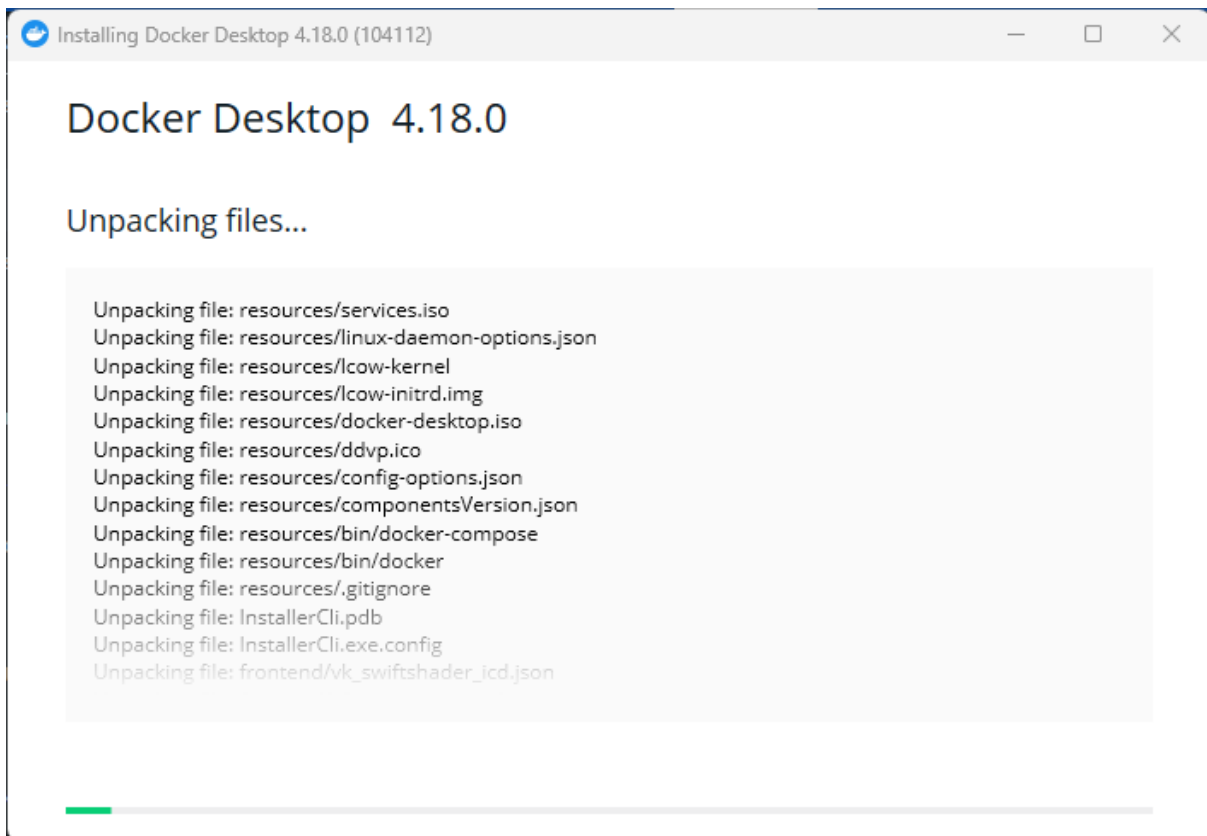
PS C:\Users\rhaider> wsl --install
Installing: Virtual Machine Platform
Virtual Machine Platform has been installed.
Installing: Windows Subsystem for Linux
Windows Subsystem for Linux has been installed.
Downloading: Ubuntu
The requested operation is successful. Changes will not be effective until the system is
rebooted.
PS C:\Users\rhaider>
```

```
C:\Users\Zen>wsl --install
The requested operation requires elevation.
Installing: Windows Subsystem for Linux
Windows Subsystem for Linux has been installed.
Installing: Ubuntu
Ubuntu has been installed.
The requested operation is successful. Changes will not be effective until the system is rebooted.
```

```
C:\Users\Zen>wsl --version
WSL version: 1.2.0.0
Kernel version: 5.15.90.1
WSLg version: 1.0.51
MSRDC version: 1.2.3770
Direct3D version: 1.608.2-61064218
DXCore version: 10.0.25131.1002-220531-1700.rs-onecore-base2-hyp
Windows version: 10.0.22621.1555
```

```
C:\Users\Zen>wsl --update
Checking for updates.
The most recent version of Windows Subsystem for Linux is already installed.
```

```
C:\Users\Zen>wsl --set-default-version 2
For information on key differences with WSL 2 please visit https://aka.ms/wsl2
The operation completed successfully.
```



```
Command Prompt
Microsoft Windows [Version 10.0.22621.1555]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Zen>git clone https://github.com/iotaledger/bee
Cloning into 'bee'...
remote: Enumerating objects: 33340, done.
remote: Counting objects: 100% (285/285), done.
remote: Compressing objects: 100% (205/205), done.
remote: Total 33340 (delta 117), reused 204 (delta 78), pack-reused 33055
Receiving objects: 100% (33340/33340), 15.52 MiB | 1.15 MiB/s, done.
Resolving deltas: 100% (23457/23457), done.

C:\Users\Zen>
```

```
C:\Users\Zen\bee>docker pull iotaledger/bee:latest && docker tag iotaledger/bee:latest bee:latest
latest: Pulling from iotaledger/bee
36698cfa5275: Pull complete
6a8659ec8836: Pull complete
a1f1879bb7de: Pull complete
bb14e507de00: Pull complete
023d1fb2c19b: Pull complete
aa9fe1f7c3a9: Pull complete
183d7be5fbfd: Pull complete
2e4d624d5d2a: Pull complete
4f4fb700ef54: Pull complete
Digest: sha256:b3216b65a2190e766886de679e9e864a98f30be05b5427a77ee986c15f94415f
Status: Downloaded newer image for iotaledger/bee:latest
docker.io/iotaledger/bee:latest
```

Docker Desktop

Upgrade plan

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A container packages up code and its dependencies so the application runs quickly and reliably from one computing environment to another. [Learn more](#)

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☐ ☐ ☐ Only show running containers

☐	Name	Image	Status	Port(s)	Last started	Actions
☐	 laughing_bell af1d3d54be80	iotaledger/bee:latest	Running		8 minutes ago	■ ⋮ 🗑️
☐	 fervent_mccarthy bf0dd48a6d3b	iotaledger/bee:latest	Running		9 minutes ago	■ ⋮ 🗑️

Showing 2 items

🐳

RAM 3.74 GB CPU 0.35% 🔌 Connected to Hub

v4.18.0

Set Up a node for IOTA Transaction

Untuk adanya transaksi pada IOTA, maka diperlukannya Node IOTA.

Installing from Source :

```
Administrator: Windows PowerShell
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
PS C:\WINDOWS\system32> Set-ExecutionPolicy Bypass -Scope Process -Force; [System.Net.ServicePointManager]::SecurityProtocol = [System.Net.ServicePointManager]::SecurityProtocol -bor 3072; Iex ((New-Object System.Net.WebClient).DownloadString('https://chocolatey.org/install.ps1'))
Forcing web requests to allow TLS v1.2 (Required for requests to Chocolatey.org)
Setting latest version of the Chocolatey package for download.
Not using proxy.
Getting Chocolatey from https://community.chocolatey.org/api/v2/package/chocolatey/1.3.1.
Downloading https://community.chocolatey.org/api/v2/package/chocolatey/1.3.1 to C:\Users\Zen\AppData\Local\Temp\chocolatey\chocoInstall\chocolatey.zip
Extracting C:\Users\Zen\AppData\Local\Temp\chocolatey\chocoInstall\chocolatey.zip to C:\Users\Zen\AppData\Local\Temp\chocolatey\chocoInstall
Installing Chocolatey on the local machine
Creating ChocolateyInstall as an environment variable (targeting 'Machine')
Setting ChocolateyInstall to 'C:\ProgramData\chocolatey'
WARNING: It's very likely you will need to close and reopen your shell
before you can use choco.
Restricting write permissions to Administrators
We are setting up the Chocolatey package repository.
The packages themselves go to 'C:\ProgramData\chocolatey\lib'
(i.e. C:\ProgramData\chocolatey\lib\yourPackageName).
A shim file for the command line goes to 'C:\ProgramData\chocolatey\bin'
and points to an executable in 'C:\ProgramData\chocolatey\lib\yourPackageName'.
Creating Chocolatey folders if they do not already exist.

WARNING: You can safely ignore errors related to missing log files when
  upgrading from a version of Chocolatey less than 0.9.9.
  'Batch file could not be found' is also safe to ignore.
  'The system cannot find the file specified' - also safe.
chocolatey.nupkg file not installed in lib.
Attempting to locate it from bootstrapper.
PATH environment variable does not have C:\ProgramData\chocolatey\bin in it. Adding...
WARNING: Not setting tab completion: Profile file does not exist at
'D:\Documents\WindowsPowerShell\Microsoft.PowerShell_profile.ps1'.
Chocolatey (choco.exe) is now ready.
You can call choco from anywhere, command line or powershell by typing choco.
Run choco /? for a list of functions.
You may need to shut down and restart powershell and/or consoles
first prior to using choco.
Ensuring Chocolatey commands are on the path
Ensuring chocolatey.nupkg is in the lib folder
PS C:\WINDOWS\system32>
```

Chocolatey installed 7/7 packages.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).

Installed:

- llvm v16.0.1
- chocolatey-core.extension v1.4.0
- cmake v3.26.3
- cmake.install v3.26.3
- git.install v2.40.0
- chocolatey-compatibility.extension v1.0.0
- git v2.40.0

PS C:\WINDOWS\system32>

```
PS C:\WINDOWS\system32> rustup update
info: syncing channel updates for 'stable-x86_64-pc-windows-msvc'
info: checking for self-updates

stable-x86_64-pc-windows-msvc unchanged - rustc 1.68.2 (9eb3afe9e 2023-03-27)

info: cleaning up downloads & tmp directories
```

Compiling the Bee Node :

```
PS C:\WINDOWS\system32> git clone https://github.com/iotaedger/bee.git --branch mainnet-develop
Cloning into 'bee'...
remote: Enumerating objects: 33340, done.
remote: Counting objects: 100% (285/285), done.
remote: Compressing objects: 100% (205/205), done.
remote: Total 33340 (delta 117), reused 204 (delta 78), pack-reused 33055
Receiving objects: 100% (33340/33340), 15.52 MiB | 1.21 MiB/s, done.
Resolving deltas: 100% (23457/23457), done.
Updating files: 100% (794/794), done.
```

```
Administrator: Windows PowerShell
PS C:\WINDOWS\system32\bee\bee-node> cargo build --release
Compiling proc-macro2 v1.0.36
Compiling syn v1.0.86
Compiling winapi v0.3.9
Compiling serde v1.0.136
Compiling serde_derive v1.0.136
Compiling memchr v2.4.1
Compiling typenum v1.15.0
Compiling log v0.4.14
Compiling generic-array v0.14.5
Compiling libc v0.2.115
Compiling ahash v0.7.6
Compiling pin-project-lite v0.2.8
error: linker `link.exe` not found
|
= note: program not found

note: the msvc targets depend on the msvc linker but `link.exe` was not found

note: please ensure that Visual Studio 2017 or later, or Build Tools for Visual Studio were installed with the Visual C++ option.

note: VS Code is a different product, and is not sufficient.

error: could not compile `generic-array` due to previous error
warning: build failed, waiting for other jobs to finish...
error: could not compile `log` due to previous error
error: could not compile `ahash` due to previous error
error: could not compile `serde_derive` due to previous error
error: could not compile `memchr` due to previous error
error: could not compile `serde` due to previous error
error: could not compile `syn` due to previous error
error: could not compile `libc` due to previous error
error: could not compile `proc-macro2` due to previous error
error: could not compile `winapi` due to previous error
error: could not compile `typenum` due to previous error
PS C:\WINDOWS\system32\bee\bee-node> cp config.template.json config.json
cp : Cannot find path 'C:\WINDOWS\system32\bee\bee-node\config.template.json' because it does not exist.
At line:1 char:1
+ cp config.template.json config.json
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (C:\WINDOWS\syst...g.template.json:String) [Copy-Item], ItemNotFoundExce
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.CopyItemCommand

PS C:\WINDOWS\system32\bee\bee-node>
```

```
Windows PowerShell
PS C:\Users\Zen\bee\bee-node> cargo build --release --features dashboard
Compiling primitive-types v0.11.1
Compiling hyper v0.14.26
Compiling tower-http v0.3.4
Compiling libp2p-core v0.35.1
Compiling inx v1.0.0-beta.8
Compiling semver v1.0.14
Compiling windows_x86_64_msvc v0.36.1
Compiling num-integer v0.1.45
Compiling clang-sys v1.4.0
Compiling native-tls v0.2.10
Compiling schannel v0.1.20
Compiling minimal-lexical v0.2.1
error: failed to run custom build command for `libp2p-core v0.35.1`

Caused by:
  process didn't exit successfully: 'C:\Users\Zen\bee\target\release\build\libp2p-core-40b9348a5d74f88a\build-script-build' (exit code: 101)
  --- stderr
  thread 'main' panicked at '
  Could not find 'protoc' installation and this build crate cannot proceed without
  this knowledge. If 'protoc' is installed and this crate had trouble finding
  it, you can set the 'PROTOC' environment variable with the specific path to your
  installed 'protoc' binary.

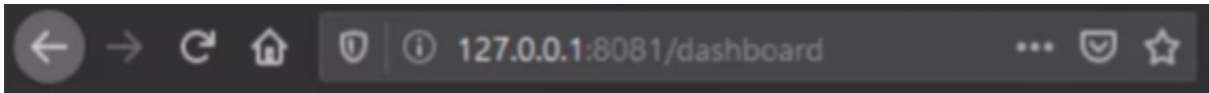
  For more information: https://docs.rs/prost-build/#sourcing-protoc
  ', C:\Users\Zen\.cargo\registry\src\github.com-1ecc6299db9ec823\prost-build-0.11.1\src\lib.rs:1227:10
  note: run with 'RUST_BACKTRACE=1' environment variable to display a backtrace
  warning: build failed, waiting for other jobs to finish...
  error: failed to run custom build command for `inx v1.0.0-beta.8`

Caused by:
  process didn't exit successfully: 'C:\Users\Zen\bee\target\release\build\inx-fbade93d7a9434f\build-script-build' (exit code: 101)
  --- stdout
  cargo:rerun-if-changed=C:\Users\Zen\.cargo\registry\src\github.com-1ecc6299db9ec823\inx-1.0.0-beta.8\proto\inx.proto
  cargo:rerun-if-changed=C:\Users\Zen\.cargo\registry\src\github.com-1ecc6299db9ec823\inx-1.0.0-beta.8\proto
  --- stderr
  thread 'main' panicked at '
  Could not find 'protoc' installation and this build crate cannot proceed without
  this knowledge. If 'protoc' is installed and this crate had trouble finding
  it, you can set the 'PROTOC' environment variable with the specific path to your
  installed 'protoc' binary.

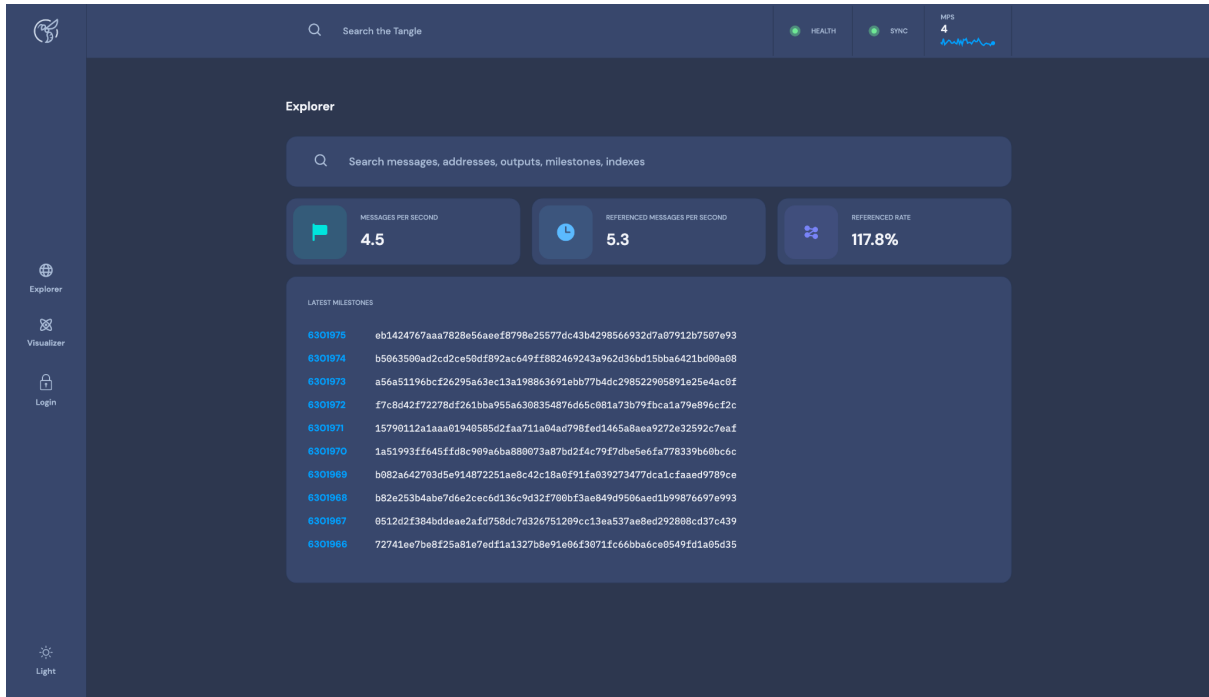
  For more information: https://docs.rs/prost-build/#sourcing-protoc
  ', C:\Users\Zen\.cargo\registry\src\github.com-1ecc6299db9ec823\prost-build-0.11.1\src\lib.rs:1227:10
  note: run with 'RUST_BACKTRACE=1' environment variable to display a backtrace
  PS C:\Users\Zen\bee\bee-node>
```

docker compose up -d = Untuk menjalankan node pada docker

docker compose logs -f bee = Untuk menampilkan log output



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