

# Step 1: Install and Set Up Foundry

## 1.1 Install Foundry

Foundry is a next-generation Ethereum development framework. Install it using the following command:

```
MINGW64:/c/Users/prapt/OneDrive/Desktop/Homework 5

prapt@Quantum MINGW64 ~
$ cd "c:/Users/prapt/OneDrive/Desktop/Homework 5"
bash: cd: c:/Users/prapt/OneDrive/Desktop/Homework 5: No such file or directory

prapt@Quantum MINGW64 ~
$ cd "c:/Users/prapt/OneDrive/Desktop/Homework\ 5"
bash: cd: c:/Users/prapt/OneDrive/Desktop/Homework\ 5: No such file or directory

prapt@Quantum MINGW64 ~
$ cd /c/Users/prapt/OneDrive/Desktop/Homework\ 5

prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5
$ curl -L https://foundry.paradigm.xyz | bash
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           %             %             Dload  Upload  Total  Spent    Left     Speed
100 167    100 167    0    0   597      0  --:--:-- --:--:-- --:--:--    600
100 2196  100 2196    0    0  3068      0  --:--:-- --:--:-- --:--:--   3068In
stalling foundryup...

Detected your preferred shell is bash and added foundryup to PATH.
Run 'source /c/Users/prapt/.bashrc' or start a new terminal session to use found
ryup.
Then, simply run 'foundryup' to install Foundry.

prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5
$ source /c/Users/prapt/.bashrc

prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5
$ foundryup

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FOUNDRY Portable and modular toolkit
          for Ethereum Application Development
          written in Rust.
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Repo      : https://github.com/foundry-rs/foundry
Book      : https://book.getfoundry.sh/
Chat      : https://t.me/foundry_rs/
Support   : https://t.me/foundry_support/
Contribute: https://github.com/foundry-rs/foundry/blob/master/CONTRIBUTING.md
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foundryup: warning: Make sure no foundry process is running during the install process!
foundryup: installing foundry (version stable, tag stable)
foundryup: downloading forge, cast, anvil, and chisel for stable version
##### 100.0%
Archive: /tmp/tmp.3ZsL2FlwCE/foundry.zip
  inflating: /c/Users/prapt/.foundry/versions/stable/anvil.exe
  inflating: /c/Users/prapt/.foundry/versions/stable/cast.exe
  inflating: /c/Users/prapt/.foundry/versions/stable/chisel.exe
  inflating: /c/Users/prapt/.foundry/versions/stable/forge.exe
foundryup: downloading manpages
##### 100.0%
foundryup: warning: Make sure no foundry process is running during the install process!
foundryup: use - forge 1.0.0-stable (e144b82070 2025-02-13T20:02:16.393821500Z)
foundryup: use - cast 1.0.0-stable (e144b82070 2025-02-13T20:02:16.393821500Z)
foundryup: use - anvil 1.0.0-stable (e144b82070 2025-02-13T20:02:16.393821500Z)
foundryup: use - chisel 1.0.0-stable (e144b82070 2025-02-13T20:02:16.393821500Z)

prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5
$
```

To verify installation, run:

```
prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5
$ forge --version
forge version: 1.0.0-stable
Commit SHA: e144b82070619b6e10485c38734b4d4d45aeb04
Build Timestamp: 2025-02-13T20:02:16.393821500Z (1739476936)
Build Profile: maxperf

prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5
$ |
```

## Step 2: Initialize the Foundry Project

```
prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5
$ cd /c:/Users/prapt/OneDrive/Desktop/Homework 5/UniswapV2-Foundry

prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5/UniswapV2-Foundry
$ forge init
Initializing c:\Users\prapt\OneDrive\Desktop\Homework 5\UniswapV2-Foundry...
Installing forge-std in c:\Users\prapt\OneDrive\Desktop\Homework 5\UniswapV2-Foundry\lib\forge-std (url: Some("https://github.com/foundry-rs/forge-std"), tag: None)
Cloning into 'C:/Users/prapt/OneDrive/Desktop/Homework 5/UniswapV2-Foundry/lib/forge-std'...
remote: Enumerating objects: 2080, done.
remote: Counting objects: 100% (1011/1011), done.
remote: Compressing objects: 100% (129/129), done.
remote: Total 2080 (delta 933), reused 891 (delta 882), pack-reused 1069 (from 1)
Receiving objects: 100% (2080/2080), 651.12 KiB | 812.00 KiB/s, done.
Resolving deltas: 100% (1409/1409), done.
warning: in the working copy of '.gitmodules', LF will be replaced by CRLF the next time git touches it
Installed forge-std v1.9.6
Initialized forge project

prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5/UniswapV2-Foundry (master)
$ |
```

## Step 3: Clone & Organize Uniswap V2 Code

```
prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5/UniswapV2-Foundry (master)
$ git clone https://github.com/Uniswap/v2-core.git
Cloning into 'v2-core'...
remote: Enumerating objects: 1674, done.
remote: Total 1674 (delta 0), reused 0 (delta 0), pack-reused 1674 (from 1)
Receiving objects: 100% (1674/1674), 949.20 KiB | 2.57 MiB/s, done.
Resolving deltas: 100% (1067/1067), done.

prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5/UniswapV2-Foundry (master)
$ git clone https://github.com/Uniswap/v2-periphery.git
Cloning into 'v2-periphery'...
remote: Enumerating objects: 1094, done.
remote: Counting objects: 100% (427/427), done.
remote: Compressing objects: 100% (53/53), done.
remote: Total 1094 (delta 382), reused 374 (delta 374), pack-reused 667 (from 1)
Receiving objects: 100% (1094/1094), 682.38 KiB | 3.22 MiB/s, done.
Resolving deltas: 100% (728/728), done.

prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5/UniswapV2-Foundry (master)
$ |
```

## Step 4: Install Dependencies and Verify

```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\prapt\OneDrive\Desktop\Homework 5\UniswapV2-Foundry> ls lib

Directory: C:\Users\prapt\OneDrive\Desktop\Homework 5\UniswapV2-Foundry\lib

Mode                LastWriteTime         Length Name
----                -
d-----         12-03-2025    22:33         forge-std
d-----         17-03-2025    20:47   openzeppelin-contracts
d-----         17-03-2025    20:34         v2-core
d-----         17-03-2025    20:34   v2-periphery

PS C:\Users\prapt\OneDrive\Desktop\Homework 5\UniswapV2-Foundry> |
```

## Step 5: Set Up Import Remappings

```
UniswapV2Pair.sol U  remappings.txt U X
UniswapV2-Foundry > remappings.txt
1  @uniswap/v2-core/=lib/v2-core/
2  @uniswap/v2-periphery/=lib/v2-periphery/
3  @openzeppelin/=lib/openzeppelin-contracts/
4  @foundry/=lib/foundry/
5
```

## Verify Remappings.txt

```
prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5
$ cd "C:\Users\prapt\OneDrive\Desktop\Homework 5\UniswapV2-Foundry"

prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5/UniswapV2-Foundry (master)
$ forge remappings
@uniswap/v2-core/=lib/v2-core/
@uniswap/v2-periphery/=lib/v2-periphery/
@openzeppelin/=lib/openzeppelin-contracts/
@foundry/=lib/foundry/
forge-std/=lib/foundry/src/
openzeppelin-contracts/=lib/openzeppelin-contracts/
v2-core/=lib/v2-core/contracts/
v2-periphery/=lib/v2-periphery/contracts/

prapt@Quantum MINGW64 ~/OneDrive/Desktop/Homework 5/UniswapV2-Foundry (master)
$ |
```