**Zksync Devops**

**Introduction**

There are notable differences between the EVM and ZKsync Era VM, as detailed in the [ZKsync documentation](https://docs.zksync.io/build/developer-reference/ethereum-differences/evm-instructions). In this lesson, we will explore some DevOps tools designed to help run tests and functions on both VMs.

**foundry-devops Tools**

In the FundMeTest.t.sol file, certain tests that run on Vanilla Foundry may not work on ZKsync Foundry, and vice versa. To address these differences, we will explore two packages from the [foundry-devops](https://github.com/Cyfrin/foundry-devops) repository: ZkSyncChainChecker and FoundryZkSyncChecker. This lesson will cover how to use these packages effectively.

import { ZkSyncChainChecker } from "lib/foundry-devops/src/ZkSyncChainChecker.sol";

import { FoundryZkSyncChecker } from "lib/foundry-devops/src/FoundryZkSyncChecker.sol";

**Setting Up ZkSyncDevOps**

The file [test/unit/ZkSyncDevOps.t.sol](https://github.com/Cyfrin/foundry-fund-me-cu/blob/main/test/unit/ZkSyncDevOps.t.sol) is a minimal test file that shows how tests may fail on the ZKsync VM but pass on an EVM, or vice versa. You can follow these steps to set it up:

1. Copy the content from the GitHub repo into your project's test/unit directory, and create a new file named ZkSyncDevOps.t.sol.
2. Install any missing dependencies using the command:
3. forge install cyfrin/foundry-devops@0.2.2 --no-commit
4. Reset your modules with:
5. rm -rf .gitmodules && rm -rf .git/modules/\* && rm -rf lib && touch .gitmodules && git add . && git commit -m "modules"

or

1. make rm
2. Update your .gitignore file by adding .DS\_store and zkout/.

**VM environments modifiers**

You can switch environments between fundryup and fundryup-zksync to observe different behaviors of the ZkSyncDevOps.t.sol tests. For instance, the following command

forge test --mt testZkSyncChainFails -vvv

will pass in both Foundry environments. However, if you remove the skipZkSync modifier, the test will fail on ZKsync because the content of the function is not supported on this chain.

For more details on these modifiers, refer to the [foundry-devops repo](https://github.com/Cyfrin/foundry-devops?tab=readme-ov-file#usage---zksync-checker). The skipzksync modifier skips tests on the ZKsync chain, while onlyzksync runs tests only on a ZKsync-based chain.

**Foundry version modifiers**

Some tests may fail depending on the Foundry version. The FoundryZkSyncChecker package assists in executing functions based on the Foundry version. The onlyFoundryZkSync modifier allows tests to run only if foundryup--zksync is active, while onlyVanillaFoundry works only if foundryup is active.

**Note**

Ensure `ffi = true` is enabled in the `foundry.toml` file.