

Real Smart Contract Development

Intro to real development, IDEs and development tools (etherlime)





What is etherlime and how to install it
What is etherlime ganache and why
we need it. What is exactly and why
we need to run it!

IDEs and Development Tools

Installing IDEs and development tools



Show them how to install ethereum solidity language tool! We need it for later when we start to migrate our contract in the project that we will generate

IDEs

Atom, Webstorm, VSCode



Show them how to install etherlime
and couple of words about the library

etherlime

Development library for init, compile, deploy, test and wrap smart contracts



Explain how to initialise project and what they need for. Do already they have etherlime? Show them the tool and the first steps documentation.

etherlime Init



Project structure explanation

Etherlime project structure



Show them how to install
openZeppelin and couple of words
about the library.
How we can insatiate Ownable and
Safe Math

OpenZeppelin solidity

Library for writing secure Smart Contracts



Development Nodes



Explain what etherlime ganache does
and why it is so important for the
development

etherlime ganache

Generates 10 accounts with tons of ethers - very helpful when you make ICOs



Explain what are the testnets and what is the development process, why we need to deploy first on them.

Testnets and Infura

Remote test nets - Ropsten, Rinkeby and etc. What kind of algorithm they use?



Explain why we use faucets for the test networks

Faucets

What is faucet and how to use it



Explain and show what is Etherscan and how there are different versions for the different networks (Testnets and Mainnet)

Etherscan

Etherscan as a block explorer tool



Compilation



Explain how to compile and explain what are the benefits of etherlime.
Explain them for the old nasty tool “truffle” and how many additional transactions it makes! + option “runs”

Etherlime compile



Explain them the compiled file structure and how it looks like.

Compiled file structure



Explain different deployment types of
etherlime

Deployment



Explain what is ganache deployment

etherlime ganache deployment



Why infura deployment is important

Infura deployment



Play with etherscan and show the
transactions blocks

Etherscan explorer tool transactions



Sign transaction through MEW with
private key

My Ether Wallet (MEW)



Further reading

- Etherlime Documentation - <https://etherlime.readthedocs.io/en/latest/index.html>
- OpenZeppelin-Solidity Documentation - <https://github.com/OpenZeppelin/openzeppelin-solidity>
- My Ether Wallet (MEW) - <https://www.myetherwallet.com/>
- Ropsten ETH Faucet - <https://faucet.metamask.io>
- Rinkeby ETH Faucet - <https://faucet.rinkeby.io>



Homework

- Extend the Crypto Cars to work with Ownable.
- Compile and deploy the contract.
- Post your contract Etherscan link to your contracts and transactions in gitter.
- Buy car in your contract and your colleagues ones. Try to break theirs :D

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