

# L15 - Ethereum Contracts

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Solidity Overview - <https://youtu.be/FXhz-zcH8ws>

Install Node.js and NPM - <https://youtu.be/X8n7u7XxKrs>

Install Truffle and Files and Tools - [https://youtu.be/oL\\_wuPsfhBA](https://youtu.be/oL_wuPsfhBA)

[Hello world Eth and Truffle - ]()

Run a Test - [https://youtu.be/G7Ambek\\_vWs](https://youtu.be/G7Ambek_vWs)

Vesting Contract - [https://youtu.be/QRscb\\_JVC9M](https://youtu.be/QRscb_JVC9M)

From Amazon S3 - for download (same as youtube videos)

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## Overview

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1. Tools we are going to work with
2. The Eth Network
3. 95% of dApps on Eth
4. Cardano a new alternative
5. EIP - Ethereum Improvement Proposal
6. ERC - Ethereum Request for Comment ( ERC-20 )
7. Replacement for ERC-20 is ERC-777 - we are going to use that.
8. Homework from the contract down.
9. web3.js - how to use a contract from the front end.

## The network.

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Diagram.

Use an outside test system. RMix

Single Node. Truffle.

## Install

Let's go and install truffle and build a simple contract.

Things to install:

```
npm install --save -g ganache-cli
npm install --save -g truffle
npm install --save truffle-assertions
npm install --save @openzeppelin/contracts
npm install --save @openzeppelin/test-helpers
npm install --save @nomiclabs/hardhat-web3 web3
npm install --save truffle-contract
npm install --save bootstrap
npm install --save nodemon
npm install --save lite-server
npm audit fix
```

## Files

In with the lecture:

```
2_contract.js
EmployeeVest.sol
package.json
truffle-config.js
EmployeeVest_001_getDays.js
EmployeeVest_002_StartVest.js
```

Create the project with

```
$ truffle init assignment
$ cd assignment
```

Then move the fiels to:

File Name	Path in ./assignment
2_contract.js	./migrations/2_contract.js
EmployeeVest.sol	./contracts/EmployeeVest.sol
package.json	./package.json
truffle-config.js	./truffle-config.js

File Name	Path in ./assignment
EmployeeVest_001_getDays.js	./test/EmployeeVest_001_getDays.js
EmployeeVest_002_StartVest.js	./test/EmployeeVest_002_StartVest.js