Initial note

The blockchain digital environment is a very dynamic environment where updates and changes occur frequently. In this program, to complete the practical activities and give them a real vision of the tools available in the market, web resources and external software to this program are used.

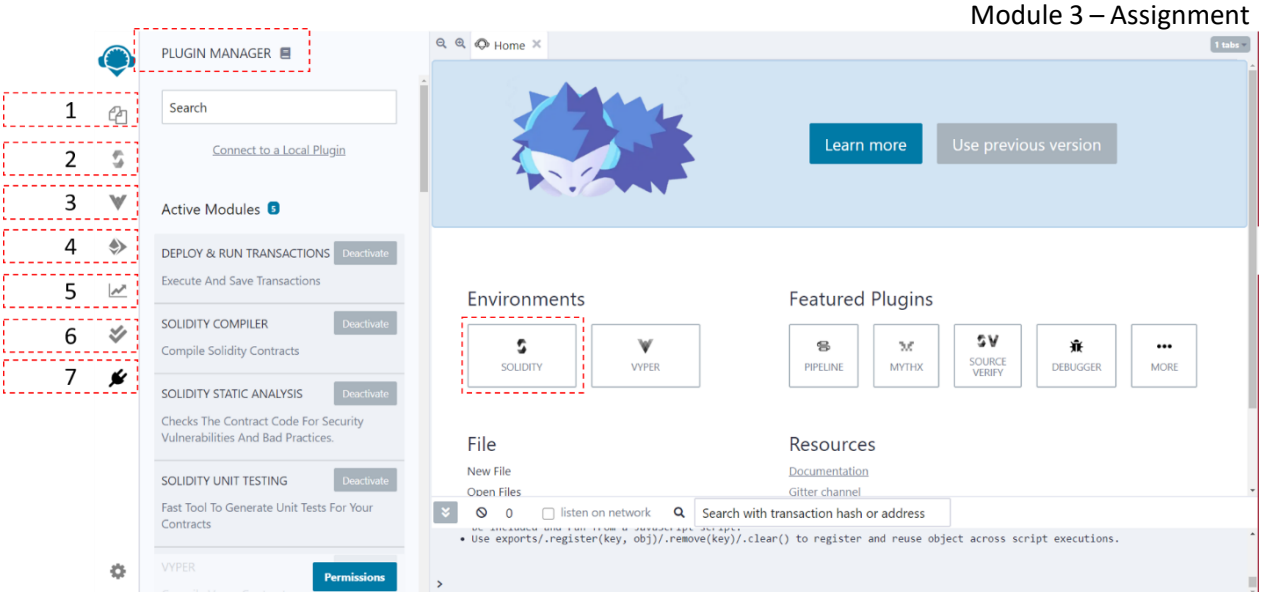
For that reason, although we make every effort to keep the guides updated, sometimes the appearance of the tools you will see may appear different to the images we show you in this guide and its complementary documents. Don´t worry about the differences that you might find. In most cases you will be able to follow the instructions of the activity by easily interpreting the differences between the guide and the real environment, if any. In the case of this not being possible, please make your facilitator aware by sending a message through the program´s platform inbox. The facilitator will help you resolve any doubts that arise.

1. The Remix Editor

You will edit “Smart contracts”, change them, and then you will execute them in the Ethereum, Rinkeby testing blockchain network. The creation of a new contract in the network is a type of transaction that also requires using Ether. The network charges a small fee for this type of operation. It is therefore necessary that the entire activity with the Remix Editor is done from the same browser in which you installed the Metamask connector. Additionally, you will need a small amount of Ether in your account. A few tenths, less than 1 Ether, will be enough. If you don´t have any Ether, try requesting 1 Ether on Rinkeby´s free Ether faucet as you did when you created your Metamask account. If you have any problems getting Ether, let your facilitator know. They will help you get more Ether.

When you are ready to start, go to https://remix.ethereum.org/. Remix is the online code editor to write and run smart contracts in the Ethereum network you are going to use. When opening Remix for the first time, it is possible that it looks different to what we show you in this guide. This won´t prevent you from completing the activity, but, if you wish, Remix allows you to easily change some aspects of the user interface. To do this you can use the ´Changing the appearance of the Remix user interface´ document which you can download from the assignment page in CANVAS.

When you open Remix, you will see various icons on the left of the screen. Answer **question 1**.



2. Deploying a smart contract

You will now create your first smart contract in Solidity language and you will run the contract on the Rinkeby testing network (a subnet of the Ethereum block network).

Follow Dr. Abel Sanchez´s tutorial, **video 1** (if you use Windows) or **video 2** (if you use Mac), to run your first smart contract.

You can use the following code for the activity:

```
pragma solidity >=0.4.22 <0.8.0;

contract greeting {

    function world () public pure returns (bytes32) {
        return 'Hello World!';
    }

}
```

Answer **question 2**.

3. Deploying a token

In this exercise you will create your own cryptocurrency in the Rinkeby testing network. Before starting, decide the name of the token you are going to create. Many participants of the program choose their name or the name of their organization, but you can choose any name you like.

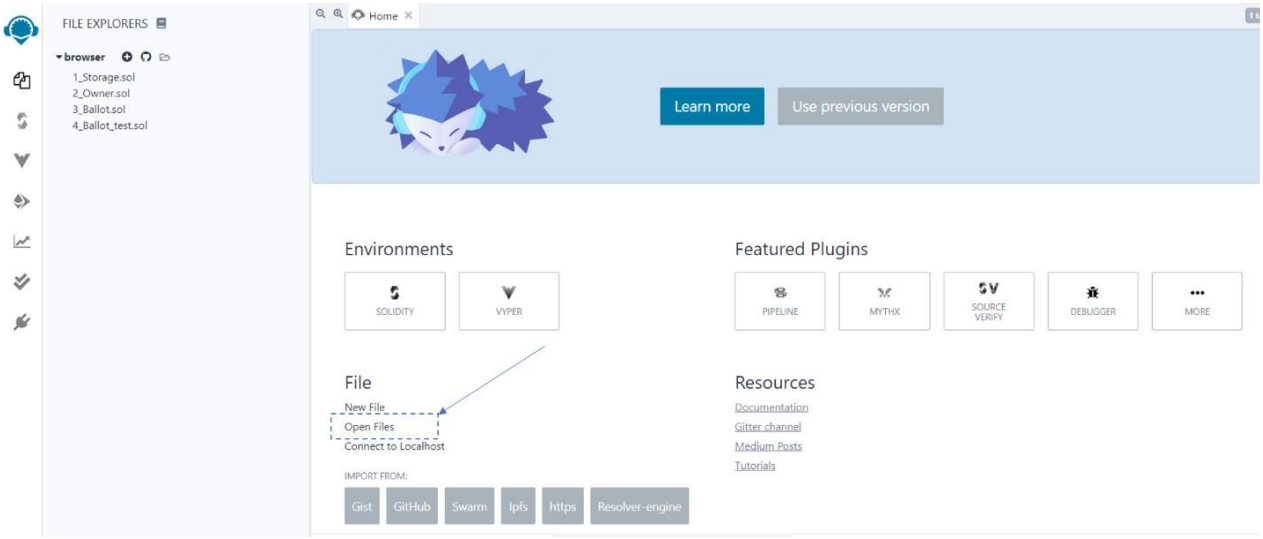
Answer **question 3**.

Play **video 3** and create your own cryptocurrency following Dr. Abel Sanchez´s tutorial on creating the "Taco" token.

(NOTE: You will need the code from the ERC20.sol file.)

- Download the ERC20.sol file from the CANVAS platform (you can do this from the assignment page) and remember the name of the folder on your computer where you download the file. (We suggest you do it in the "Downloads" folder").
- In the Remix window, click on Open Files and select ERC20.sol in Downloads (or the corresponding folder) to upload it to Remix.

Answer **question 4**.



4. Tokens in your organization

Read the sections "What are tokens?" and "How are tokens used?" from the Mastering Ethereum guide, where you can find in the following link:
https://github.com/ethereumbook/ethereumbook

Think of at least one type of token that may be useful for your organization.

Answer **questions 5 and 6**.