8Lab Solutions - Project "Soldino"

Developer manual

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Description
Developer manual made by *8Labs Solutions* for the making of the project *Soldino*.

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Changelog

Version	Date	Name	Role	Description
2.0.1	2019-03-20	Federico Bicciato	**RUOLO**	Structure of the document created.

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Introduction

Manual contents

This document is the developer manual of he project *Soldino*, developed by the team *8Lab Solutions* for the proponent *Red Babel*.
Within the manual you can find:

- the technologies used for the development;
- the software tools used and suggested;
- the software architecture;
- the architectural and design pattern used;
- the functionalities provided by *Soldino*.

Purpose of the manual

The contents of the manual are intended to help the developers who decide to further develop or maintain *Soldino*. Everything described here can help the developer to fully and deeply understand the design, use and features of the application, so that it can be modified and improved with ease.
Many technologies, tools and languages are used to build the app: these are only briefly explained in their parts that cover the application domain. Additional references can be found in the "Reference" section.

Purpose of the product

The platform *Soldino* is a DApp accessible on a web browser as a client interface and the plugin Metamask as a virtual wallet.
The main functionality of *Soldino* is trading goods and services online. Since the platform's backend is coded on the Ethereum blockchain, it provides more security and transparency than the traditional e-commerce websites.
The platform is built to be managed by the government. The currency used in it is called Cubit, and it's a ERC20 compliant fork of Ether, minted and managed by the government itself.

References

Normative

- **none**

Informative

- **Ganache** https://trufflframework.com/ganache
- **Git** https://it.atlassian.com/git
- **Node.js** https://nodejs.org/it/
- **Node Package Manager** https://www.npmjs.com/get-npm

- **Surge.sh** https://surge.sh/help/getting-started-with-surge
- **Truffle** https://trufflframework.com/truffle

Setup

Requirements

In this section we describe all the requirements needed.

Browser

Soldino is accessible through a web interface. The currently most recent versions of the following broswers are supported:

- **Mozilla Firefox**: version 66.0.1;
- **Google Chrome** version 73.0.3683.86.

Tools

The following tools are needed:

- **Node.js**: you need it to run commands and as a Truffle requirement;
- **Truffle**: you need it to write and deploy contracts with ease;
- **Ganache**: you need it to put up a local Ethereum network and check transactions on it;
- **Metamask**: a browser plugin used as a virtual wallet.
- **Surge.sh**: the web platform chosen to host the website interface of Soldino.

Dependencies

Soldino depends on many different packages, some for use and others for development.
All these packages are located in the file `package.json` which is in the root folder of the project.
The packages required to execute the software *Soldino* are listed below.

Table 2.1.1: Packages required for software usage

Software	Version
react-text-mask	≥5.4.4
commondir	≥1.0.1
history	≥4.7.2
prop-types	≥15.7.2
react	≥16.8.3
react-dom	≥16.8.3
react-number-format	≥4.0.6
react-redux	≥6.0.1
react-router	≥4.3.1

Table 2.1.1: Packages required for software usage

Software	Version
react-router-dom	≥4.3.1
react-router-redux	≥4.0.8
react-scripts	≥2.1.8
redux	≥4.0.1
redux-thunk	≥2.3.0
web3	1.0.0-beta.37

Other packages, listed below, are required for the development.

Table 2.1.2: Packages required for development

Software	Version
eslint	5.12.0
eslint-config-airbnb	≥17.1.0
eslint-loader	≥2.1.2
eslint-plugin-import	≥2.16.0
eslint-plugin-jsx-a11y	≥6.2.1
pre-commit	≥1.2.2
truffle-contract	≥4.0.6

Installing

Browser

The first thing is to have your browser installed. You can get the latest chrome version here.

Node

Install Node.js. Digit on the shell the following commands:

1. `curl -sL https://deb.nodesource.com/setup_11.x | sudo -E bash -`
2. `sudo apt-get install -y nodejs`
3. check that `node` have been installed correctly with `node -v`.

There is no need to install npm separately, since it is automatically installed with Node.

Truffle

Third thing: install Truffle.
Truffle requirements are:

- an OS among Linux, Windows and MacOS (prefer Linux);
- NodeJS v8.9.4 or later (we picked version 11);
- Node Package Manager (npm).

You can then install Truffle with the command:

```
npm install -g truffle
```

Ganache

Fourth step: installing Ganache. There are three step to install Ganache:

1. you can download the Ganache executable at this link, clicking on the download button.;
2. give the permissions to make the Ganache file executable. This can be done on Linux with the command `chmod +x path-of-the-appimage/ganache-1.3.0-x86_64.AppImage`;
3. eventually, run it double clicking on the icon.

MetaMask

MetaMask comes in the form of browser extension. You can add it to your browser this way:

- Chrome: https://chrome.google.com/webstore/search/metamask?hl=it;
- Firefox: https://addons.mozilla.org/it/firefox/addon/ether-metamask/?src=search.

Surge

Install Surge.sh with the shell command

```
npm install -g surge.
```

Configuration

This section shows how to properly configure your work environment, so that it's the same as the one we worked on. This way you will hopefully encounter as little troubles as possible.

Running

Now that you have all the required software installed, it's time to get it up running.

Deploying

This part shows how to deploy you contracts with Truffle and have them up running on Soldino.

Testing

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