



8Lab Solutions - Project "Soldino"

User manual

Version	1.0.0
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Description

User manual made by *8Labs Solutions* for the project *Soldino*.

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Changelog

Version	Date	Name	Role	Description
1.0.0	2019-03-30	PLACEHOLDER	Project Manager	Approval
0.2.0	2019-03-27	PLACEHOLDER	Verifier	Verification
0.1.2	2019-03-25	PLACEHOLDER	RUOLO	Written §5.3, §5.4 and §6
0.1.2	2019-03-25	PLACEHOLDER	RUOLO	Written §4.4 and §4.5
0.1.1	2019-03-24	PLACEHOLDER	RUOLO	Written §3.3 and §4.3
0.1.0	2019-03-22	PLACEHOLDER	Verifier	Verification
0.0.4	2019-03-21	PLACEHOLDER	RUOLO	Written §3.2, §4.2 and §5.2
0.0.3	2019-03-21	PLACEHOLDER	RUOLO	Written §3.1, §4.1 and §5.1
0.0.2	2019-03-20	PLACEHOLDER	RUOLO	Written §1 and §2
0.0.1	2019-03-20	Federico Biciato	RUOLO	Created document's structure.

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1 Introduction

This document is the user manual of *Soldino*, a project by *8Lab Solutions* based on the Ethereum infrastructure.

1.1 What is *Soldino*

Soldino is a platform that allows users to buy goods and services, allows business to manage the VATs related to those products and allows the Government to mint and distribute Cubits and reimburse businesses of their VAT credit. More precisely:

- citizens can:
 - buy goods and services;
- business can:
 - sell goods and services;
 - buy goods and services;
 - manage VAT;
- Government can:
 - mint Cubits;
 - distribute Cubits;
 - activate disabled users;
 - deactivate active users;
 - reimburse businesses of their VAT credit;

1.2 Requirements

To be able to use *Soldino* you need to have the desktop version one of the following browsers:

- Google Chrome version 71 or newer;
- Mozilla Firefox version 64 or newer.

You also have to install the MetaMask plug-in in your browser. More information will follow.

2 MetaMask

2.1 What is MetaMask

MetaMask is a browser extensions that manages your Ethereum wallet and and allows you to send and receive Ethers (Cubits or CCs in *Soldino*). This plug-in is necessary to perform all the basic actions of an e-commerce such as log in and all transactions.

2.2 Installation

After entering *Soldino*'s homepage check if you have MetaMask, a bridge between your browser and the Ethereum network, installed. If you don't, watch the video guide, click the link under the video and follow the instructions to download it. After the installation process is complete you will see MetaMask's icon on the top right of your browser. A new window will then open where you will have to configure your account.

The download page can also be found at <https://metamask.io/>.

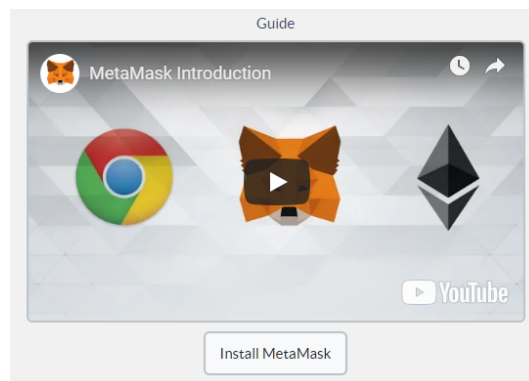


Figure 2.2.1: Introduction to MetaMask

2.3 Configuration

Click on MetaMask's icon on the top right of your browser, and set up your personal Ethereum wallet by following the instructions. You can either create a new one or import an existing one from the 12 words seed phrase.

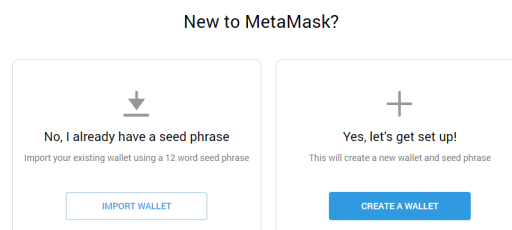


Figure 2.3.1: MetaMask setup

After setting up your account you will be able to join and use *Soldino*.

Note that MetaMask has to be installed in your browser as long as you want to use the platform, removing it from your browser will render you unable to use *Soldino*.

2.4 Transactions

Every time you make a transaction MetaMask will open a pop up window that shows you its cost. From this window you will be able to accept it or decline it. Note that all prices shown are in Cubits (CC), *Soldino*'s own special token. Also note that 1 Cubit = 1 Euro.

Every change made on the Ethereum Network has a cost. This is called gas and is measured in GWEI, a billionth of a Ether. When you make a transaction you can choose whether it should have a high or low priority, higher priority will consume more gas than a lower one but will be mined quicker. We do not recommend changing the priority for transaction made in *Soldino* as it does not matter much.

3 Citizens

3.1 Registration

If you want to create a personal account for *Soldino* visit the homepage and make sure that the slider is set on "Citizen".



Figure 3.1.1: Select "Citizen" from the slider

Then, insert your data in the form. After you have completed all the fields with your informations press the "Sign up" button. If an entry is not valid (i.e. the email address does not contain a valid domain) the system will let you know and you have to correct that field to continue. If all the informations are correct a pop up window will open asking you to allow *Soldino* to access your information.

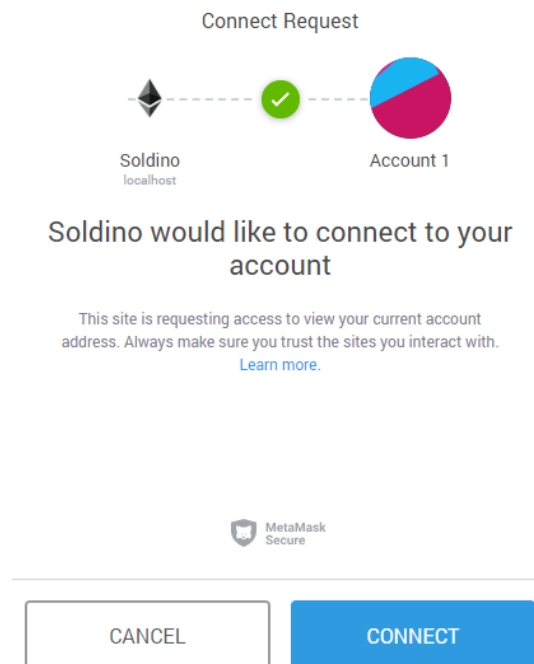


Figure 3.1.2: Connecting MetaMask to *Soldino*

Press "Connect" and you will be redirected to a page congratulating you for your registration on the platform.

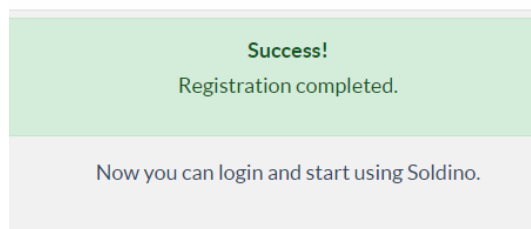


Figure 3.1.3: Registration completed message

3.1.1 Citizen already registered

If your address is already registered in our platform you will see an error page telling you that you cannot create a new account.

3.2 Login

If you already have a personal account press the "login" button on the top right of the homepage, you will automatically log in your account (there is no need for a username or password, all is done via MetaMask).

To be able to login you have to be logged in your MetaMask account.

3.2.1 Account is disabled

If your account was disabled by the Government you will see a error message and, possibly, the reason why that happened.

3.3 Buying

3.3.1 Searching

You can search for products by name using the search bar that can be found right at the top of the page. After you start typing you will see all results that match your search. If no matching products are found you will a message showing you that.

3.3.2 Cart

You can add products in your cart, after selecting the quantity you need, by pressing the "Add to cart" button under it.

Quantity

Figure 3.3.1: Adding a product to your cart

You can access your cart by pressing the shopping cart icon on the bar at the top of the page.



Figure 3.3.2: Icon to access your cart

Here you will find every item you have previously selected with their quantity and above them you will see the total for your order. If you need to modify the quantity press the "+" or "-" buttons.

When you want to proceed with the order press the "Checkout" button, you will be redirected to the checkout page.

Cart

Total price: CC 107.33

<div>Wireless Mouse</div> <div><div>-</div><div>1</div><div>+</div></div> <div>CC 59.99</div> <div><input type="button" value="Remove"/></div>	<div>Wireless Keyboard</div> <div><div>-</div><div>1</div><div>+</div></div> <div>CC 39.99</div> <div><input type="button" value="Remove"/></div>	<div>Energy Drink</div> <div><div>-</div><div>3</div><div>+</div></div> <div>CC 2.45</div> <div><input type="button" value="Remove"/></div>
--	---	---

Figure 3.3.3: Example of content of the cart

3.3.3 Checkout

In the checkout page you will be able to choose where your products will be delivered to by using the radio buttons: you can either select the address you gave during registration or enter a new one.

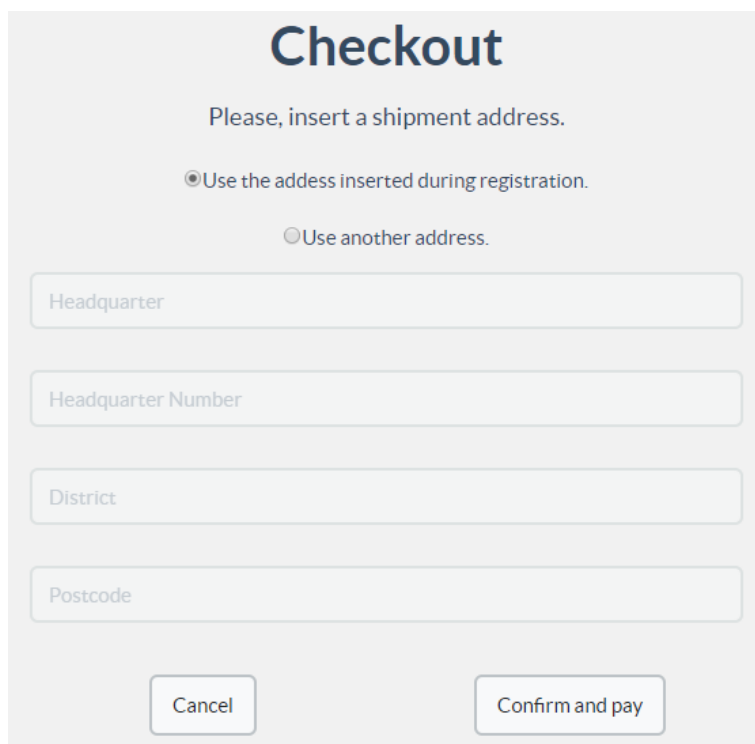


Figure 3.3.4: Example of checkout page

Press the "Confirm and pay" button to proceed. In a new pop up window MetaMask will ask you to confirm the transaction. The price shown here will be a little higher because it includes the gas fee.

Otherwise press "Cancel" to return to your cart.

3.3.4 Past orders

You can visit a the page containing all past orders by pressing the "Orders" button in the bar at the top of the page.

Here you will find a chronological list of every purchase that you made with *Soldino*. Each order tells when it was made, who was the seller, what were the items bought, how much you paid.

Order # 9	2019/03/29	Via S. Donato 33, Bologna, 40127
Seller	VAT Number	
Biagetti Arredamenti	01384571004	
Products	Quantity	Unit price
Blue Chair	3	CC 9.99
Red Chair	3	CC 9.99
VAT Price: CC 4.3956	Net Price: CC 15.5844	Total Price: CC 59.94

Order # 8	2019/04/01	Via Alberto Cavalletto 10, Padova, 35122
Seller	VAT Number	
Vanuzzo Interni & Design	91388421067	
Products	Quantity	Unit price
White Table	1	CC 9.99
VAT Price: CC 2.1978	Net Price: CC 7.7922	Total Price: CC 9.99

Figure 3.3.5: Example of past orders

4 Businesses

4.1 Registration

If you want to create a business account for *Soldino* visit the homepage and make sure that the slider is set on "Citizen".



Figure 4.1.1: Select "Business" from the slider

Then, insert your business's data in the form. After you have completed all the fields with your informations press the "Sign up" button. If an entry is not valid (i.e. the email address does not contain a valid domain) the system will let you know and you have to correct that field to continue. If all the informations are correct a pop up window will open asking you to allow *Soldino* to access your information.

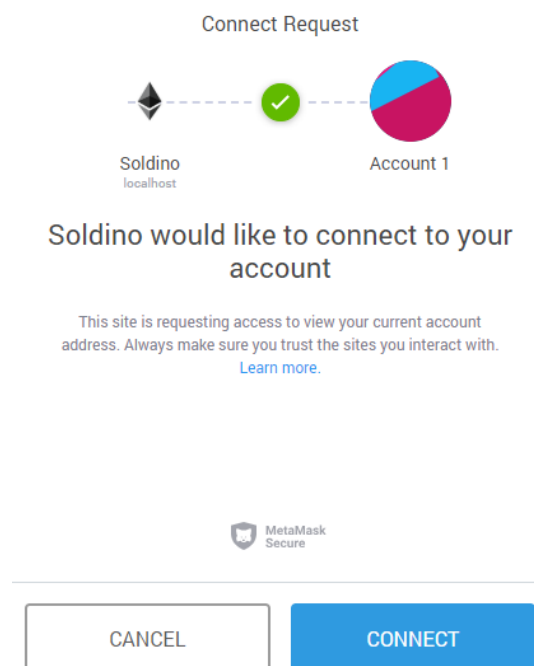


Figure 4.1.2: Connecting MetaMask to *Soldino*

Press "Connect" and you will be redirected to a page congratulating you for your registration on the platform. for your registration on the platform.

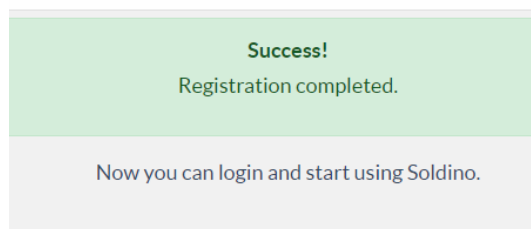


Figure 4.1.3: Registration completed message

4.1.1 Business is already registered

If your address is already registered in the platform you will see an error page telling you that you cannot create a new account.

4.2 Login

If you already have a business account press the "login" button on the top right of the homepage. Then you will be able to buy goods and services, check your orders and manage your VAT. To be able to login you have to be logged in your MetaMask account.

4.3 Buying

4.3.1 Searching

You can search for products by name using the search bar that can be found right at the top of the page. After you start typing you will see all results that match your search. If no matching products are found you will see a message showing you that.

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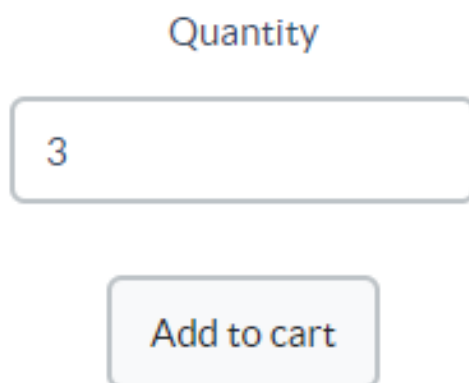


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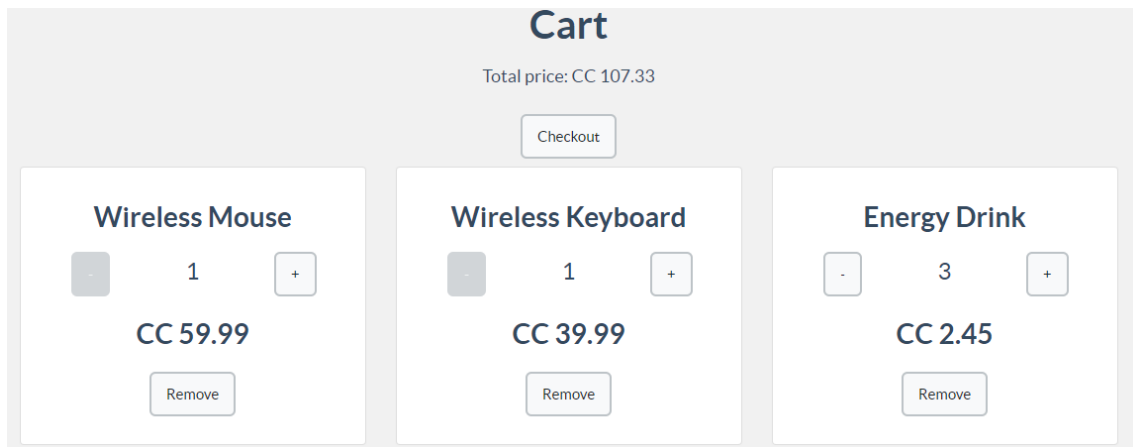


Figure 4.3.3: Example of content of the cart

4.3.3 Checkout

In the checkout page you will be able to choose where your products will be delivered to by using the radio buttons: you can either select the address you gave during registration or enter a new one.

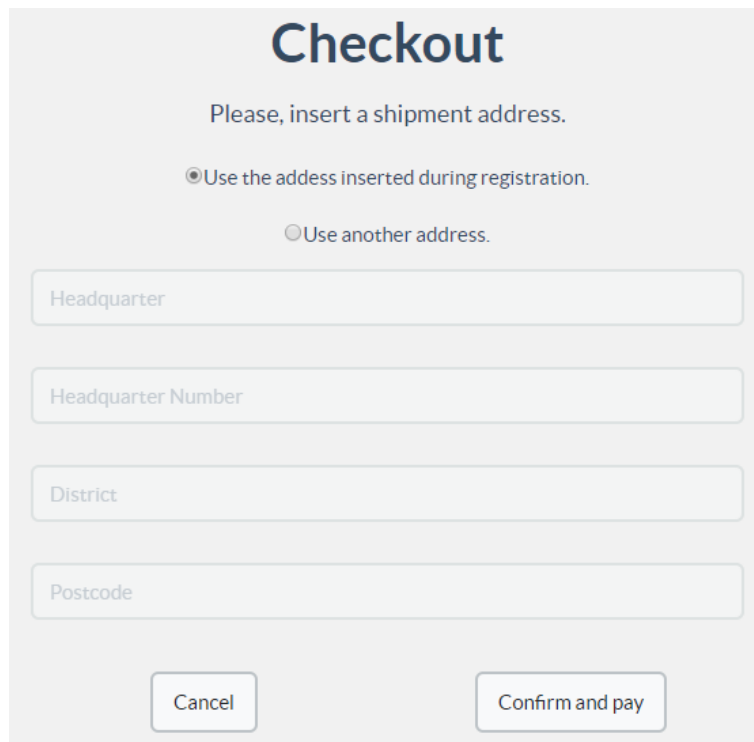


Figure 4.3.4: Example of checkout page

Press the "Confirm and pay" button to proceed. In a new pop up window MetaMask will ask you to confirm the transaction. The price shown here will be a little higher because it includes the gas fee.

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Seller		VAT Number
Vanuzzo Interni & Design		91388421067
Products	Quantity	Unit price
White Table	1	CC 9.99
VAT Price: CC 2.1978	Net Price: CC 7.7922	Total Price: CC 9.99

Figure 4.3.5: Example of past orders

4.4 Selling

4.4.1 Selling a new product

If you want to sell a new product you have to

4.4.2 Modifying a product

If you want to modify the information of a product you are selling you have to

4.4.3 Removing a product

If you want to remove a product from the platform you have to

4.5 VAT management

If you are a business *Soldino* will manage VAT for the products you buy and sell on the platform automatically. You can access the page containing all past invoices by pressing the "Transaction Manager" button on the bar at the top of the page.

VAT status for the selected quarter: -321.23 CC					Instant Payment	Deferred Payment
Number	Type	Date	Total Price	Total VAT	Download PDF	
Invoice #12345	Purchase	2018/05/01	CC 10	CC 2.2	More details	
Invoice #67890	Purchase	2018/05/01	CC 10	CC 2.2	More details	

Figure 4.5.1: Example of past invoices

You can see invoices of past trimesters by using the drop-down menu at the top of the page.

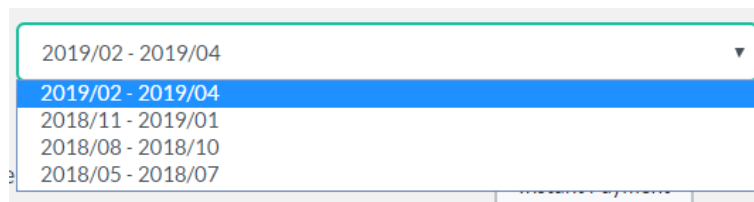


Figure 4.5.2: Past trimesters

You can see more details by pressing the "More details" button on the right. This will open a pop up window containing all the details.

Invoice #9845

×

Date: 2019/05/01

Order date: 2019/05/01

Order number: 4164

Products:

Product: Cookies

Total Price: CC 10

Net Price: CC 7.8

VAT %: 22

Description: Fresh made chocolate chip
cookies

Quantity: CC 2

Total VAT: CC 2.2

Total Price: CC 10

Seller: Tony S.P.A. 01384571004

Buyer: Enrico Verdi

Shipment: Via Antonio Grassi 13, Padova,
12345

Figure 4.5.3: Example of an invoice

4.5.1 Paying VAT

4.5.2 Deferring VAT

4.5.3 Checking past trimesters' VAT

5 Government

5.1 Registration

The government cannot register a new account like other citizens and businesses and only one account is allowed. This account is provided by the developer of *Soldino*.

5.2 Login

To log in as Government press the "login" button on the top right of the homepage. To be able to login you have to be logged in your MetaMask account.

5.3 Cubit

5.3.1 Minting

The Government can mint Cubits, a special token for *Soldino* that has the value of 1 Euro. This can be done by visiting

5.3.2 Distributing

Government can distribute Cubits previously minted amongst the users of the platform. This can be done by visiting

5.4 Managing users

The Government can activate disabled accounts or deactivate active accounts. This can be done by visiting the page containing all users.

5.4.1 Activating users

After you have found the account you want to enable press the button "Enable". After being enabled an account will again be able make purchases on *Soldino*

5.4.2 Deactivating users

After you have found the account you want to disable press the "Disable" button. After pressing it a window will open where you can write a message explaining why the account was disabled that will be shown when that user will try an log in. Disabling an account means that it will not be able to make purchases on *Soldino* until it is enabled.

5.5 Reimbursing businesses

The government can reimburse business of their VAT credit. This can be done by visiting

6 Issues

We, members of *8Lab solutions*, did our best to build *Soldino* bug free and did extensive tests to squish all of them, but we cannot be sure that they are all gone.

If you encounter a bug we would appreciate if you to report it to us at our email address (8labsolution@gmail.com) or in the dedicated page at the project's repository

When reporting an issue please include:

- what type of user encountered it;
- a detailed sequence of steps that must be done to reproduce the error;
- if the error included Metamask and what type of error it shows;
- your browser's console log output.

A Glossary