

INSTALLATION MANUAL

**Residential building energy renovations
with on-bill financing - RenOnBill**

TABLE OF CONTENTS

1. INSTALLATION ON THE SERVER-SIDE	1
2. SYSTEM REQUIREMENTS	2
3. INSTALLATION OF DOCKER	4
4. INSTALLING RENONBILL AND STARTING THE WEB SERVER WITH DOCKER DESKTOP	7
5. LAUNCHING RENONBILL	9

1. Installation on the server side

Renonbill develops software using several third-party software products and tools that run on various operating systems and server platforms. Reports from the software industry suggest that there are known security issues with some products and systems. Therefore, the development team recommends that you review your use of software with your Information Technology (IT) department to ensure that all the recommended security updates and patches are installed. If you have any concerns, please call the +34 913 950 154 | info@creara.es

If You Experience Difficulties Accessing the Application

If you experience difficulties accessing the application after standard installation on a computer running Windows 10, please consult your IT department to have proper access permissions set up. If the problem cannot be resolved, please feel free to contact the Creara Operations Project Manager at info@creara.es if there are any issues with installation of the software package.

2. System Requirements

The initial installation file is delivered on the Renonbill GitHub repository as a zip file. This file can then be downloaded and saved on the user's local computer on any drive, in any folder. The software uses the external software application Docker Desktop for Windows 10. Docker is an available tool for advanced software development. It allows software applications, and all dependencies to be set up in "containers" which are essentially like virtual machines on one of the computer's drives. Docker is a new way to deploy software, started in 2018 and allows the following benefits:

- Ease of installation. The user only needs to install Docker and download the files and scripts from github to run the application. There is no need to deploy multiple, dependent software applications.
- The software can be deployed as separate Docker containers. All software can be managed from a single overarching application
- The user interfaces can be built in a consistent style as a web-based application. The user can access the application using a web browser, such as Google Chrome, navigated to the address of the proxy server that is set up in the Docker container.
- Ease of update: Updates can be deployed as zipped folders saved on the computer and scripts can be run to activate the Docker container. There is no need for installing or uninstalling previous versions. This will allow faster bug fixing and feature development cycles.
- Modern standard of deploying software for development purposes.

Installing Renonbill is different to the usual installation for software and initially, to install Docker involves multiple steps to complete.

Please follow the steps carefully and if there are any issues, please contact the project manager for assistance of info@creara.es

The following are the requirements for installation of Docker for Windows 10:

- Windows 10 64bit: Pro or Enterprise (1607 Anniversary Update, Build 14393 or later).
- Virtualization is enabled in BIOS. Typically, virtualization is enabled by default.

- CPU SLAT-capable feature.
- At least 16GB of RAM

Refer to the following online link for further information before installing Docker:
<https://docs.docker.com/docker-for-windows/install/#what-to-know-before-you-install>

3. Installation of Docker

This is both a manual and step by step guide to downloading, installing, initializing and using Renonbill. Each numbered task can be replicated by the user.

1.0 Downloading and Installing Docker for Windows

- 1.1 Download the latest stable version of Docker for Windows 10 on your machine. As of December 2021, this can be accessed from: <https://store.docker.com/editions/community/docker-ce-desktop-windows>. Click the “Get Docker” Button to download the latest version. The latest version should be a Windows 10 64-Bit version.
- 1.2 Docker is a freely available product for download. You will be prompted to create an account with www.docker.com before downloading. This is a standard sign up process involving normal username, password and email verification, but this is a user obligation that is not tied up with Creara and sign up is at the user’s risk. There are no other obligations required to download and install Docker.



Figure 2-1: Downloading Docker for Windows 10

- 1.3 Once the Docker for Windows Installer file executable is downloaded, **double click to install Docker for Windows** as normal for installing software on windows. You will likely need Windows administrator rights to install Docker for Windows.
- 1.4 The latest version of docker will prompt you to install additional libraries provided by Microsoft. Please click on the provided link and install the required libraries. System reboot is required after the installation.
- 1.5 Virtualization must be enabled in Windows 10 for Docker to run. To check to see if it is enabled on your computer open the task manager by selecting **CTRL+Shift+ESC->Performance** tab. Virtualization can be seen on the bottom right. It should be enabled as shown in the red box in Figure 2-3. If it is “Disabled” then virtualization must be enabled in the computer BIOS.
- 1.6 The BIOS can be accessed during the system boot, **usually by selecting ESC**

while the system is booting. Virtualization should be a setting that can easily be enabled from the BIOS menu structure, however all systems are different and the exact way to enable virtualization will be different on each computer. It is recommended to consult with the IT department at this point as administration rights may be required. The exact method to enable virtualization on the computer can usually be searched and found online. .

- 1.7 If, for some reason, Docker is not running, or you need to disable it, right click and select "Quit Docker Desktop". To restart Docker Desktop double click on the "Docker Desktop icon on your desktop or in the program list. This will start the program, as can be seen in the task tray, but will not open a new GUI, program or window.
- 1.8 If Virtualization or Hyper-V are not enabled, Docker for Windows will not launch and will show an error on startup.

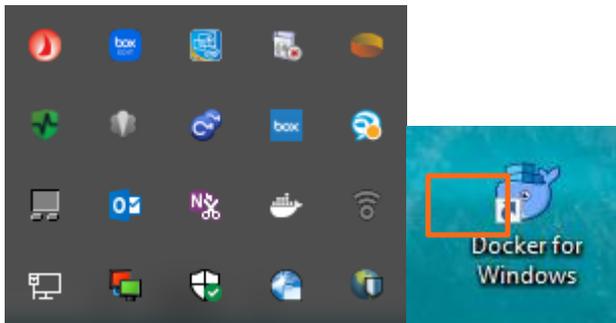


Figure 2-4: Task bar tray showing the Docker icon the "white whale" in the red box, which shows the Docker program. On the right the Docker for Windows Desktop App which can be double clicked to start the application.

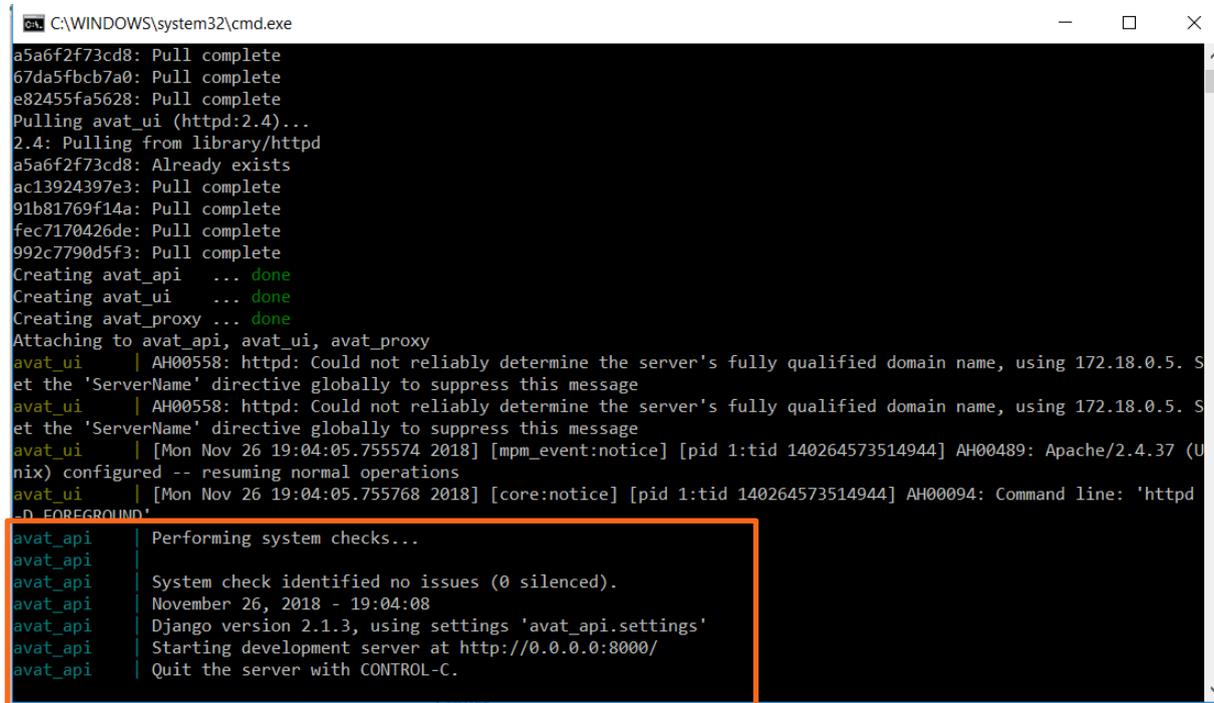
- 1.9 Once Docker is installed, there should be no further changes or adjustments required to settings. The user is now ready to download and work with Renonbill.

4. Installing RenonBill and Starting the Web Server with Docker Desktop

Download Renonbill from the GitHub repository. This can be downloaded by the button on top right corner on the repository. It will be an zip file containing another folder named "docker_win" file can be unzipped (if it does not automatically unzip) and saved on the appropriate drive or in the most appropriate folder for the user. There is no restriction on where the folder can be saved and where the application can be launched from. Do not edit or change any folder or file or name within the "docker_win" folder as this will cause errors when running the application.

- 1.1 Double click on the **docker_win** folder to open it. There are four folders and some.bat script files. Do not access any of the folders, there is no requirement or relevant files in this folder for the user.
- 1.2 Note: Docker for windows must be installed and running. First ensure this is running by checking for the whale icon in the system tray.
- 1.3 If this is the first time the Renonbill application has been run, double click the first_start.bat file to install it
- 1.4 This will open a windows command prompt window, which will install the Renonbill

docker container to run the dockerized version of Renonbil. When the commands are complete after some minutes, the command prompt window will stop updating and the “Quit the server with CONTROL-C” message will be displayed. **LEAVE THE COMMAND PROMPT WINDOW OPEN**, do not close it. This window must be left active always when Renonbill is running.



```
C:\WINDOWS\system32\cmd.exe
a5a6f2f73cd8: Pull complete
67da5fbc7a0: Pull complete
e82455fa5628: Pull complete
Pulling avat_ui (httpd:2.4)...
2.4: Pulling from library/httpd
a5a6f2f73cd8: Already exists
ac13924397e3: Pull complete
91b81769f14a: Pull complete
fec7170426de: Pull complete
992c7790d5f3: Pull complete
Creating avat_api ... done
Creating avat_ui ... done
Creating avat_proxy ... done
Attaching to avat_api, avat_ui, avat_proxy
avat_ui | AH00558: httpd: Could not reliably determine the server's fully qualified domain name, using 172.18.0.5. See
et the 'ServerName' directive globally to suppress this message
avat_ui | AH00558: httpd: Could not reliably determine the server's fully qualified domain name, using 172.18.0.5. See
et the 'ServerName' directive globally to suppress this message
avat_ui | [Mon Nov 26 19:04:05.755574 2018] [mpm_event:notice] [pid 1:tid 140264573514944] AH00489: Apache/2.4.37 (U
nix) configured -- resuming normal operations
avat_ui | [Mon Nov 26 19:04:05.755768 2018] [core:notice] [pid 1:tid 140264573514944] AH00094: Command line: 'httpd
-D FOREGROUND'
avat_api | Performing system checks...
avat_api |
avat_api | System check identified no issues (0 silenced).
avat_api | November 26, 2018 - 19:04:08
avat_api | Django version 2.1.3, using settings 'avat_api.settings'
avat_api | Starting development server at http://0.0.0.0:8000/
avat_api | Quit the server with CONTROL-C.
```

Figure 2-7 Command prompt script that runs commands during first installation. The text in the red box will show when the docker container is set up, indicating that Renonbill can user interface can be run.

- 1.5 In the latest Docker version which enables docker compose v2 beta version by default above output might be different with the latest line shown as “Attaching to...” instead of above output. This does not affect the execution of the application. If you want to get full output as above, you can go to Docker for Desktop settings and uncheck Docker compose V2 option, Apply and then restart the application.
- 1.6 If Windows prompts for firewall security exception, please click **YES** to allow container ports to be exposed
- 1.7 **It is not advisable to close the command prompt by the X in the top right.** The proxy server set up for Renonbill must be closed in a controlled manner. At any time Renonbill server can be closed by the CTRL+C command in the command prompt. This will close it safely and prevent errors.
- 1.8 When the Renonbill proxy server is installed for the first time (when the first_installation.bat script has been run) this script should not need to be run again by the user. For future launches of the script, it suffices to click the **start.bat script**. Running this script will again open the command prompt and after a few minutes will settle on the commands.

At this point the user is ready to launch the Renonbill user interface.

5. Launching Renonbill

When the Renonbill webserver is installed and started (the command prompt indicates it is active

as shown above in Figure 2-7 (Docker) the user interface can be launched.

- 1.1 **Open Google Chrome.** It is good practice to open the **Incognito Window in Google Chrome**, as it clears the cache each time it is launched as a new instance. **Google Chrome is the recommended browser**, however the user interface can be launched in any browser instance, such as Mozilla Firefox or Internet Explorer. Multiple instances of the Renonbill UI can also be opened in multiple browser windows, but this is not recommended.
- 1.2 In a new tab in the incognito Window type the address: **localhost:8000** this is the address of the Renonbill server that was launched in the above section. This web address should open with a splash disclaimer screen with an username and password.