



# **HLA Tool Installation & Usage Guide (For Docker Desktop)**

## **1. Introduction**

The EBMTTools App has been developed as part of the ongoing EuroTractor grant to satisfy the proof of concept required for Working Package 5 in an effort to aid with the automated data entry into the EBMT Registry.

Though limited in scope, this app attempts to simplify the data entry process for HLA data into the EBMT Registry by reading and formatting the HLA documents delivered by the respective laboratories tasked with the analysis. This is performed by the introduction of an AI-powered workflow in which the system scans the document or image with the laboratory information and extracts the information, giving it an adequate and user friendly format.

Thanks to the usage of modern AI models, the application is capable of adapting to different languages and structures in the documents or images provided, creating a country-agnostic application for HLA formatting.

At the moment, the application is designed in Node.js and R to run in the user's browser using chatGPT API.

## **2. Prerequisites**

The prerequisites for this application are simple:

- A functioning and funded API key from OpenAI
- Docker Desktop
- Internet Connection to connect with the AI model

Docker desktop can be downloaded [here](#). Its installation and set up will be detailed during the next section of this document.

The API key for OpenAI models require the creation of an account for chatGPT, process which is as follows:

### ***Sign up for an OpenAI developer account***

- Visit the OpenAI developer site and click **Sign up / Create account** [here](#)
- Provide your email, choose a password, and follow the email verification steps.
- After signing up you can log into the developer dashboard in the same link as before

### ***Verify identity & access***

- If prompted, complete any phone verification and/or multi-factor setup. This helps unlock API features and billing which will be necessary. (Follow the prompts in your account settings / welcome flow.)

### ***Open the Billing / Prepaid Credits page***

- In the dashboard go to **Settings** → **Billing** (or **Billing Overview**) to manage payment and credits.
- For “*prepaid billing*” choose **Add payment details** and follow the flow to purchase credits. We recommend starting with at least 5 euros in the account.

### ***Add a payment method***

- Add a credit/debit card in the Billing → Payment methods section and confirm the payment.

### ***Confirm your balance / credits***

- After purchase, check **Usage** or the [Billing overview](#) to see your credit balance and used amount.

### ***Create / copy your API key***

- In the dashboard navigate to **View API keys** (or **Account** → **API keys**) and click **Create new secret key** (or similar).
- Copy the secret right away (the dashboard usually shows it only once). Store it securely

**Never share your secret API key publicly (treat it like a password).**

### 3. Installation Steps

Once Docker Desktop has been installed in the computer, there are two different options to set up the application, for which we recommend the involvement of the IT services your hospital, as the usage of the console command might be restricted:

#### ***Option 1: Build from Source***

```
# Clone this repository

git clone https://github.com/EBMT-Registry/ebmt-tools-docker.git

cd ebmt-tools-docker

# Build and run

chmod +x scripts/*.sh

./scripts/build.sh

./scripts/run.sh
```

Once those commands are executed, the container will have been created and the application can be reached via localhost in any browser (Recommended to use Google Chrome).

It is important to consider that this process will install all necessary dependencies and set up the environment. This process can take some time to finish depending on the computer specifications. During the setup, multiple messages may be displayed in the console of Windows.

The application can also be stopped by executing the following commands:

#### ***Stopping the Application***

- If using docker-compose

```
docker-compose down
```

- If using docker run

```
docker stop $(docker ps -q --filter
ancestor=ebmt-tools-docker_ebmt-tools:latest)
```

## 4. Running the Application

1. Open your browser and go to <http://localhost:3000>
2. Select the HLA Document Processor application out of the different options available
3. Upload your HLA documents (PDF, PNG...)
4. The system will process them using R and Python scripts
5. Download the results (TXT and CSV files)

The application has been designed to intuitively guide the user during its usage, so that the user inputs are minimal and the process is automated.

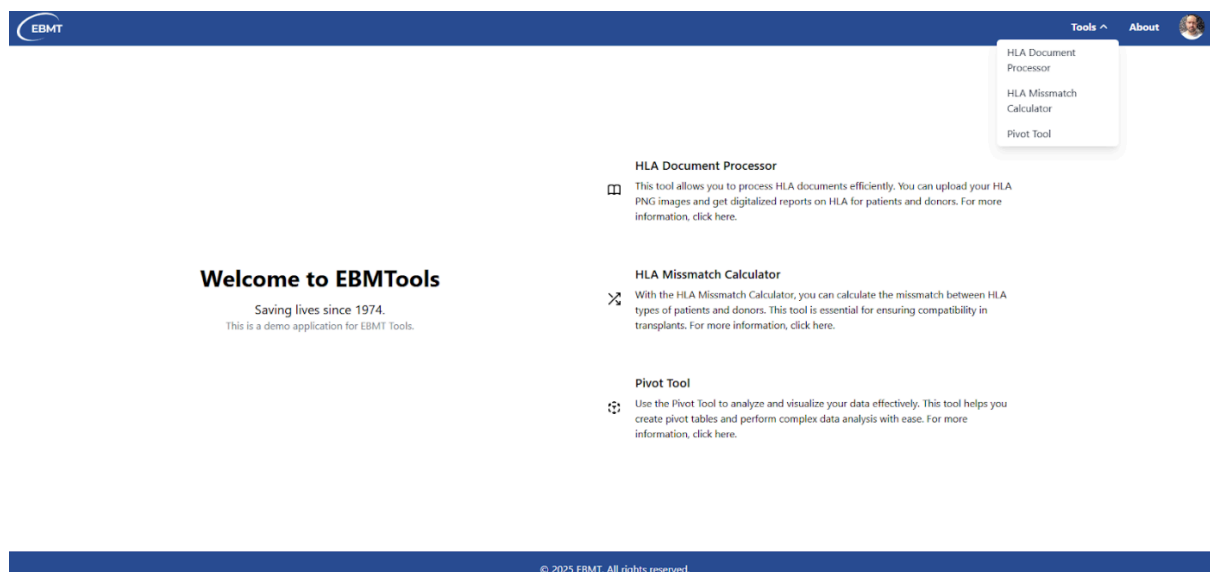


Figure 1: Overview of main screen of EBMTools

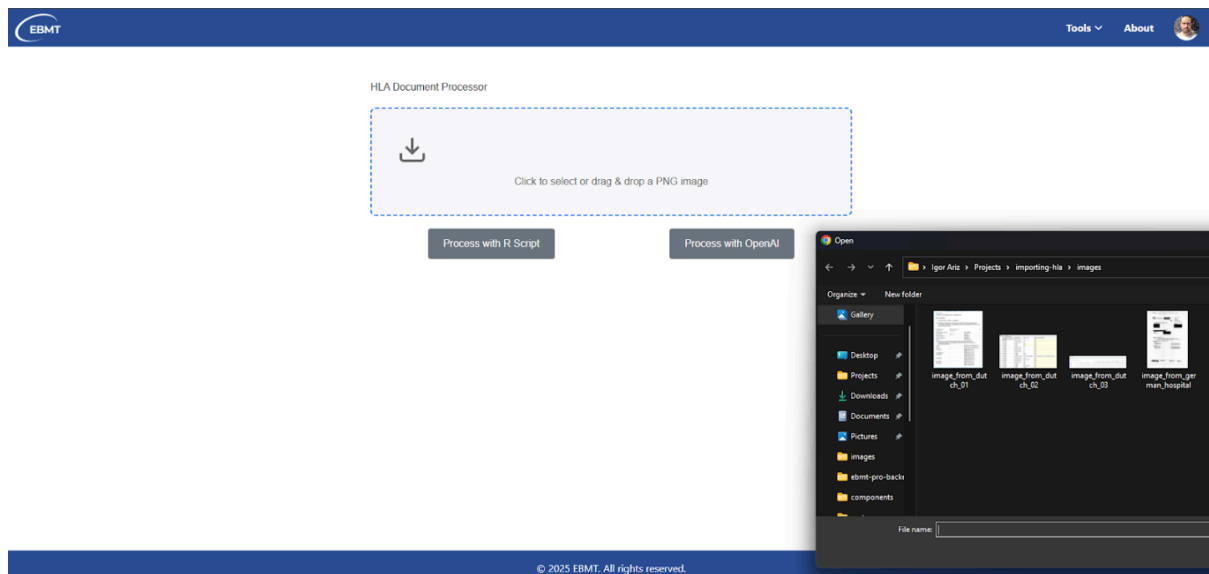


Figure 2: Overview of HLA Document processor section

## 5. Troubleshooting

Sometimes some ports of the computer might be in-use, or not open, causing problems for the application to be reachable via localhost:3000.

If the port is in use, you can run this commands to redirect the app through a different one:

```
docker run -p 8080:3000 ebmt-tools-docker_ebmt-tools:latest
```

Then access at <http://localhost:8080>.

If the origin of the error is not clear, the logs can be easily checked via:

```
docker-compose logs -f
```

## 6. Support & Contact Information

For support or issues please contact [ignacio.garcia@ebmt.org](mailto:ignacio.garcia@ebmt.org) with [igor.ariz@ebmt.org](mailto:igor.ariz@ebmt.org) and [annelot.vanamerongen@ebmt.org](mailto:annelot.vanamerongen@ebmt.org) in CC.