Version: DEV

# Launch service from source

A guide explaining how to set up a RAGFlow service from its source code. By following this guide, you'll be able to debug using the source code.

## Target audience

Developers who have added new features or modified existing code and wish to debug using the source code, *provided that* their machine has the target deployment environment set up.

## Prerequisites

- CPU ≥ 4 cores
- RAM ≥ 16 GB
- Disk ≥ 50 GB
- Docker ≥ 24.0.0 & Docker Compose ≥ v2.26.1

> **NOTE**
>
> If you have not installed Docker on your local machine (Windows, Mac, or Linux), see the Install Docker Engine guide.

## Launch a service from source

To launch a RAGFlow service from source code:

### Clone the RAGFlow repository

```
git clone https://github.com/infiniflow/ragflow.git
cd ragflow/
```

## Install Python dependencies

1. Install uv:

   ```
   pipx install uv
   ```

2. Install Python dependencies:

   - slim:

   ```
   uv sync --python 3.10 # install RAGFlow dependent python modules
   ```

   - full:

   ```
   uv sync --python 3.10 --all-extras # install RAGFlow dependent python modules
   ```

   *A virtual environment named `.venv` is created, and all Python dependencies are installed into the new environment.*

## Launch third-party services

The following command launches the 'base' services (MinIO, Elasticsearch, Redis, and MySQL) using Docker Compose:

```
docker compose -f docker/docker-compose-base.yml up -d
```

## Update `host` and `port` Settings for Third-party Services

1. Add the following line to `/etc/hosts` to resolve all hosts specified in **docker/service_conf.yaml.template** to `127.0.0.1`:

2. 
```
127.0.0.1       es01 infinity mysql minio redis
```

## Launch the RAGFlow backend service

1. Comment out the `nginx` line in **docker/entrypoint.sh**.

```
# /usr/sbin/nginx
```

2. Activate the Python virtual environment:

```
source .venv/bin/activate
export PYTHONPATH=$(pwd)
```

3. **Optional:** If you cannot access HuggingFace, set the HF_ENDPOINT environment variable to use a mirror site:

```
export HF_ENDPOINT=https://hf-mirror.com
```

4. Check the configuration in **conf/service_conf.yaml**, ensuring all hosts and ports are correctly set.

5. Run the **entrypoint.sh** script to launch the backend service:

```
JEMALLOC_PATH=$(pkg-config --variable=libdir jemalloc)/libjemalloc.so;
LD_PRELOAD=$JEMALLOC_PATH python rag/svr/task_executor.py 1;
```

```
python api/ragflow_server.py;
```

## Launch the RAGFlow frontend service

1. Navigate to the `web` directory and install the frontend dependencies:

```
cd web
```

```
npm install
```

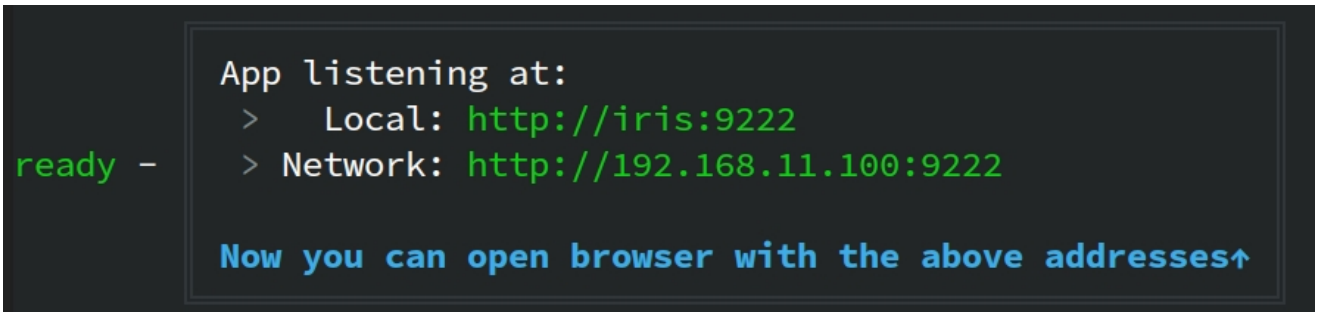
2. Update `proxy.target` in **.umirc.ts** to `http://127.0.0.1:9380`:

```
vim .umirc.ts
```

3. Start up the RAGFlow frontend service:

```
npm run dev
```

*The following message appears, showing the IP address and port number of your frontend service:*




## Access the RAGFlow service

In your web browser, enter `http://127.0.0.1:<PORT>/`, ensuring the port number matches that shown in the screenshot above.

## Stop the RAGFlow service when the development is done

1. Stop the RAGFlow frontend service:

```
pkill npm
```

2. Stop the RAGFlow backend service:

```
pkill -f "docker/entrypoint.sh"
```

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