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Use Docker to create an Elixir/Phoenix development environment

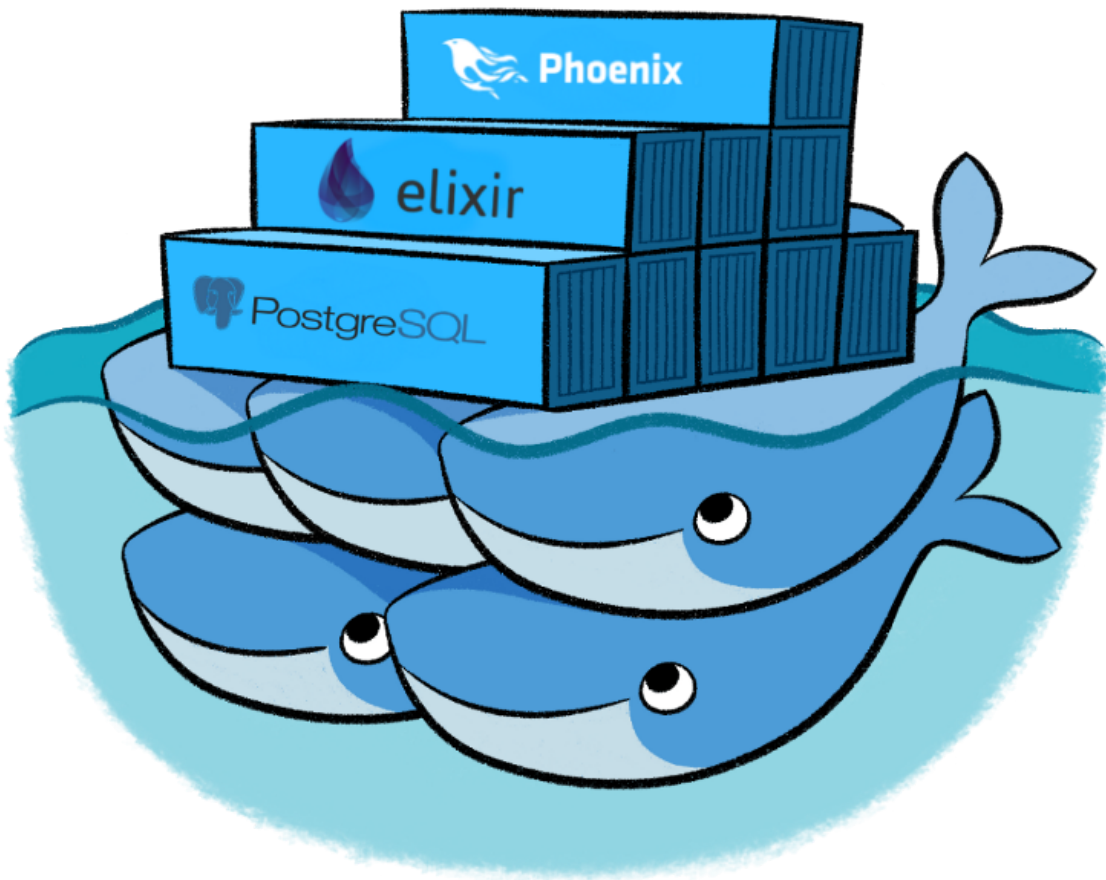


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What is Elixir/Phoenix?

In a nutshell, Phoenix is a web framework that is written in the Elixir programming language and runs on top of the Erlang virtual machine. We use Elixir for building low-latency, fault-tolerant, distributed systems, which are increasingly necessary qualities of modern web applications.

For more information, [click here](#).

Let's create our development environment!

It's the simplest way to create your Elixir/Phoenix development environment using Docker.

Step 1: create those files below to your project directory

The first file is the Docker file, which specifies the Elixir image and its version. In this file, I'm using the latest version, but you can use another version [supported by the Elixir image](#). This `Dockerfile` declares all the dependencies necessary to build a Phoenix application.

```
1 FROM elixir:latest
2
3 RUN apt-get update && \
4     apt-get install -y postgresql-client && \
5     apt-get install -y inotify-tools && \
6     apt-get install -y nodejs && \
7     curl -L https://npmjs.org/install.sh | sh && \
8     mix local.hex --force && \
9     mix archive.install hex phx_new 1.5.3 --force && \
10    mix local.rebar --force
11
12 ENV APP_HOME /app
13 RUN mkdir $APP_HOME
14 WORKDIR $APP_HOME
15
16 CMD ["mix", "phx.server"]
```

Dockerfile hosted with ❤ by GitHub

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The next file is the `docker-compose.yml` file. This file specifies the Phoenix and the DB Postgres services. Phoenix configures applications to use the Postgres database by default. In this file, you can configure the database user and password. Using the

default configuration it will set the user to “Postgres”, the password to “Postgres” and store all the data in the `./pgdata` directory.

```
1  version: "3"
2
3  services:
4    phoenix:
5      build: .
6      volumes:
7        - ./src:/app
8      ports:
9        - "4000:4000"
10     depends_on:
11       - db
12   db:
13     image: postgres:9.6
14     environment:
15       POSTGRES_USER: postgres
16       POSTGRES_PASSWORD: postgres
17       PGDATA: /var/lib/postgresql/data/pgdata
18     restart: always
19     volumes:
20       - ./pgdata:/var/lib/postgresql/data
```

docker-compose.yml hosted with ❤ by GitHub

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Step 2: build the image

```
$ docker-compose build
```

Step 3: create the “src” directory and the command “mix” alias.

The “src” directory will contain the Phoenix application.

```
$ mkdir src
```

Create the “mix” alias to run the Elixir commands.

```
$ alias mix="docker-compose run --rm phoenix mix"
```

Step 4: Initialize and configure a new Phoenix application

The following command will create a new Phoenix application called “hello” under the “src/” directory, which is mounted inside the container under “/app” (the default work directory).

```
$ mix phx.new . --app hello
```

Change the database hostname configuration on file `src/config/dev.exs` to point to the `db` container.

```
...  
# Configure your database  
...  
hostname: "db",  
...
```

Now you will initialize the database with Ecto.

```
$ cd src  
$ mix ecto.create
```

If you copied and existing application, now would be the time to run your database migrations.

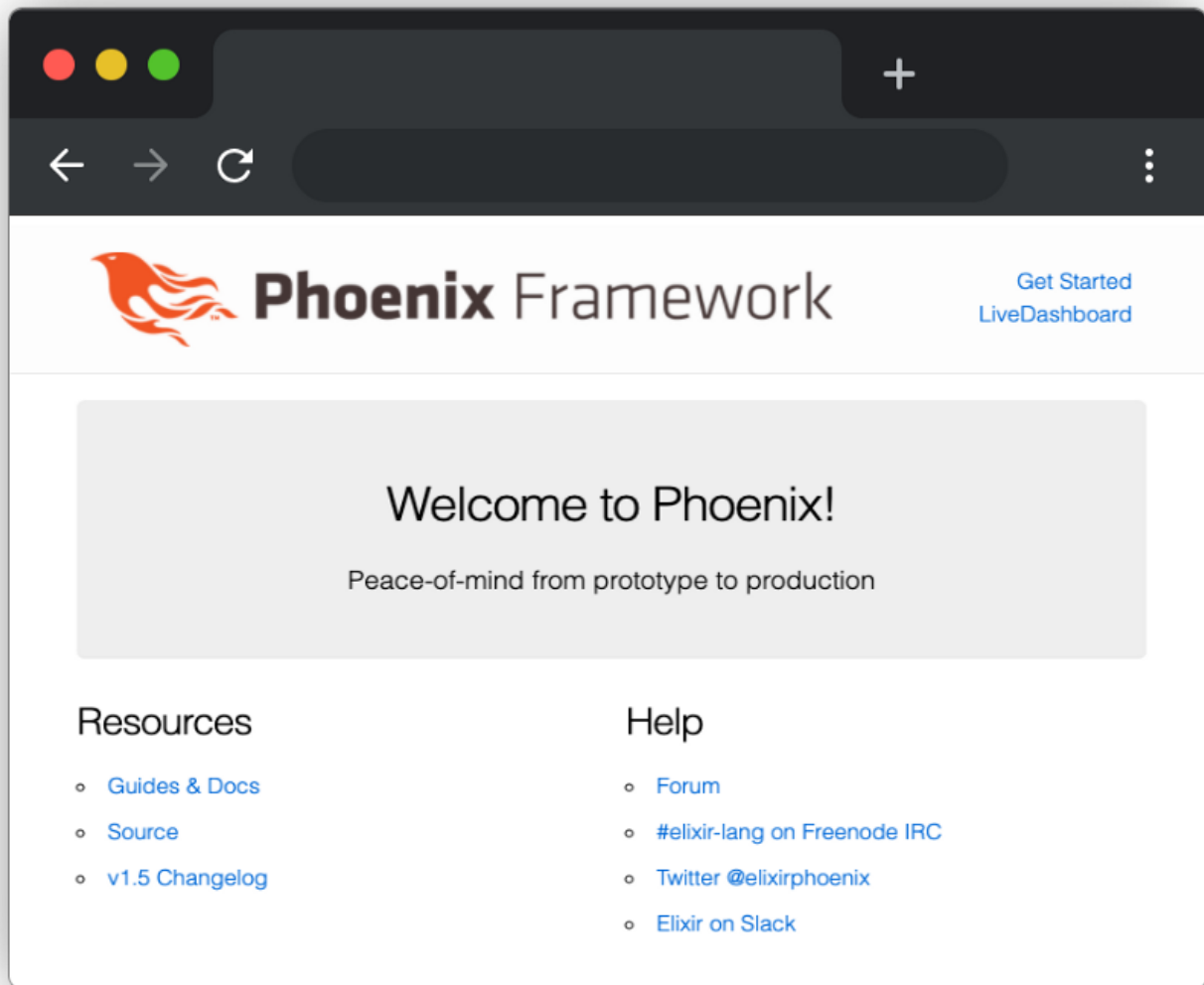
```
$ mix ecto.migrate
```

Step 5: Start the application

Great! Now your application is ready to be run. Starting your application is easy, back to the project directory and start up your application.

```
$ cd ..  
$ docker-compose up
```

Once up, it will be available under <http://localhost:4000>



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