

# Weather microservice

A microservice for a Chatbot developed at the Beuth University of Applied Sciences Berlin

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## Getting Started

### Prerequisites

- [node.js](#)
- [express.js](#)

### Cloning

Get the source code by cloning its repository via [https: weather\\_microservice](https://github.com/ziemers/weather-service)

### Installing

After cloning the repository, you will need to make sure that you have node and npm installed on your working system. To check if you already have node installed,

```
try
```

```
node --version
```

Same for checking if npm is installed, just with npm instead of the node command

```
npm --version
```

If you don't have node or npm installed, download the Software via the links provided in [Prerequisites](#) or search for them via your preferred search engine.

After that install all necessary dependencies

```
npm install
```

Now you can start the local development server to play around with the API and make your calls

```
npm run dev
```

This will fire up a development server that listens on port 8000.

If you direct your browser to <http://localhost:8000/weather>, you will get the weather forecast for the current day for Berlin.

## Overview

The weather microservice is basically a *Node-Express-Backend*. Incoming requests are checked and specifically handled. It can give you a general forecast for the next five days or a detailed forecast for the current day.

## Structure

The microservice consists of four folders containing several scripts, which are designated to perform certain tasks. We have the *\*scripts\**-folder containing scripts, that will be called by cron-jobs mainly for caching purposes. Then we have the *\*services\**-folder containing files, that consist of functions useful to process incoming requests from the chatbot and to generate a formatted answer-string, that contains the weather forecast for Berlin. The *\*routes\**-folder consists of all the routes, that can be addressed. In the next chapters we will get into more details about the scripts and their functions.

## Functionalities

On request, this microservice makes calls to the [OpenWeatherMap API](#). The received data is processed by services that return a nicely formatted string containing the weather forecast for Berlin. Mainly this service was built throughout the Masterprojekt module that is a mandatory part of the media informatics master

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course of the Beuth University for Applied Sciences.

### **The scripts-folder**

This folder contains two scripts, that will be called by a cron job multiple times a day, since we can only do a maximum of 60 requests to the API per day. `getWeather.js` makes a request to the [OpenWeatherMap API](#) and caches the answer. After that `writeResponseFile.json` is called and generates a pretty formatted answer-string. Now everytime a User wants to know the current weather forecast, we can just read it out of the cached data and don't need to call the API.

### **The services-folder**

This folder consists of several services, that perform specific tasks for the microservice.

#### **`generateResponse.js`**

Creates a nicely formatted string from a weather-JSON-object and caches it.

#### **`weatherService.js`**

Makes a request to the OpenWeatherMap-API to get the current weather forecast and stores the response.

#### **`fiveDayWeatherService.js`**

If a weather forecast for the next days is requested, than this script requests the necessary data from the OpenWeatherMap-API and stores its response.

### **The routes-folder**

This folder contains all the routes, that can be addressed on this server. The `index.js` manages all the routes. We've only got two routes in our project. The `/swagger`-route leads you to the swagger documentation of this project. The `/weather`-route will be called by another component of the Beuthbot. It expects a message object containing the necessary details for this service. It then calls all the functions needed to perform requests and generates an answer, which is finally send back as a response to the Chatbot.

## Further Development

This is still a work in progress, so functionalities and structure might still change during development

## Further Reading

- [OpenMensa API](#)

## Built With

- [Node.js](#)
- [Express.js](#)
- [Axios](#)

## Versioning

We use [SemVer](#) for versioning. For the versions available, see the [tags on this repository](#).

## Authors

- **Tolga Karaoglu**
- **Steven Sobkowski**

See also the list of [contributors](#) who participated in this project.

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