

Cloud Based Web Technologies - Project

We want to develop a system that delivers the time now in different formats and timezones. This system will be based on microservices (do not worry, it is easier than what it sounds) but let's start simple.

Phase I: A single server time formatter with a simple UI

The first phase is to build a simple server that allows you to display the time in two formats:

- Timestamp (<https://en.wikipedia.org/wiki/Timestamp>)
- GMT Date (https://en.wikipedia.org/wiki/Greenwich_Mean_Time)

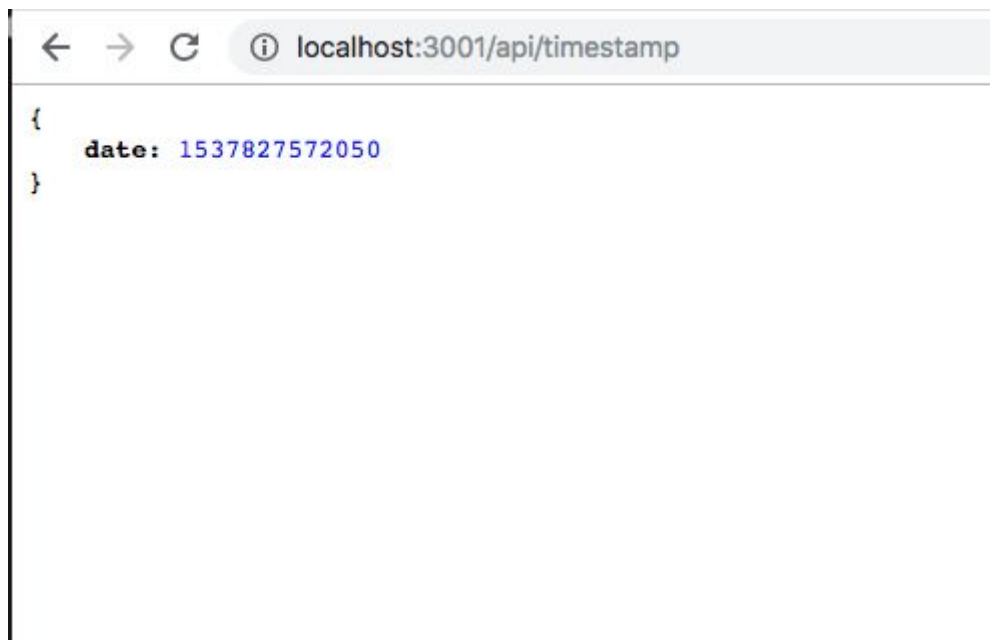
How you display it... it doesn't matter. Just build a simple UI that you feel comfortable with but focus on understanding how the client server communication works: **AJAX** is the key here ([https://en.wikipedia.org/wiki/Ajax_\(programming\)](https://en.wikipedia.org/wiki/Ajax_(programming))).

The server should have the following endpoints:

GET `/api/timestamp` -> returns a timestamp of the current time in **JSON**.

GET `/api/gmtdate` -> returns the current GMT time in **JSON**.

Here is one example:



The model project includes two different implementations:

- Node.js
- Java

If you want to do it in another language, it is fine as long as you feel confident. I might be able to help you in some other languages like Python, so give me a shout if you need.

For the front end you can also use any technology but JQuery and HTML is a simple way of building it (remember, we are focused on the cloud technologies, not frontend).

Extra: Add a SSL certificate to your server to make it HTTPS

Use Letsencrypt to issue a certificate for your server and try to make the traffic to go through HTTPS instead of plain HTTP. You can also generate a self-signed certificate.

Phase II: Spit the server into Microservices

Phase III: Create Docker containers and run it

Phase IV: Create a Kubernetes Deployment