

Assignment 4

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Nov 15, 2020

In this assignment, we created a service that can detect the client's IP address and find out its location, then it will return the city's geographic information.

We define 6 methods in the class "cityinfoController": Get, detectIP, convertIP, coordinates, nearestCityByCoord, nearestCityByCoordXML.

In detectIP(), we call SP1 to get the client's IP address. In convertIP(string ip), we call SP2 to get the city name of the IP's location. In coordinates(string city), we call SP3 to get the city's coordinates. In nearestCityByCoord(string coord), we call SP4 to get the geographic info of the city (in the format of JSON). nearestCityByCoordXML(string coord) is similar to nearestCityByCoord(string coord) except it returns XML.

The first service provider (SP1) we consume is to detect the client's IP address. In this case, it's the IP address of the GCP's server.

SP2 is to get the city name of the IP's location.

SP3 is to get the city's coordinates by its name.

SP4 is to get the city's geographic information by its coordinates. Notice that SP4 only accepts coordinates as parameters in the requests. One cannot get a city's geographic information by sending the city's name.