**Pataa Heatmap Using Geoserver, Leaflet Js, Python**

**Project Overview:-**

For frontend (Leaflet Js) : - Leaflet.js is an open-source library using which we can deploy simple, interactive, lightweight web maps. Leaflet JavaScript library allows you to use layers such as Tile layers, WMS, Markers, Popups, Vector layers (polylines, polygons, circles, etc.), Image overlays and GeoJSON.

For backend (python flask) : - Flask is a small and lightweight Python web framework that provides useful tools and features that make creating web applications in Python easier. It gives developers flexibility and is a more accessible framework for new developers since you can build a web application quickly using only a single Python file.

For Data and server (Geoserver) : - GeoServer is a Java-based server that allows users to view and edit geospatial data. Using open standards set forth by the Open Geospatial Consortium (OGC), GeoServer allows for great flexibility in map creation and data sharing.

**Project Structure (As per flask application standard):-**

1. In templates folder – We have our main html file in templates folder and in our case it is index1.html file consist of our css and js logic.
2. Static – This folder is used for static files like css and js. We kept two dependency JavaScript files which is L.Geoserver.js and wms-capabilities.min.js.
3. Our main python file - In this file we kept out routing logic and some basic api calls in our pataa database.

**Project Steps:-**

1. We use opensource Leaflet JS module for our frontend map and we use google maps as a base map in our application.
2. For setting up this project first we have to setup our Geoserver and we have to create different layers as per our needs on Geoserver which we can use as an API calls in our web application.
3. Apart from Geoserver for data sharing we need one server for our web application either written in Python, Node Js, and Java.