ArcGIS JS - Lab1

Hệ thống thông tin địa lý 3 chiều

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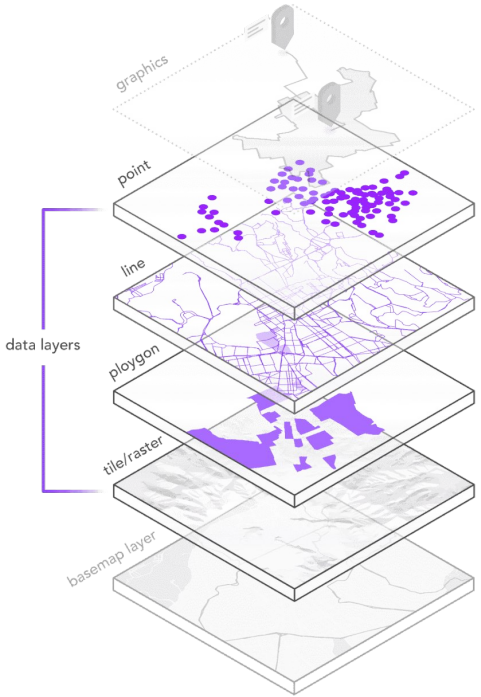
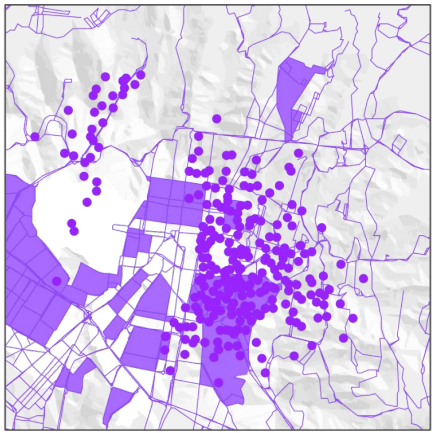
Introduction

ArcGis

- Map
  - Layer
  - basemap
- View
  - Display
  - User interaction
  - Popup
  - Widget
  - Location



Map



Map view

Intro to 2D Map

Base HTML

```
<html>
  <head>
    <meta charset="utf-8" />
    <meta name="viewport" content="initial-scale=1, maximum-scale=1, user-scalable=no" />
    <title>ArcGIS Maps SDK for JavaScript Tutorials: Display a map</title>

    <style>
      html,
      body,
      #viewDiv {
        padding: 0;
        margin: 0;
        height: 100%;
        width: 100%;
      }
    </style>

  </head>
  <body>
    <div id="viewDiv"></div>
  </body>
</html>
```

Intro to 2D Map

<head> tag

```
<style>
  html,
  body,
  #viewDiv {
    padding: 0;
    margin: 0;
    height: 100%;
    width: 100%;
  }
</style>

<link rel="stylesheet" href="https://js.arcgis.com/4.29/esri/themes/light/main.css">
<script src="https://js.arcgis.com/4.29/"></script>
```

Intro to 2D Map

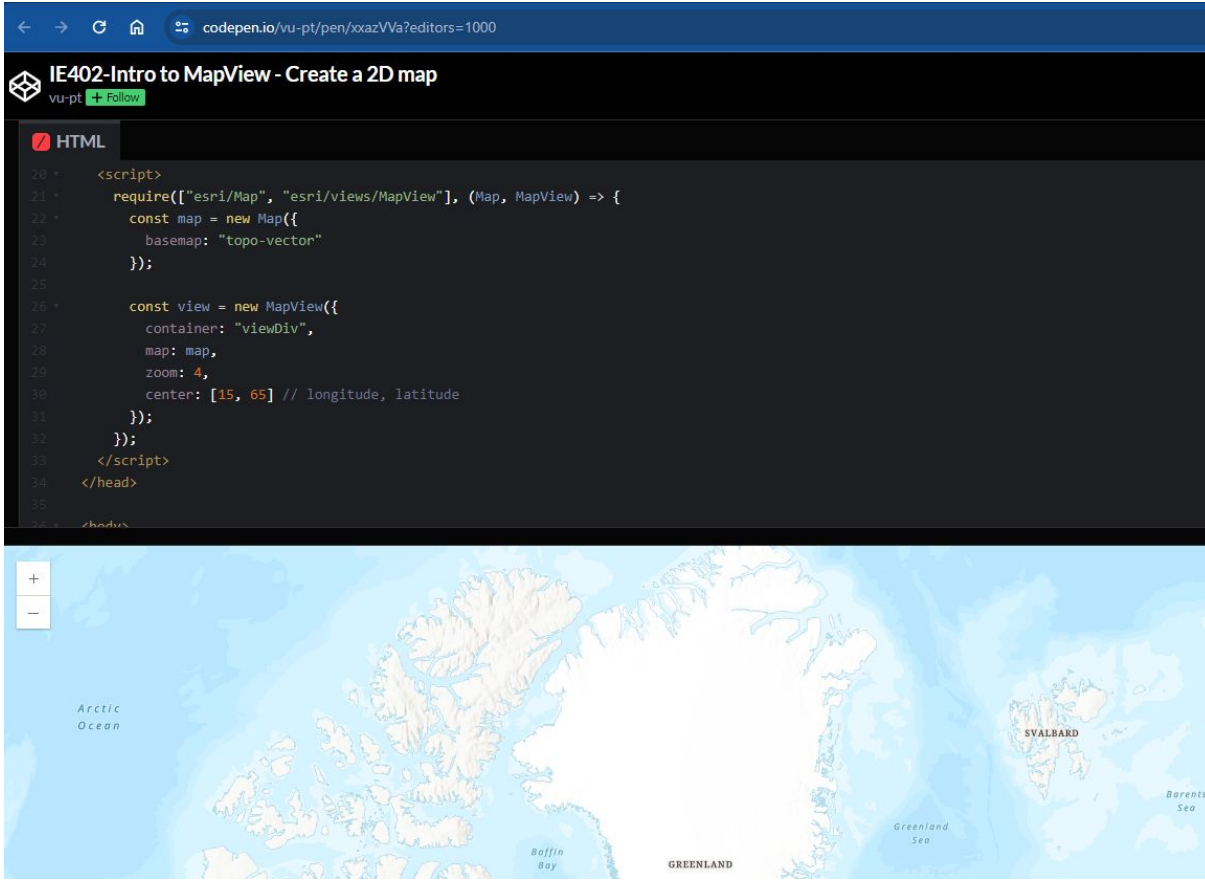
<head> tag

```
<script>
  require(["esri/Map", "esri/views/MapView"], (Map, MapView) => {
    const map = new Map({
      basemap: "topo-vector"
    });

    const view = new MapView({
      container: "viewDiv",
      map: map,
      zoom: 4,
      center: [15, 65] // longitude, latitude
    });
  });
</script>
```

Intro to 2D Map

Introduction 2D map view



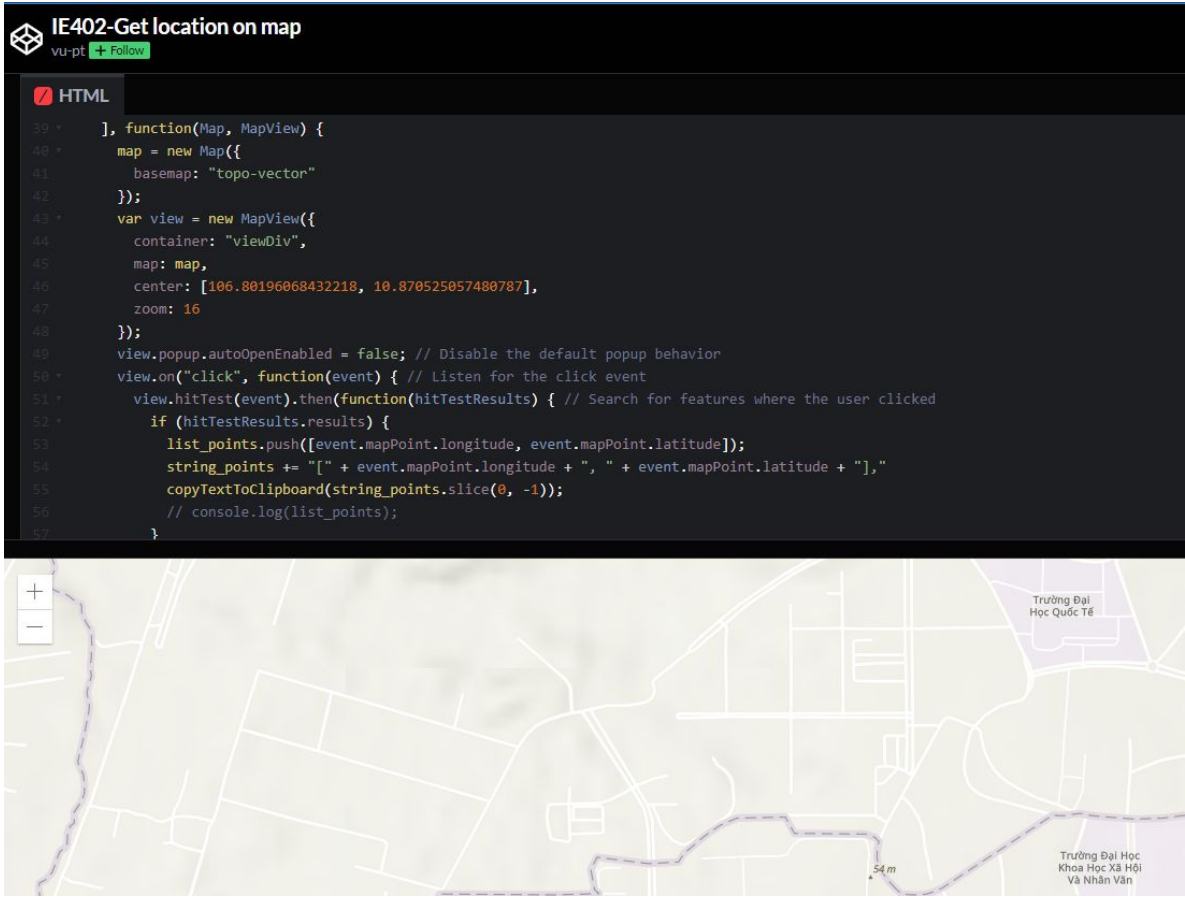
Basemap

Reference

Value	Source
`satellite`	World Imagery
`hybrid`	Hybrid Reference Layer and World Imagery
`oceans`	World Ocean Reference and World Ocean Base
`osm`	OpenStreetMapLayer
`terrain`	World Reference Overlay and World Terrain Base
`dark-gray` / `dark-gray-vector`	Dark Gray Canvas
`gray` / `gray-vector`	Light Gray Canvas
`streets` / `streets-vector`	World Street Map
`streets-night-vector`	World Street Map (Night)
`streets-navigation-vector`	World Navigation Map
`topo` / `topo-vector`	World Hillshade and World Topographic Map
`streets-relief-vector`	World Hillshade and World Street Map (with Relief)

Location on 2D map

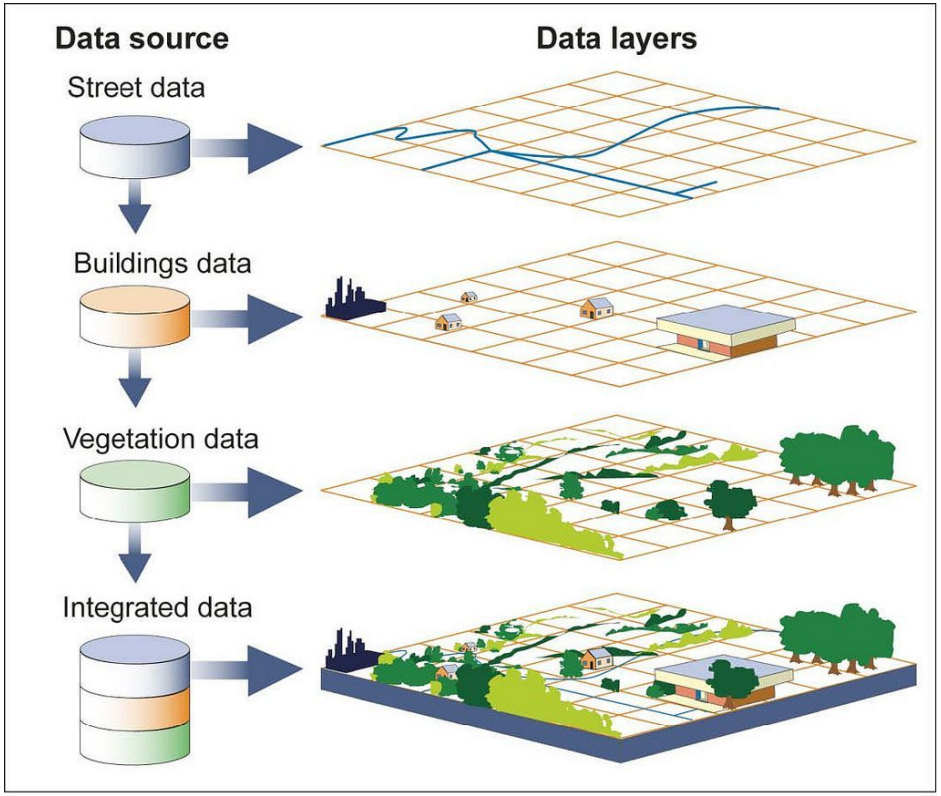
[Location sample]



Coordinates

Layer

```
var graphicsLayer = new GraphicsLayer();
jsondata.points.forEach(function(data){
  graphicsLayer.add(createGraphic(data));
});
jsondata.lines.forEach(function(data){
  graphicsLayer.add(createGraphic(data));
});
jsondata.polygons.forEach(function(data){
  graphicsLayer.add(createGraphic(data));
});
map.add(graphicsLayer);
```



Source: GAO.

Graphics

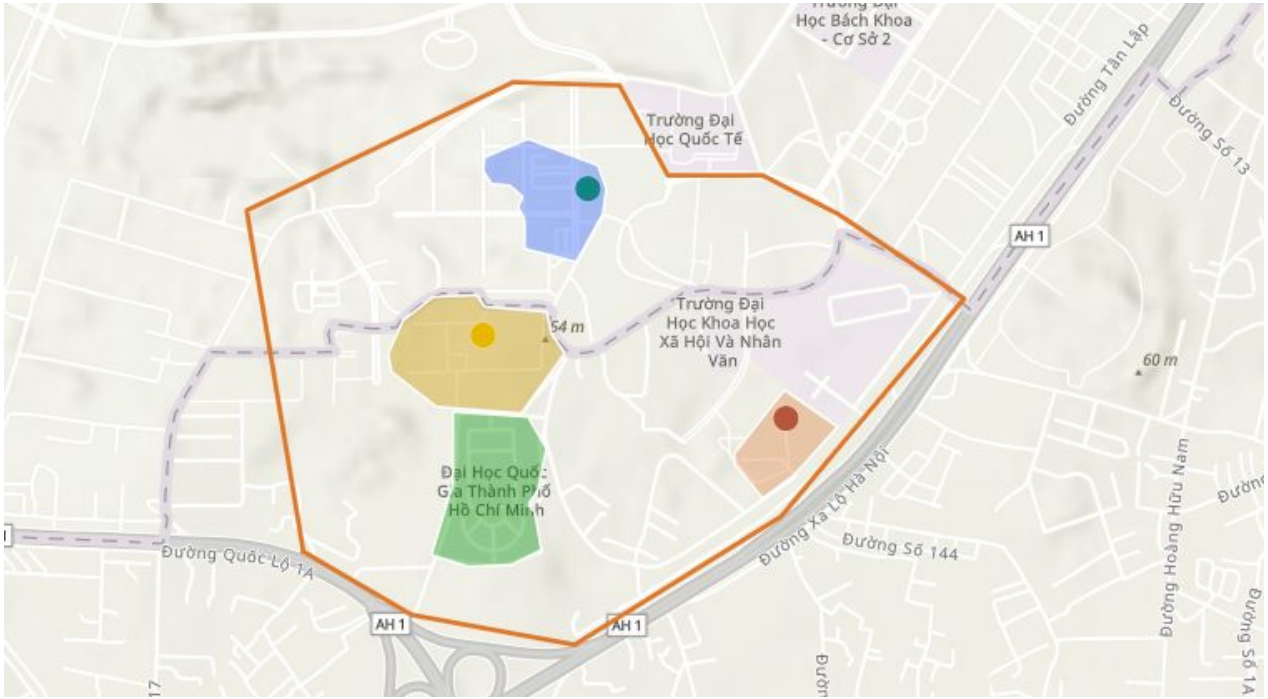
Graphic object

```
require([
  "esri/Map",
  "esri/views/MapView",
  "esri/Graphic",
  "esri/layers/GraphicsLayer"
], function(Map, MapView, Graphic, GraphicsLayer) {

var map = new Map({
basemap: "topo-vector"
});
 map.on("load", function(){
      map.graphics.enableMouseEvents();
    });
```

Graphic object + JS

Customized JS



Picture marker

```
const simpleMarkerSymbol = {
        type: "picture-marker",
        url: "base64 image",
        width: "48px",
        height: "48px"
};
```

https://www.base64-image.de/

https://www.remove.bg/

References

- 2D map Introduction
- 2D sample code
- Graphic object 2D sample