**openlayers3加载各种底图**

不管是加载在线还是离线的底图，无非是按照一定的规则，正确定义图层（layer）,然后将图层添加到map对象中，这里我map对象使用的坐标系为WGS84 4326，openlayers版本为3.17。

1.在线天地图交通图

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1. var tian\_di\_tu\_road\_layer = new ol.layer.Tile({
2. title: "天地图路网",
3. source: new ol.source.XYZ({
4. url: "http://t4.tianditu.com/DataServer?T=vec\_w&x={x}&y={y}&l={z}"
5. })
6. });
8. var tian\_di\_tu\_annotation = new ol.layer.Tile({
9. title: "天地图文字标注",
10. source: new ol.source.XYZ({
11. url: 'http://t3.tianditu.com/DataServer?T=cva\_w&x={x}&y={y}&l={z}'
12. })
13. });

2.离线天地图

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1. var tiandituBaseLayer = new ol.layer.Tile({
2. title:"天地图基础图层",
3. source: new ol.source.XYZ({
4. tileUrlFunction:function(tileCoord){  // 参数tileCoord为瓦片坐标
5. var z = tileCoord[0];
6. var x = tileCoord[1];
7. var y = -tileCoord[2]-1;
8. return 'http://localhost:8080/tiantai/TDTVec/L'+z+'/'+y+'/'+x+'.png'
9. },
10. projection:'EPSG:4326'
11. })
12. });
14. // 添加一个使用离线瓦片地图的层
15. var tiandituMarkLayer = new ol.layer.Tile({
16. title:"天地图标注图层",
17. source: new ol.source.XYZ({
18. tileUrlFunction:function(tileCoord){  // 参数tileCoord为瓦片坐标，遍历整个坐标系统
19. var z = tileCoord[0];
20. var x = tileCoord[1];
21. var y = -tileCoord[2]-1;//不是经纬度,是瓦片坐标
22. return 'http://localhost:8080/tiantai/TDTVecAnno/L'+z+'/'+y+'/'+x+'.png';
23. },
24. projection:'EPSG:4326'
25. })
26. });

3.在线天地图影像

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1. **var** tiandituSatelliteLayer = **new** ol.layer.Tile({
2. source: **new** ol.source.XYZ({
3. url:'http://t3.tianditu.cn/DataServer?T=img\_w&X={x}&Y={y}&L={z}'//天地图影像
4. }),
5. projection: 'EPSG:3857'
6. })
8. **var** tiandituSatelliteLabel = **new** ol.layer.Tile({
9. source: **new** ol.source.XYZ({
10. url:'http://t3.tianditu.cn/DataServer?T=cia\_w&X={x}&Y={y}&L={z}'//天地图影像 标注
11. }),
12. projection: 'EPSG:3857'
13. })

4.在线高德地图

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1. **var** gaodeMapLayer = **new** ol.layer.Tile({
2. source: **new** ol.source.XYZ({
3. url:'http://webrd03.is.autonavi.com/appmaptile?x={x}&y={y}&z={z}&lang=zh\_cn&size=1&scale=1&style=8'//高德地图在线
4. }),
5. projection: 'EPSG:3857'
6. })

5.3857坐标系下的arcgis切片

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1. var tileLayer = new ol.layer.Tile({
2. source: new ol.source.XYZ ({
3. tileUrlFunction: function(tileCoord) {
4. var x = 'C'+zeroPad(tileCoord[1],8,16);
5. var y = 'R'+zeroPad(-tileCoord[2]-1,8,16);
6. var z = 'L'+zeroPad(tileCoord[0],2,10);
7. return 'tiles/wt/'+z+'/'+y+'/'+x+'.png';
8. },
9. projection: 'EPSG:3857'
10. })
11. });

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1. function zeroPad(num,len,radix){
2. var str = num.toString(radix || 10);
3. while(str.length**<len**){
4. str = "0"+ str;
5. }
6. return str;
7. }

6.Open Street Map 地图层

默认：

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1. var openStreetMapLayer = new ol.layer.Tile({
2. source: new ol.source.OSM()
3. });

地形：

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1. **var** osmTerrainlayer = **new** ol.layer.Tile({
2. source : **new** ol.source.OSM(
3. url:'http://tile-{a-c}.openstreetmap.fr/hot/{z}/{x}/{y}.png'//osm地形
4. )
5. })

自行车地图：

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1. **var** osmBicycleLayer = **new** ol.layer.Tile({
2. source: **new** ol.source.OSM({
3. url:'http://{a-c}.tile.thunderforest.com/cycle/{z}/{x}/{y}.png'//osm自行车地图
4. })
5. })

7.在线Bing地图

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1. var bingMapLayer = new ol.layer.Tile({
2. source: new ol.source.BingMaps({
3. key: 'AkjzA7OhS4MIBjutL21bkAop7dc41HSE0CNTR5c6HJy8JKc7U9U9RveWJrylD3XJ',
4. imagerySet: 'Road'
5. })
6. });

8.在线Stamen地图

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1. var stamenLayer = new ol.layer.Tile({
2. source: new ol.source.Stamen({
3. layer: 'watercolor'
4. })
5. });

9.在线MapQuest地图

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1. var mapQuestLayer = new ol.layer.Tile({
2. source: new ol.source.MapQuest({
3. layer: 'osm'
4. })
5. });

10.加载geoserver的WMS服务

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1. **var** TileWMSLayer = **new** ol.layer.Tile({
2. source: **new** ol.source.TileWMS({
3. url: "http://192.168.88.21:8081/geowebcach/service/wms",
4. params: {'LAYERS': 'tiantai','FORMAT':'image/png','SRS':'EPSG:0'},
5. tileGrid: **new** ol.tilegrid.TileGrid({
6. //resolution和conf.xml中保持一致
7. resolutions: [0.00068664344191344954,0.00034332053122622185,0.00017165907588260801,8.5829537941304004e-005,4.2913579240149092e-005,2.1455599889571629e-005,1.07266102142829e-005,5.3633051071414502e-006,2.6816525535707251e-006],
8. tileSize: [256, 256],
9. origin:[-400,400]
10. })
11. }),
12. projection: 'EPSG:4326'
13. })

11.ArcGIS Server发布的服务

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1. **var** arcgisTileLayer = **new** ol.layer.Tile({
2. source: **new** ol.source.TileArcGISRest({
3. url: 'http://localhost:8399/arcgis/rest/services/test/MapServer'
4. })
5. })

好像3.17版本才支持，如果服务启用缓存，访问的就是arcgis缓存切片

12.在线谷歌地图

谷歌交通地图：

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1. **var** googleMapLayer = **new** ol.layer.Tile({
2. source: **new** ol.source.XYZ({
3. url:'http://www.google.cn/maps/vt/pb=!1m4!1m3!1i{z}!2i{x}!3i{y}!2m3!1e0!2sm!3i345013117!3m8!2szh-CN!3scn!5e1105!12m4!1e68!2m2!1sset!2sRoadmap!4e0'
4. })
5. });

谷歌地形地图：

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1. **var** googleTerrainLayer = **new** ol.layer.Tile({
2. source: **new** ol.source.XYZ({
3. url:'http://mt3.google.cn/vt/lyrs=t@131,r@216000000&hl=zh-CN&gl=CN&src=app&x={x}&y={y}&z={z}&s=Gal'//谷歌地形地图
4. }),
5. projection: 'EPSG:3857'
6. })

谷歌卫星地图（混合）：

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1. **var** googleSatelliteLayer = **new** ol.layer.Tile({
2. source: **new** ol.source.XYZ({
3. url:'http://mt2.google.cn/vt/lyrs=y&hl=zh-CN&gl=CN&src=app&x={x}&y={y}&z={z}&s=G'//谷歌卫星地图 混合
4. }),
5. projection: 'EPSG:3857'
6. })