



ORDNANCE SURVEY GB

OS Open Zoomstack - Vector Tile API

Version History

Version	Date	Description
1.1	04/02/2019	Updated template and content

Purpose of this Specification

This is the Technical Specification (hereinafter referred to as the ‘Specification’) for the OS Open Zoomstack-Vector Tile API product (hereinafter referred to as the ‘Product’) which is referred to in the Framework Contract (Direct Customers), the Framework Contract (Partners) or your other customer contract for the Product.

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Contact Details

Physical address: **Customer Service Centre, Ordnance Survey, Adanac Drive, Southampton, SO16 0AS**

Telephone	+44 (0)3456 05 05 05
Welsh Language Helpline	+44 (0)3456 05 05 04
Textphone (deaf and hard of hearing users only please)	+44 (0)2380 05 61 46
Email: customerservices@os.uk	www.os.uk

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What is the Vector Tile API?

The OS Open Zoomstack Vector Tile API is the easiest way to integrate Ordnance Survey mapping into your web or mobile application. The projection of this data is [Web Mercator](#).

(This API is still in trial and you do not require a Key to access the API – this is not necessarily indicative of a productionised service.

We'll continue supporting the API and will update it with new data while we plan the release of a fully supported version which will be in line with the wider OS Open project.

Please note this may involve changes in the API URL at a minimum.)

The API contains 4 map styles, all of which have a unique endpoint. They are:

Outdoor: <https://s3-eu-west-1.amazonaws.com/tiles.os.uk/v2/styles/open-zoomstack-outdoor/style.json>

Road: <https://s3-eu-west-1.amazonaws.com/tiles.os.uk/v2/styles/open-zoomstack-road/style.json>

Light: <https://s3-eu-west-1.amazonaws.com/tiles.os.uk/v2/styles/open-zoomstack-light/style.json>

Night: <https://s3-eu-west-1.amazonaws.com/tiles.os.uk/v2/styles/open-zoomstack-night/style.json>

You can read more about the styles [here](#) to help you choose the right one for your application.

What are the benefits?

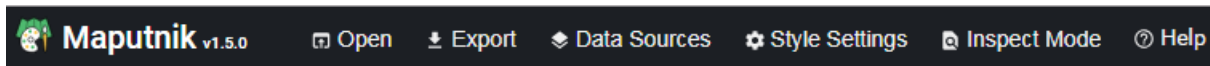
- Ease of use – Easy to integrate Ordnance Survey mapping into your application
- Zero data management – We manage all the data, you just use it
- Web and mobile-ready – Pixel perfect maps on any device
- Seamless user experience – Vector Tiles pan, zoom, tilt and pitch beautifully
- 4 beautiful cartographic styles – Choose the map which best fits your requirements

Using the Vector Tile API in Maputnik

[Maputnik](#) is a free and open source visual editor for Mapbox GL styles targeted at developers and map designers.

To get started, open a web browser (we recommend Chrome for the best performance) and go to:
<https://maputnik.github.io/editor/>

From the top menu, click *Open*

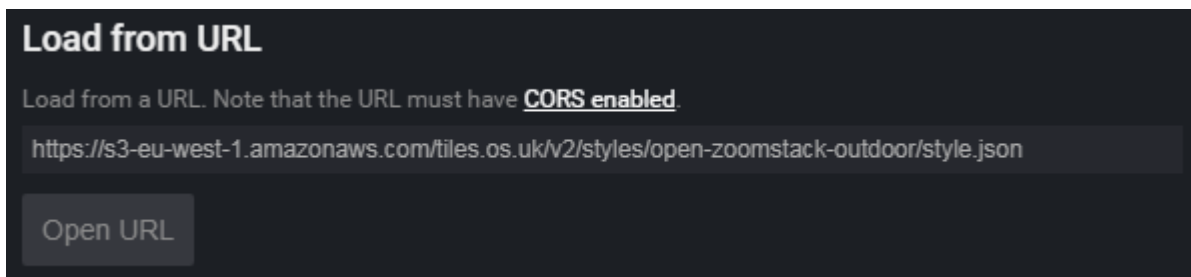


Copy & Paste the following URL into the box that says 'Enter URL...'

`https://s3-eu-west-1.amazonaws.com/tiles.os.uk/v2/styles/open-zoomstack-outdoor/style.json`

(If you would like to change the map style then change **outdoor** to either *road*, *light* or *night*.)

Then, click *Open URL*



The map will then load up into the editor. You can pan, zoom and tilt the map and make use of the styling functionality from the left-hand panel.

You can then use the Export button from the top menu to download the json file for your customised style. You can then host that style and use it in your application.

You can find more information about how to use Maputnik [here](#).

Using the Vector Tile API in Mapbox GL JS

Mapbox GL JS is a JavaScript library for building web applications with Mapbox's modern mapping technology. You can read more about it [here](#) and make use of the excellent [examples](#).

The following example is based on Mapbox's own 'Display a map' example.

*(If you would like to change the map style then change **outdoor** to either road, light or night.)*

Here is the code for your index.html:

```
<!DOCTYPE html>
<html>
<head>
  <meta charset='utf-8' />
  <title>OS Open Zoomstack</title>
  <meta name='viewport' content='initial-scale=1,maximum-scale=1,user-scalable=no' />
  <script src='https://api.tiles.mapbox.com/mapbox-gl-js/v0.52.0/mapbox-gl.js'></script>
  <link href='https://api.tiles.mapbox.com/mapbox-gl-js/v0.52.0/mapbox-gl.css' rel='stylesheet' />
  <style>
    body { margin:0; padding:0; }
    #map { position:absolute; top:0; bottom:0; width:100%; }
  </style>
</head>
<body>

<div id='map'></div>
<script>
mapboxgl.accessToken = ''; // you can add a Mapbox access token here
var map = new mapboxgl.Map({
  container: 'map', // container id
  style: 'https://s3-eu-west-1.amazonaws.com/tiles.os.uk/v2/styles/open-zoomstack-outdoor/style.json', //
stylesheet location
  center: [-1.485, 52.567], // starting position [lng, lat]
  zoom: 10 // starting zoom
});
</script>

</body>
</html>
```

Using the Vector Tile API in Leaflet

This example uses an experimental tool which enables you to add Mapbox Vector Tiles to a [Leaflet](#) map. You can find more information about it [here](#). This mapbox-gl-leaflet binding will allow you to use all the Leaflet features and plugins.

*(If you would like to change the map style then change **outdoor** to either road, light or night.)*

Here is the code for your index.html:

```
<!DOCTYPE html>
<html>
<head>
<title>OS Open Zoomstack</title>
<meta charset="utf-8" />
<meta name="viewport" content="width=device-width, initial-scale=1.0, maximum-scale=1.0, user-scalable=no" />
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/leaflet/1.3.1/leaflet.css" />
<style>
body { margin:0; padding:0; }
#map { position:absolute; top:0; bottom:0; width:100%; }
</style>
</head>
<body>

<div id="map"></div>

<script src="https://api.tiles.mapbox.com/mapbox-gl-js/v0.46.0/mapbox-gl.js"></script>
<script src="https://cdnjs.cloudflare.com/ajax/libs/leaflet/1.3.1/leaflet.js"></script>
<script src="https://rawgit.com/mapbox/mapbox-gl-leaflet/master/leaflet-mapbox-gl.js"></script>
<script>

var map = L.map('map', {
  minZoom: 7,
  maxZoom: 18,
  maxBounds: [[ 49.84 , -8.74 ], [ 60.9, 1.96 ]]
});

var gl = L.mapboxGL({
  style: 'https://s3-eu-west-1.amazonaws.com/tiles.os.uk/v2/styles/open-zoomstack-outdoor/style.json',
  accessToken: 'no-token'
}).addTo(map);

map.attributionControl.addAttribution('Contains OS data &copy; Crown copyright and database rights 2018');

map.setView([ 52.567, -1.485 ], 10);

</script>

</body>
</html>
```

Using the Vector Tile API in the Mapbox Maps SDKs

Mapbox provides Maps SDKs for iOS and Android which allows you to embed Vector Tile maps into your mobile applications.

- Read more about [Mapbox Maps SDK for iOS](#).
- Read more about [Mapbox Maps SDK for Android](#).

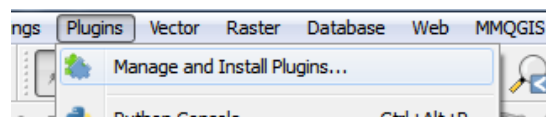
We have created a minimal demo for the Android SDK as an example of how to use our Vector Tile API. You can find it on [GitHub here](#).

Using the Vector Tile API in QGIS

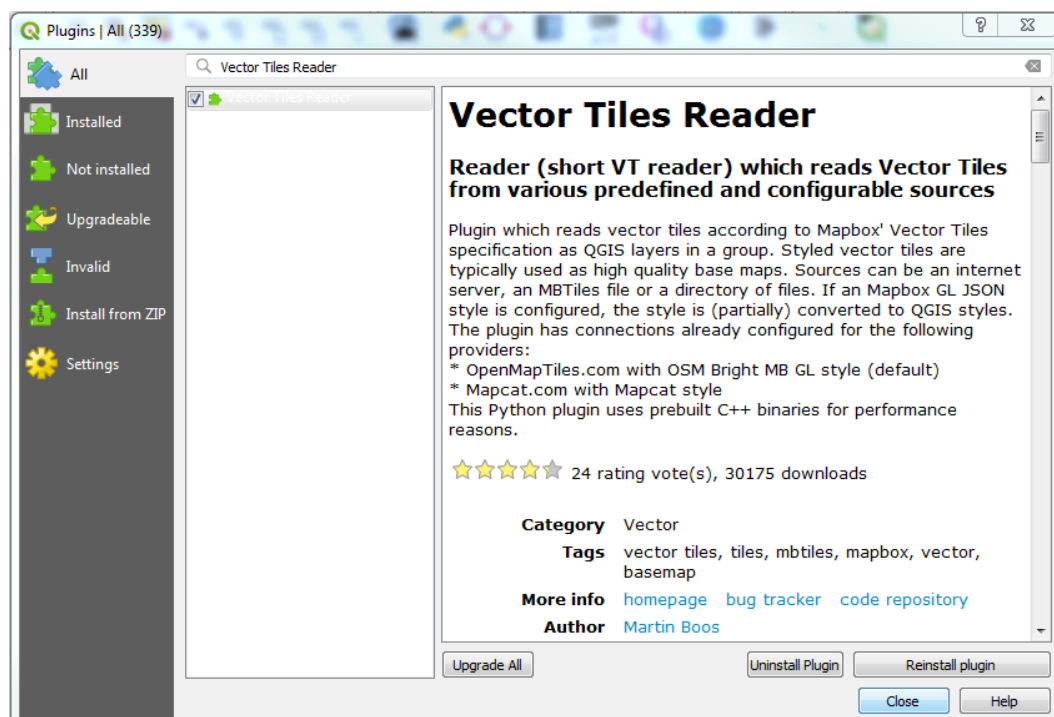
Martin Boos has created a plugin called '[Vector Tiles Reader](#)' for QGIS. It enables you to read Mapbox Vector Tiles from a server, a directory or a local MBTiles file.

To get started, load QGIS.

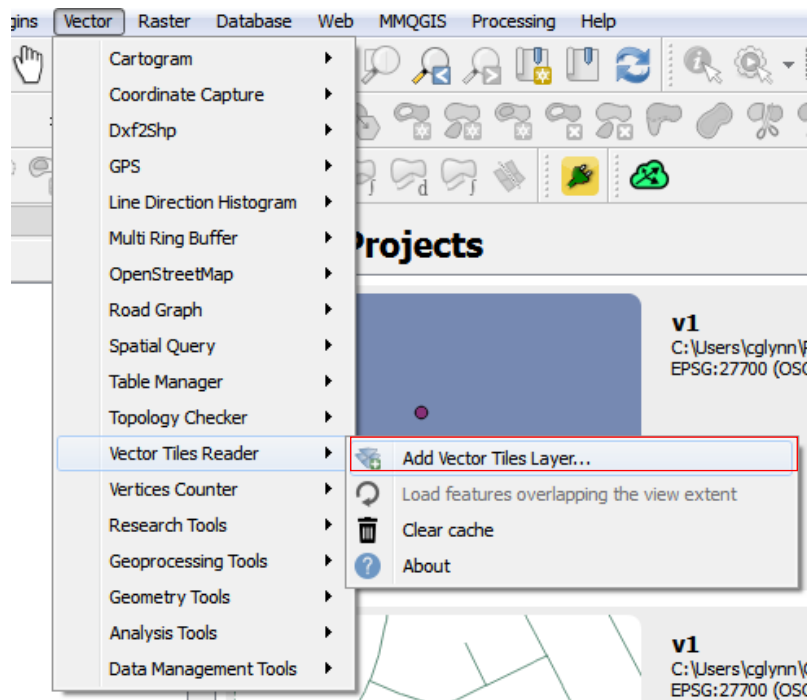
From the top menu, click *Plugins* and then *Manage and Install Plugins...*



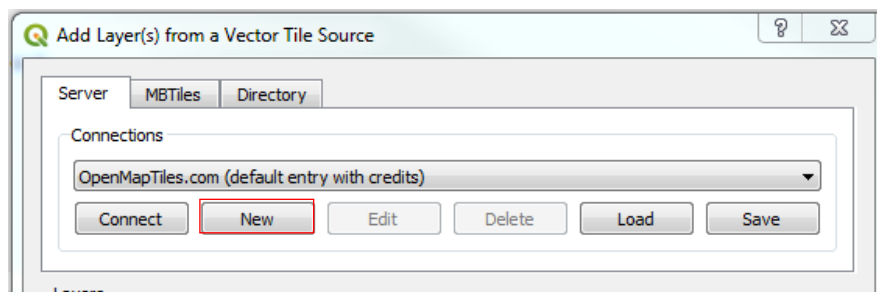
In the dialogue box, search for *Vector Tiles Reader*, select it and click *Install plugin*



Once it is installed, go to the top menu, click *Vector > Vector Tiles Reader > Add Vector Tiles Layer...*



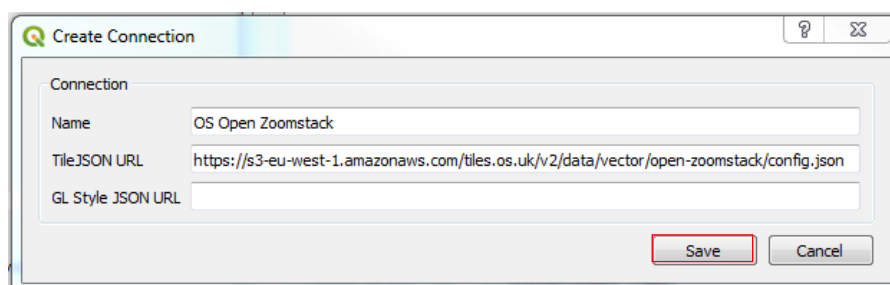
In the dialogue box, select the *Server* tab and then click *New*



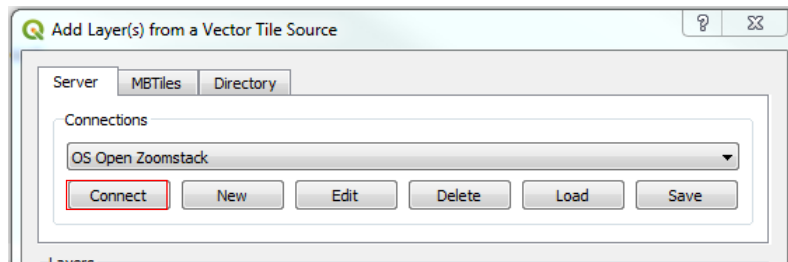
In the *Create Connection* dialogue box, add a name and paste in this TileJSON URL

<https://s3-eu-west-1.amazonaws.com/tiles.os.uk/v2/data/vector/open-zoomstack/config.json>

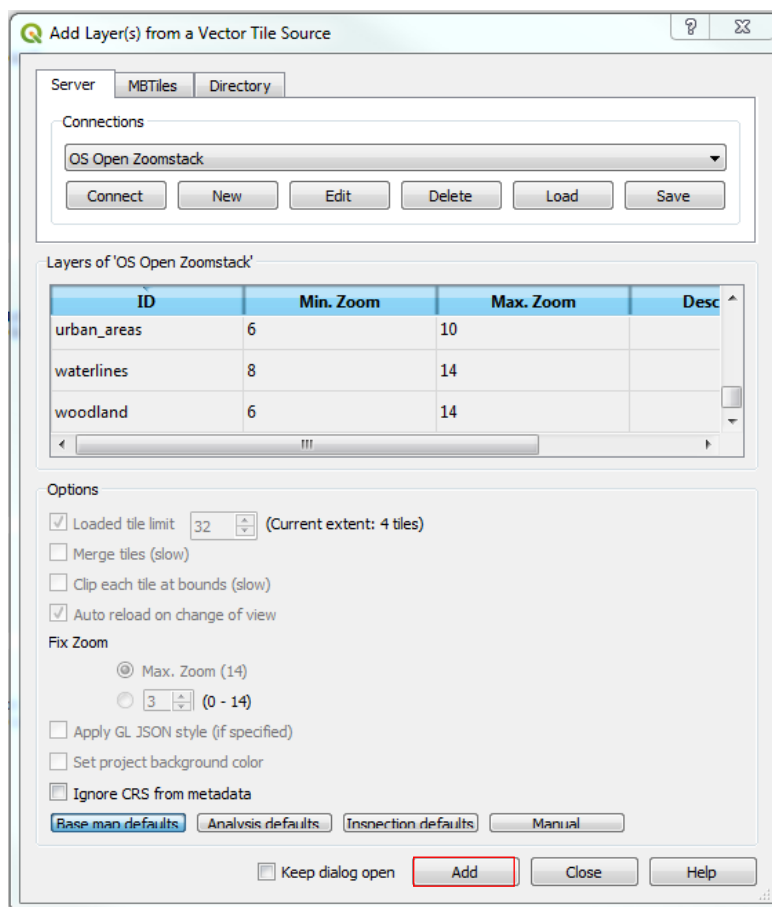
Then click *Save*



Next click *Connect*

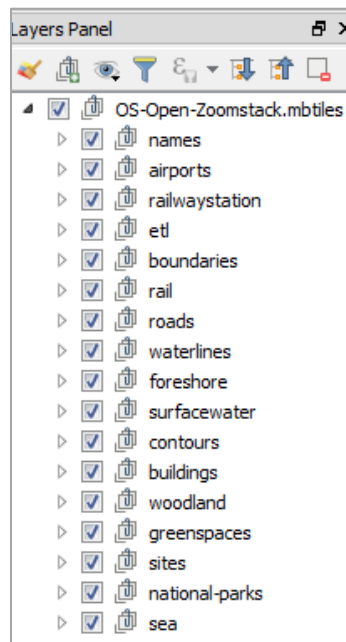


Then, hold CTRL and select all the layers, select *Base map defaults* and click *Add*



The data will then appear in your Layers Panel and render in your map window. This plugin is new, and you may find it a little slow - it helps the performance if you zoom in to street level.

In the Layers Panel, drag and drop the layers into the following order as this is the order in which QGIS will draw them



For more information and help with the plugin click [here](#)