QUICK GUIDE TO OUR APIs

Discover more about what we do
Visit **osdatahub.os.uk**

Ordnance Survey

WHY USE OS APIs?

Bring your solutions to life with OS data and APIs.

Get started for free and benefit from the power of location by incorporating Great Britain's most comprehensive geographic data into your applications.

The advantages of APIs include:

✓ **Reduce overheads** – no need to download, manage, store, serve the data

✓ **Quick access** – connect directly to data that is ready to use

✓ **Automation** – automate your workflows by integrated APIs

✓ **Updated regularly** – no need to update the data yourself, you always have the latest view

✓ **Flexible** – APIs can provide efficiencies and help you be more productive
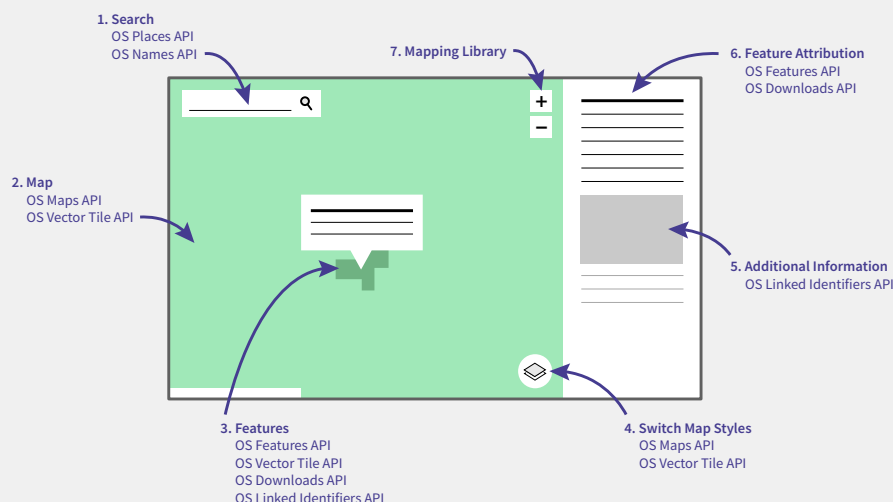
OS APIs give you direct access to our detailed, accurate, trusted data with a variety of functionality. The data is updated regularly so you always have the latest view.

- **Mapping** – OS Maps API and OS Vector Tile API

- **Search** – OS Places API, OS Match & Cleanse API, OS Names API and OS Linked Identifiers API

- **Features** – OS Features API

- **Downloads** – OS Downloads API

"Through its extraordinary APIs, the OS Data Hub makes the acquisition of high-spec, clean data simple to access, on-demand, and is a much more affordable alternative to other datasets available on the market."

Robert Jones, Property XYZ

When used together, the suite of OS APIs can become the building blocks to location-based applications:

1. Search
OS Places API
OS Names API

7. Mapping Library

6. Feature Attribution
OS Features API
OS Downloads API

2. Map
OS Maps API
OS Vector Tile API

5. Additional Information
OS Linked Identifiers API

3. Features
OS Features API
OS Vector Tile API
OS Downloads API
OS Linked Identifiers API

4. Switch Map Styles
OS Maps API
OS Vector Tile API

Head over to **os.uk/developers** to find out more about the support available, including copy and paste code examples to help you get started quickly.

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SEE ➤ BETTER PLACE

OS DOWNLOADS API

Available from the OS Data Hub alongside a suite of OS APIs

Machine to machine downloads. The OS Downloads API lets you automate the discovery and download of OS OpenData. In doing so it improves the accessibility of the OS OpenData products. Build it into your data pipelines to improve efficiency by removing data management overheads.

**DOWNLOADS | GEOGRAPHIC DATA | DATA MANAGEMENT**

Key benefits

- Discover which OS OpenData is available
- Automate the download of OS OpenData
- Request various coverage areas depending on the dataset
- Request various formats depending on the dataset
- Request metadata on available datasets including thumbnail images

"Through its extraordinary APIs, the OS Data Hub makes the acquisition of high-spec, clean data simple to access, on-demand, and is a much more affordable alternative to other datasets available on the market."

Robert Jones, Property XYZ

There are 18 OS OpenData products available for free download:

- 1:250 000 Scale Colour Raster™
- Boundary-Line™
- Code-Point® Open
- GB Overview Maps
- OS Open Linked Identifiers
- MiniScale®
- OS Open Greenspace
- OS Open Map – Local
- OS Open Names
- OS Open Rivers
- OS Open Roads
- OS Open TOID
- OS Open UPRN
- OS Open USRN
- OS Open Zoomstack
- Strategi®
- OS Terrain® 50
- OS VectorMap® District
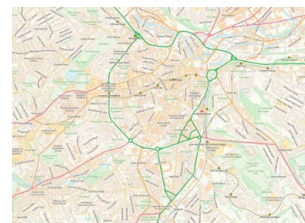
OS Downloads API will include access to OS premium data in the future.

Head over to **os.uk/developers** to find out more about the support available, including copy and paste code examples to help you get started quickly.

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SEE ➤ BETTER PLACE

OS FEATURES API

Available from the OS Data Hub alongside a suite of OS APIs

Get started for free and give your customers direct access to the most detailed geographic data for their analysis, taking full advantage of rich geometries and attributes to generate new insight. No need to download, store and manage large and complex datasets, we take care of that so you can focus on adding value.

GEOGRAPHIC ANALYSIS | SELECTION | VISUALISATION | GENERATE NEW INSIGHT

What is a WFS?

Web Feature Service (WFS) is an Open Geospatial Consortium (OGC) standard that allows requests for geographic features across the web using platform-independent calls. You can query features based on spatial and non-spatial constraints.

Key benefits

- Directly access the most detailed OS data, including OS MasterMap
- Filter, select and query the data you need, as and when you need it
- Make use of the geometries and attributes to generate new insight
- Trace over or snap-to accurate vector geometries
- Remove the overheads of managing and storing the data yourself – we take care of that so you can focus on adding value

You can request GeoJSON or GML in either British National Grid or Web Mercator.

The following data layers are available:

Premium data:

- OS MasterMap Topography Layer with Building Heights
- OS MasterMap Sites Layer (Hospitals, Schools, access points and more)
- OS MasterMap Greenspace Layer (Public parks, private gardens and more)
- OS MasterMap Water Network Layer (Rivers, canals, streams and more)
- OS MasterMap Highways Network (Roads and urban paths)
- OS Detailed Path Network (National Parks only)

OS OpenData:

- OS Open Zoomstack (contains buildings, greenspaces, roads and much more)

"The latest APIs have enabled us to add more innovative features, such as taking advantage of Ordnance Survey's building footprint and height data to provide measurements and analytics that is highly useful to our property developer and investor customers.

We wouldn't hesitate to recommend Ordnance Survey's maps and APIs to any UK companies that need to very best in home-grown mapping."

Michael Dent, Founder of PropertyData

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Discover more about what we do
Visit **os.uk/featuresapi**

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OS LINKED IDENTIFIERS API

Available from the OS Data Hub alongside a suite of OS APIs

The OS Linked Identifiers API allows you to access the valuable relationships between properties, streets and OS MasterMap identifiers for free. It's as easy as providing the identifier you are interested in and the API will return the related feature identifiers. This allows you to find what addresses exist on a given street, or the UPRN for a building on a map, or the USRN for a road and more.

IDENTIFIERS | GEOGRAPHIC ANALYSIS | SELECTION | VISUALISATION

Key benefits

- Create clickable interactive web app maps

- Link properties to streets

- Visualise third party data linked to OS geometries

An identifier is a unique reference assigned to a specific thing, so when you are talking to someone else you can use it to ensure you're talking about the same thing. They are used all the time, such as telephone numbers, postcodes and customer reference numbers. OS is striving to make its identifiers more accessible and useful for its customers. The OS Linked Identifiers API takes this further by enabling the linking together of datasets that are using different identifiers; for example, linking a property address (UPRN – Unique Property Reference Number) to the street that it is on (USRN – Unique Street Reference Number).

These relationships can be used in conjunction with other OS APIs. The API has been designed with ease-of-use in mind. It conforms to REST OpenAPI v3.0.2 specification and returns data in a readable JSON format. These standards integrate well with JavaScript and support the creation of sophisticated interactive map web applications in conjunction with our OS Maps API, OS Vector Tile API and OS Features API.
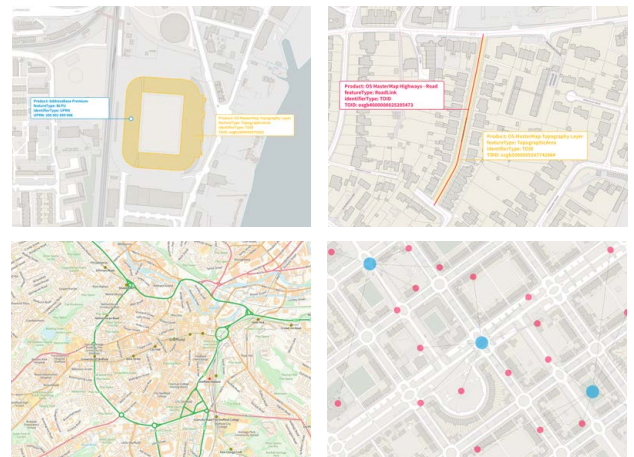
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Discover more about what we do
Visit **os.uk/linksapi**

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OS MAPS API

Available from the OS Data Hub alongside a suite of OS APIs

Get started for free and integrate Ordnance Survey's up-to-date, detailed maps in your apps, enabling your customers to make location-based decisions with confidence and removing the overhead of managing complex datasets yourself.

DATA VISUALISATION | DIGITAL CARTOGRAPHY | TRACING

Available as both WMTS and ZXY, with choices of projection and map style.

Light, Road and Outdoor styles give you unrivalled OS MasterMap detail at building level whilst the Leisure style includes our digital equivalent of OS Explorer Maps – the must-have map in any navigation app or device for hikers and cyclist.

What is WMTS?

A Web Map Tile Service (WMTS) is an Open Geospatial Consortium (OGC) standard protocol for serving pre-rendered map tiles over the Internet.

## "In ten minutes, you can get everything up and working."

Chris Fleet, Map Curator at National Library of Scotland

What is ZXY?

A common and easy-to-integrate form of slippy map for the web. Plug and play maps for your web apps.

Key benefits

- Use as a basemap in GIS, web or mobile apps
- Overlay your own data to give it geographic context
- Trace over detailed, accurate OS MasterMap geometries
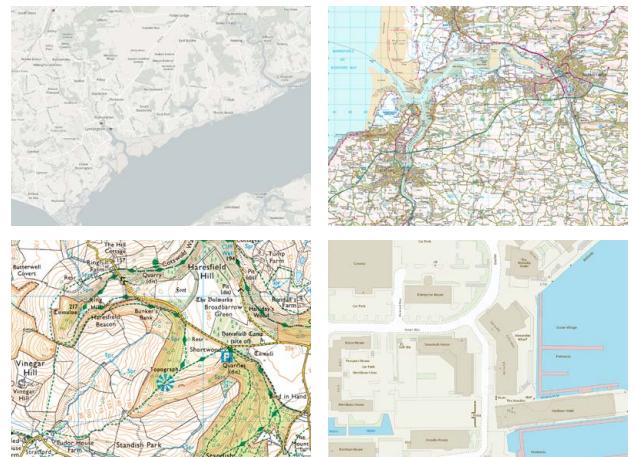
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Discover more about what we do
Visit **os.uk/mapsapi**

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OS MATCH & CLEANSE API

Improve efficiency, guarantee accuracy and reduce costs. Match, correct and validate addresses against authoritative data from Ordnance Survey's core AddressBase® Premium dataset.

SEARCH | GEOCODING | ADDRESSING

Instant and reliable

With OS Match & Cleanse API, you'll have instant, reliable search results to make deduping and cleansing address data easier for your business. Transform partial address information into the authoritative address to enhance asset management and customer data.

It's a RESTful web service, which is easy to integrate, and because you're not locked into Ordnance Survey – you're free to use our APIs with other provider's services (subject to third party terms and conditions).

Quick and easy

Improve efficiency, guarantee accuracy and reduce costs throughout. Use postcodes and UPRNs or text strings to identify and match your targets – get information about residential and commercial properties quickly and easily.

Each address record contains geographic co-ordinates meaning that you can position it accurately on a map. They also contain the Unique Property Reference Number (UPRN) so you can cross reference the results with other datasets and ensure consistency.

Key benefits

- **Geo-coding** – add real world locations to addresses
- **Accuracy** – ensure your records are clean and correct
- **Improved** data quality
- **Efficiency** – save time and effort
- **UPRNs** – connect to other datasets

OS Match & Cleanse API will be joining the OS Data Hub in 2021

Discover more about what we do
Visit **developer.ordnancesurvey.co.uk/match-cleanse**

Ordnance Survey

SEE ➤ BETTER PLACE

OS NAMES API

## Available from the OS Data Hub alongside a suite of OS APIs

Search for a name and find it on the map. With OS Names API, you'll have access to a straightforward, rapid lookup service. Forward and reverse geocoding for a large range of locations, including settlement names, road names, postcodes and many more.

SEARCH | GEOCODING | VISUALISATION

Key benefits

- Accurately zoom your maps to locations of interest

- Search for areas, cities and roads

- Search for postcodes

- Search for named woodlands, schools and many more locations and features

- Click on a map and find the nearest feature from the vast OS Names database

- Link your own data to co-ordinates ready to map

OS Names API is free for all to use for any purpose. The underlying data is sourced from OS Open Names which is available under the Open Government Licence.
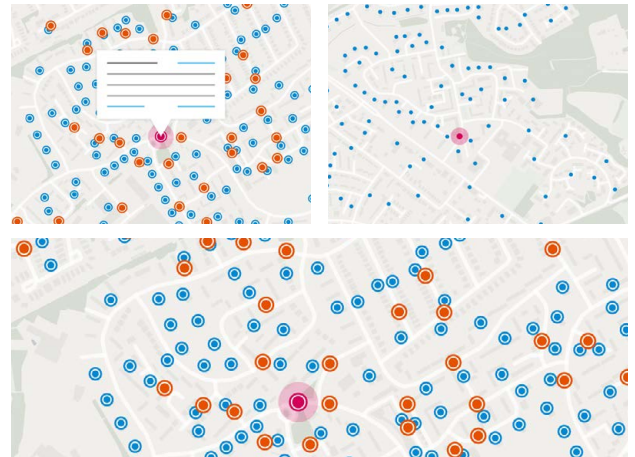
"OS have invested a great deal of time and effort in the OS Data Hub, and we at Cadcorp have no doubt that it is a practical, sensible and desirable way of delivering OS data, and that it is here to stay."

Cadcorp

Head over to **os.uk/developers** to find out more about the support available, including copy and paste code examples to help you get started quickly.

Discover more about what we do
Visit **os.uk/namesapi**

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OS PLACES API

Identify addresses accurately. Make requests using full or partial addresses, a postcode, or a UPRN. Searches can also find the closest address or all within a user-defined area. Forward and reverse address-level geocoding using Ordnance Survey's core AddressBase® Premium dataset.

SEARCH | GEOCODING | VISUALISATION | ADDRESSING

Capture and verify

Improve efficiency – use OS Places API to verify the data you're capturing against AddressBase® Premium data.

Edit out-of-date (or partial) details of residential and commercial properties in your own databases and add unique references to your properties, via the UPRN, for enhanced data management.

With OS Places API you can add intuitive address search (geocoding) capabilities to your applications. Let a user search a full or partial address, a postcode or a UPRN and find the complete address including its location. Alternatively, let users click on a map and discover the nearest address.

"For technology companies in GB's property sector, OS offers a 'point of truth' for locations and addresses. When you are working in such a location-orientated business, such truth is essential."

Robert Jones, Property XYZ

GeoSearch

Make sure OS Places API is driving your applications, and users will have access to some of the most sophisticated GeoSearch services.

Let them draw their own bounding boxes or define a specific radius search area and use the API to pull up all known address data within that location.

With OS Places API there are 7 different endpoints available, each offering different functionality so you can discover addresses in the way you need:

Find – search using partial or full address strings

Postcode – search via postcode

UPRN – search via Unique Property Reference Number (UPRN) – the unique identifier for every addressable location in Great Britain

Nearest – click on a map and find the nearest address (reverse geocoding)

Bounding – find all addresses within a given bounding box

Radius – find all addresses within a given radius

Polygon – find all addresses within a given area of interest
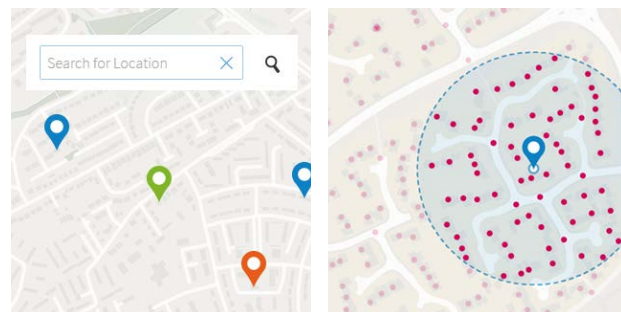
OS Places API will be joining the OS Data Hub in 2021

Discover more about what we do
Visit **developer.ordnancesurvey.co.uk/os-places-api**

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OS VECTOR TILE API

Available from the OS Data Hub alongside a suite of OS APIs

Get started for free and integrate Ordnance Survey's up-to-date, detailed maps in your apps, enabling your customers to make location-based decisions with confidence and removing the overhead of managing complex datasets yourself. Customise the content and style to make your perfect map.

DATA VISUALISATION | CUSTOM CARTOGRAPHY | WEB AND MOBILE MAPS

Various layers of detailed OS data available in light-weight vector format, perfect for serving maps over the web. Use the OS cartographic styles or create your own to suite your use case.

What are Vector Tiles?

Vector tiles make web maps fast while offering full design flexibility. They are the vector data equivalent of image tiles, applying the strengths of tiling with the benefits of vectors.

Key benefits

- Use as a basemap in interactive web maps, mobile apps or compatible GIS
- Customise the style and content to make your perfect map
- Trace over OS MasterMap detailed geometries
- Tilt the map to view 3D buildings
- Identify OS MasterMap features by TOID and use to link data

The following data layers are available:

- Basemap – OS MasterMap Topography Layer with Building Heights and OS Open Zoomstack
- OS MasterMap Sites Layer (Hospitals, Schools, access points and more)
- OS MasterMap Greenspace Layer (Public parks, private gardens and more)
- OS MasterMap Water Network Layer (Rivers, canals, streams and more)
- OS MasterMap Highways Network (Roads and urban paths)
- OS Detailed Path Network (National Parks only)
- OS Boundary-Line
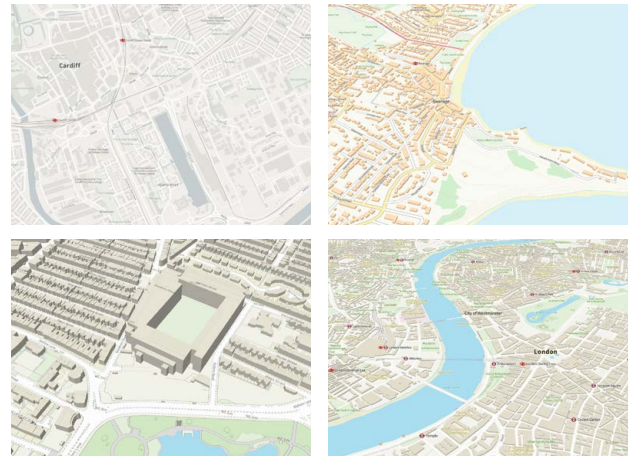
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