Office for National Statistics

# ONS API Overview

The ONS API allows you to interact with ONS data programmatically from your own application. Using the API you can:

- Request complete datasets to be downloaded into your own system
- Request specific sets of data items
- Request data to use in real-time, or to store for later
- Discover the data available and geographical areas that are available
- Create something new and exciting!

To get ONS data used as much as possible, and provided to additional audiences, we are keen that others use the ONS API to create their own applications and integrate to existing systems. By providing this access for others to create and innovate with, will allow many more diverse applications to exist that provide ONS data to users in new and interesting ways.

The ONS API conforms to the RESTful design principles. In this implementation, everything held within the data repository is defined as a resource with a unique URI, accessed via an HTTP GET request. This means that client applications can be written in any programming language which supports HTTP requests, which makes it very flexible.

These requests can be categorised as *discovery* or *delivery*. An example discovery request is "*give me a list of all datasets about ethnicity"*, then *"give me some data from dataset ETH01 but only for LAs in Hampshire"* is a delivery example.

The primary output format for data and dataset structures is an international XML standard called SDMX. Other responses conform to ONS's own bespoke discovery schema. As an alternative to XML, all responses are also available in JSON format, and large data downloads in CSV and XLS. For lightweight applications, JSON-Stat is also supported.

The service is free but users are required to register and use an API Key with each request. The API Service pages on the ONS web site provide help and examples for developers.

The ONS API is the long-term strategic provision of this type of service, and for the foreseeable future will compliment the existing services provided by NeSS and NOMIS. Over time, more ONS datasets will become available through the ONS API.