

Quick Start

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If you are a Python, MATLAB or R programmer, you can quickly start using the Oceans 3.0 API, by taking advantage of our client libraries. This guide will take you step-by-step through getting setup, writing code and retrieving data.

1. Choose your Language

- All code samples and client libraries are available in Python, MATLAB and R; however, any programming language that can make HTTP GET requests can be used, along with the [API Reference](#) to make requests and download data using the ONC web services.

2. Install your Client Library

- Using one of ONC's client libraries can significantly shortcut the development process.
- Install a ONC client library using the following instructions
 - [Python](#)
 - [MATLAB](#)
 - [R](#)

3. Discover your Data

- Use the Discovery services to find your data
 - Use the [getLocations\(\)](#) function to find locations by code, name, device category, device, data product and deployment date range.
 - Use the [getDevices\(\)](#) function to find devices by code, name, location, device category, property data product and deployment date range.
 - Use the [getDeployments\(\)](#) function to find device deployments by location code, device code, device category code, property code and deployment date range.
 - Use the [getDeviceCategories\(\)](#) function to find device categories by code, name, description, location, device and property.
 - Use the [getProperties\(\)](#) function to find properties by code, name, description, location, device category and device.
 - Use the [getDataProducts\(\)](#) function to find data products and extensions, by code, extension, name, location, device category, device and property.
- Use the following pages for valid codes that can be used as filters in both the discovery and delivery services
 - [Available Locations](#)
 - [Available Devices](#)
 - [Available Deployments](#)
 - [Available Device Categories](#)
 - [Available Properties](#)
 - [Available Data Products](#)

4. Download your Data

- Decide how you want to retrieve your data
 - Do you want a data product?
 - If so, use the [orderDataProduct\(\)](#) function
 - Figure out what data product options to include using the [Data Products](#) documentation
 - Pass the filter criteria identified in #3 into the function
 - For **Site Device** data request include [locationCode](#) and [deviceCategoryCode](#)
 - For **Primary Sensor** level data request include [locationCode](#) and [propertyCode](#)
 - For **Sensor Level** data request include [locationCode](#), [deviceCategoryCode](#) and [propertyCode](#)
 - For **Device** (all properties) data request use [deviceCode](#)
 - For **Device Property** data request use [deviceCode](#) and [deviceCategoryCode](#)
 - Include [dateFrom](#) and [dateTo](#)
 - Include [dataProductCode](#), [extension](#) and appropriate **data product options**
 - Do you want a small amount of scalar data in near real-time?
 - if so, use the [getDirectScalar\(\)](#) function
 - Pass the filter criteria identified in #3 into the function
 - Include [locationCode](#), [deviceCategoryCode](#)
 - Include [dateFrom](#) and [dateTo](#)
 - Do you want to raw data directly from the instrument?
 - if so, use the [getDirectRaw\(\)](#) function

- Pass the filter criteria identified in #3 into the function
 - Include `locationCode`, `deviceCategoryCode`
 - Include `dateFrom` and `dateTo`
- Execute a data request.
- Do something with the results.