

REST APIs

OCBO is a representational state transfer (REST) application programming interface (API). REST is an architectural style whose constraints shape API design. REST centers on three principles:

1. **Protocol.** Makes requests and responses using HTTP protocol.
2. **State.** Remains stateless. In other words, the server doesn't change its state by storing the information needed to respond to a client's request. The request itself contains all the necessary data.
3. **Resources.** Relies on endpoints (server resources identified by URIs).

The OpenAPI Specification

Think of all the building codes a contractor must follow when constructing a home. Countertops are always 48 inches above the floor. Electrical outlets are always 120 volts. Water drainage pipes must slope ¼ inch per foot. Without standards like these, electrical systems would fail, bathrooms and kitchens would flood, cabinets wouldn't fit, and you'd have a hard time using your Keurig. Likewise, API engineers follow certain rules (see table). OCBO is based on rules spelled out in the [OpenAPI \(OAS\) 3.0 specification](#).

Selected Specs Covered in OpenAPI 3.0

Item	Description	Example(s)
Symbols and their meaning	Curly braces indicate that the value within is a replaceable path parameter.	GET /offer/{offerId}
Document structure	A single document or a series of related sections.	openapi.yaml or openapi.json
Data types	Based on data types outlined in the JSON Schema Spec .	string boolean
Data format	Specifies the format of the data type.	float (for the data type "number")
Status codes	Follows the IANA Status Code Registry .	404 Not Found
Versioning	Smart versioning can minimize the effect of dependencies. OCBO version numbers are incremented using the <i>major.minor.patch</i> pattern outlined in Semantic Versioning 2.0.0 .	3.0.1
Naming conventions	Governs case and case sensitivity	Camel case: termsOfService
Schemas	A schema is a structured set of properties, metadata, behaviors, and other attributes. Schemas serve as the building blocks of the API by representing the way in which data is organized, accessed, and stored.	<pre>"lineOfBusiness": { "name": "IN", "levelOfService": "Plus", "speed": "200 MB" }</pre>

A specification is just what it sounds like—a technical blueprint or template for building something. OpenAPI standardizes how an API is built. The OAS spec was donated to the public OpenAPI Initiative by its developer, Swagger. As a result, you'll often hear engineers call it the "Swagger spec." This spec describes the API's services and capabilities in a human- and machine-readable format. Instead of specifying lightswitch heights and firewall placement, it covers version numbers, data structures, syntax, and many other elements.