



FastCollections



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Agenda

What is FastCollections?

Overview of API

Demos!

How is it built?

FastCollections is an API written in Python using the FastAPI framework.

AsyncPG

Connect to PostgreSQL database.

Pydantic/ Geojson Pydantic

Validate inputs and outputs of api endpoints.

Pygeofilter

Allow users to pass in cql filters to filter results.

OGR2OGR

Generate files for users to download data.

Another API!?

1. Learning - building an API provides a comprehensive understanding of the entire ecosystem.
2. Add additional endpoints to allow further insights into geospatial data.

Current Projects

pygeoapi

pg_tileserv

pg_featureserv

tipg



Open
Geospatial
Consortium

OGC Compliance

OGC API - Common

Part 1: Core

OGC API - Features

Part 1: Core
Part 3: Filtering
Part 4: CRUD

OGC API - Tiles

Part 1: Core

OGC API Endpoints

List of endpoints that follow the OGC API Standards.

Name	Url
Collections	/api/v1/collections
Collection	/api/v1/collections/{scheme}.{table}
Queryable	/api/v1/collections/{scheme}.{table}/queryables
Items	/api/v1/collections/{scheme}.{table}/items
Create Item	/api/v1/collections/{scheme}.{table}/items/create
Get Item	/api/v1/collections/{scheme}.{table}/items/{id}
Update Item	/api/v1/collections/{scheme}.{table}/items/{id}
Modify Item	/api/v1/collections/{scheme}.{table}/items/{id}

OGC API Endpoints

List of endpoints that follow the OGC API Standards.

Name	Url
Delete Item	/api/v1/collections/{scheme}.{table}/items
Tiles	/api/v1/collections/{scheme}.{table}/tiles
Tiles	/api/v1/collections/{schema}.{table}/tiles/ {tile_matrix_set_id}/{tile_matrix}/{tile_row}/{tile_col}
Tile Metadata	/api/v1/collections/{schema}.{table}/tiles/ {tile_matrix_set_id}/metadata

Custom Endpoints

List of additional endpoints that allow further analysis/insights into each dataset.

Name	Url
Get Tile Cache Size	/api/v1/collections/{schema}.{table}/tiles/cache_size
Delete Tile Cache	/api/v1/collections/{schema}.{table}/tiles/cache
Statistics	/api/v1/collections/{schema}.{table}/statistics
Bins	/api/v1/collections/{schema}.{table}/bins
Numeric Breaks	/api/v1/collections/{schema}.{table}/numeric_breaks
Custom Break Values	/api/v1/collections/{schema}.{table}/custom_break_values
Autocomplete	/api/v1/collections/{schema}.{table}/autocomplete/{column}/{q}

Custom Endpoints

List of additional endpoints that allow further analysis/insights into each dataset.

Name	Url
Closest Features	/api/v1/collections/{schema}.{table}/closest_features
Add Column	/api/v1/collections/{schema}.{table}/add_column
Delete Column	/api/v1/collections/{schema}.{table}/delete_column
Download	/api/v1/collections/{schema}.{table}/download

Integrations



QGIS



ESRI Products



**Custom
Applications**

Demos!



Questions

