# OpenAtlas - Api - # 117

The OpenAtlas API ([Application programming interface](#)) is implemented since version 5.0.0. Output is based on [JSON-LD syntax](#) and [GeoJSON](#), therefore could be rendered in many web mapping applications.
In addition, [Linked Places](#) was used as standard. Further information can be found in the [API Whitepaper](#).

Information about configuration: [API Settings](#)

# Access

GeoJSON of an entity can be requested when entering this URL schema {domain}/api/{api version}/{entity_id} for example: openatlas.eu/api/0.1/entity/1234
Alternatively if **advanced layout** is selected in your **profile** a link to the GeoJSON of entities is shown on their info page.
If in the site settings the API option **Public** is activated (default is off) the API can be used even when not logged in.
The API is in active development, more formats and options will follow. The current version is **0.1**, major changes may render former versions obsolete.

# GeoJSON Structure

For the Version 0.1 OpenAtlas only supports GeoJSON. The structure for each entity is as followed. If a key:value pair is empty, it will not be shown in the output. For full examples of the GeoJSON templates please confer [JSON Templates](#).

## @context (required)

Contains the mappings for linked ontologies. We use the [Linked Places](#) mappings found in
[http://linkedpasts.org/assets/linkedplaces-context-v1.jsonld](http://linkedpasts.org/assets/linkedplaces-context-v1.jsonld)

e.g. "@context": "https://raw.githubusercontent.com/LinkedPasts/linked-places/master/linkedplaces-context-v1.jsonld"

## type (required)

The type of each output is "FeatureCollection", according to [GeoJSON-LD](#) , containing one or more Feature objects.

## feature[] (required)

Feature is a list, which can hold one or many feature objects. Each object can contain following elements:

### @id (required)

This is a unique and permanent URI pointing to the entity in the OpenAtlas instance.

```
"@id": "http://thanados.openatlas.eu/entity/50505"
```

### crmClass (required)

Show CIDOC CRM class code and name based on the [Erlangen CRM](#)

```
"crmClass": "crm:E18_Physical_Thing"
```

### type (required)

The value for type is "feature" to state, that the object is a feature.

### properties{} (required)

The property element holds one key:value pair, because of the GeoJSON requirement. The key is **title**, which is the preferred name label of the entity. In the OA form it is called [Form field name](#).

```
"properties":{
   "title":"Gars Thunau Obere Holzwiese"
}
```

## when{}

When is the temporally scope of the represented feature. OpenAtlas only supports dates in the YYYY-MM-DD format, so no periods or extensions for approximate and uncertain (for more details: [Date](#)).
Each "when" contains one **timespans[]** . A timespan can contain **start{}** and/or **end{}**. **start{}** or **end{}** hold timestamp values and the comments for the dates.

```
"when":{
   "timespans":[
      {
         "end":{
            "earliest":"0950-01-01",
            "latest":"0950-12-31"
         },
         "start":{
            "earliest":"0750-01-01",
            "latest":"0750-12-31"
         }
      }
   ]
}
```

## names[]

names is a list of [Aliases](#).

```
"names":[
   {
      "alias":"Thunau Obere Holzwiese"
   }
]
```

## types[]

Represents a list of one or more [types](#) objects (nodes) for this feature. **Identifier** refers to the type entity of the type and **label** is the given name of the type. **Hierarchy** lists the super types in a string for the THANATOS front end. If the type is a [value type](#), the **unit** and **value** is also shown.

```
"types":[
   {
      "hierarchy":"Evidence > Archaeology",
      "identifier":"http://thanados.openatlas.eu/api/0.1/entity/5099",
      "label":"Excavation"
   },
   {
      "hierarchy":"Dimensions",
      "identifier":"http://thanados.openatlas.eu/api/0.1/entity/26189",
      "label":"Length",
```

```
            "unit":"cm",
            "value":"200"
        }
    ]
```

## geometry{} (required)

A GeoJSON FeatureCollection must have one or more geometry elements to be valid. Therefore each entity, even if it has no geometric references has this entry:

```
"geometry":{
    "geometries":[ ],
    "type":"GeometryCollection"
}
```

**Type** refers to geometric types according to [RFC 7946 - The GeoJSON Format](#).

**Geometries[]** is a list of none or more geometric objects. Each of these objects have the following keys:

- **Type** - Refers to the geometric types. OpenAtlas supports Point, Polygon and LineString
- **Title** - The given name of this geometric object
- **Description** - The given description of this geometric object
- **Coordinates[]** - Is a list of none or more lists with [positions](#) of the object

```
    "geometry":{
        "geometries":[
            {
                "coordinates":[
                    21.53314304247,
                    41.528480700127
                ],
                "title":"Ōrěhovъ Dolь",
                "type":"Point"
            },
            {
                "coordinates":[
                    [
                        [
                            21.519985198975,
                            41.510119875951
                        ],
                        [
                            21.547966003418,
                            41.509991329146
                        ],
                        [
                            21.560153961182,
                            41.527471351458
                        ],
                        [
                            21.546764373779,
                            41.546745312346
                        ],
                        [
                            21.519470214844,
                            41.546231414598
                        ],
                        [
                            21.506080627441,
```

```
                            41.528113909357
                        ],
                        [
                            21.519985198975,
                            41.510119875951
                        ]
                    ]
                ]
            ],
            "description":"A model of the village's boundaries.",
            "title":"Õrěhovъ Dolь",
            "type":"Polygon"
        }
    ],
    "type":"GeometryCollection"
}
```

## links[]

These are the links to other gazetteers. At the moment OpenAtlas support GeoNames, as described in [Place](#).

```
"links":[
    {
        "identifier":"http://www.geonames.org/2763660",
        "type":"closeMatch"
    }
]
```

## relations[]

Is a list of one or more entities, which are linked through the CRM to this feature. **Label** represents the name of the entity, **relationTo** contains the direct link to this entity and **relationType** shows the property code from the [model](#) with which the entities are linked.

```
"relations":[
        {
            "label":"Cenotaph_A",
            "relationTo":"http://oa-dev.koschigel.de/api/0.1/entity/57167",
            "relationType":"crm:P46_is_composed_of"
        },
        {
            "label":"Excavation",
            "relationTo":"http://oa-dev.koschigel.de/api/0.1/entity/5099",
            "relationType":"crm:P2_has_type"
        }
]
```

## descriptions[]

Contains the [description](#) of the entity.

```
"description":[
    {
        "value":
"In the area of Obere Holzwiese 215 inhumation burials were documented in different excavations[..
]"
    }
]
```

## depictions[]

Is a list of all linked depictions or files. **@id** links directly to the [file](#), **title** represents the given name and **license** contains the given license of the [file](#).

```
"depictions":[
    {
        "@id":"http://oa-dev.koschigel.de/api/0.1/entity/117992",
        "license":"CC BY-SA 4.0",
        "title":"oberleiserberg_map"
    }
]
```