



EO4GEO BoK RESTfull API v2

The EO4GEO BoK Application Programming Interface (API) is a component of the EO4GEO BoK software platform that makes the content of the Body of Knowledge programmatically available. It allows to retrieve the complete BoK – including current and historical versions – as a JSON file through <https://eo4geo-bok.firebaseio.com/.json>, and allow querying it through dedicated REST calls.

The JSON is formatted as follows:

```
{
  "current": {
    "concepts" : { // collection of concepts accessible by its code
      "<concept_code>" : {
        "contributors" : {},
        "description" : "",
        "id" : "",
        "uri" : "",
        "name" : "",
        "references" : [],
        "relations" : [],
        "selfAssesment" : "",
        "skills" : []
      },
      {...}
    },
    "contributors" : [ { // array of contributors
      "concepts" : [ "<concept_code>", "<concept_code>" [...],
      "description" : "",
      "name" : "",
      "url" : "",
    },
    {...}
  ],
    "references" : [ { // array of references
      "concepts" : [ "<concept_code>", "<concept_code>" [...],
      "description" : "",
      "name" : "",
      "url" : "",
    },
    {...}
  ],
    "relations" : [ { // array of relations
      "name" : "",
      "source" : "<concept_code>",
      "target" : "<concept_code>"
    },
    {...}
  ],
    "skills" : [ { // array of skills
      "concepts" : "<concept_code>",
```



```
        "name" : ""
      },
      {...}
    ]
  },
  "v1": { // same structure as current
    "concepts" : {},
    "contributors" : {},
    "references" : {},
    "relations" : {},
    "skills" : {}
  },
  "v2": { // same structure as current
    "concepts" : {},
    "contributors" : {},
    "references" : {},
    "relations" : {},
    "skills" : {}
  },
  [...]
}
```

To retrieve specific content, we can navigate the aforementioned BoK JSON structure from the base URL (<https://eo4geo-bok.firebaseio.com/>). We start by specifying the version (e.g., <https://eo4geo-bok.firebaseio.com/current/> or <https://eo4geo-bok.firebaseio.com/v1/>), and can then add the path to the specific information we desire. Finally, we always add ".json", to retrieve the desired content in JSON format. For example:

- `/current/.json` returns the complete current version of the BoK.
- `/current/concepts/.json` returns all concepts from the current version of the BoK
- `/current/relations/.json` returns all relations from the current version of the BoK
- `/current/skills/.json` returns all skills from the current version of the BoK
- `/current/concepts/AM.json` returns the info of the concept with code "AM" in the current version of the BoK.
- `/current/concepts/AM/name.json` returns the name of the concept with code "AM" in the current version of the BoK
- `/current/concepts/AM/relations.json` returns all the relations, as an array, of the concept with code "AM" in the current version of the BoK
- `/current/contributors/.json` returns all contributors, from the current version of the BoK



To retrieve content from previous versions, we specify the desired version in the path. All versions follow same structure, so the above examples also work for previous versions. For example:

- `/v1/concepts/AM/name.json` returns the name of the concept with code “AM” in the v1 version of the BoK
- `/v2/concepts/AM/relations.json` returns all the relations, as an array, of the concept with code “AM” in the v2 version of the BoK
- `/v3/skills/.json` returns all skills, from the v3 version of the BoK

The following table shows some example queries and their results.

All data	Parameter(s)	
https://eo4geo-bok.firebaseio.com/.json?print=pretty	<code>print=pretty</code>	To view the data in a human-readable format.
Result		
<pre>{ "current" : { "concepts" : { "AM" : { "contributors" : [{ "description" : "University of Twente, Faculty of Geo-Information Science and Earth Observation (ITC)", "name" : "Rob Lemmens", "url" : "https://research.utwente.nl/en/persons/rob-lemmens" }], "description" : "This knowledge area encompasses a wide variety of operations whose objective is to derive analytical results from geospatial data. Data analysis seeks to understand both first-order (environmental) effects and second-order (interaction) effects. [...]", "id" : "AM", "name" : "Analytical Methods", "references" : [{ "description" : "ISBN number: 9780582244931", "name" : "Bailey, T.C. and Gatrell, A.C. 1995. Interactive spatial data analysis. Harlow: Longman.", "url" : "http://books.google.com/books?isbn=9780582244931" }], [...] } } } }</pre>		
Get current version of BoK	Parameter(s)	
https://eo4geo-bok.firebaseio.com/current.json?print=pretty	<code>print=pretty</code>	To view the data in a human-readable format.
Result		
<pre>{ "concepts" : { "AM" : { "contributors" : [{ "description" : "University of Twente, Faculty of Geo-Information Science and Earth Observation (ITC)", "name" : "Rob Lemmens", "url" : "https://research.utwente.nl/en/persons/rob-lemmens" }], "id" : "AM", "name" : "Analytical Methods", </pre>		



<pre> "references" : [{ "description" : "ISBN number: 9780582244931", "name" : "Bailey, T.C. and Gatrell, A.C. 1995. Interactive spatial data analysis. Harlow: Longman.", "url" : "http://books.google.com/books?isbn=9780582244931" }, { [...] } </pre>		
Get specific version of BoK (i.e. v1)		Parameter(s)
https://eo4geo-bok.firebaseio.com/v1.json?print=pretty	print=pretty	To view the data in a human-readable format.
Result		
<pre> { "concepts" : { "AM" : { "id" : "AM", "name" : "Analytical Methods", "relations" : [{ "name" : "is subconcept of", "source" : "AM10", "target" : "AM" }, { "name" : "is subconcept of", "source" : "AM11", "target" : "AM" }], [...] } } </pre>		
Get info from specific concept (i.e. CV) from current version of BoK		Parameter(s)
https://eo4geo-bok.firebaseio.com/current/concepts/CV.json?print=pretty	print=pretty	To view the data in a human-readable format.
Result		
<pre> { "contributors" : [{ "description" : "Universitat Jaume I, Spain", "name" : "Carlos Granell Canut", "url" : "https://scholar.google.com/citations?user=K9jGzhQAAAAJ&hl=es" }, { "description" : "Universitat Jaume I, Spain", "name" : "Estefania Aguilar Moreno", "url" : "https://scholar.google.com/citations?user=ECdjngIAAAAAJ&hl=es" }], "id" : "CV", "name" : "Cartography and Visualization", "references" : [{ "description" : "ISBN number: 9783110854688", "name" : "Bertin, J. (1981). Graphics and graphic information processing. Berlin: Walter de Gruyter.", "url" : "http://books.google.com/books?isbn=9783110854688" }, [...] } </pre>		



Get the name from specific concept (i.e. CV) from current version of BoK	Parameter(s)	
https://eo4geo-bok.firebaseio.com/current/concepts/CV/name.json?print=pretty	print=pretty	To view the data in a human-readable format.
Result		
"Cartography and Visualization"		
Get skills from specific concept (i.e. CV) from current version of BoK	Parameter(s)	
https://eo4geo-bok.firebaseio.com/current/concepts/CV/skills.json?print=pretty	print=pretty	To view the data in a human-readable format.
Result		
["Choose from different options to create a map", "Explain the importance of visualisation of cartographic materials over time", "Relate the science and technology of graphical representation of geographic data"]		
Get all skills from specific version (i.e. v3) of BoK	Parameter(s)	
https://eo4geo-bok.firebaseio.com/v3/concepts/CV/skills.json?print=pretty	print=pretty	To view the data in a human-readable format.
Result		
["Choose from different options to create a map", "Explain the importance of visualisation of cartographic materials over time", "Relate the science and technology of graphical representation of geographic data"]		