**Crossref Metadata API JSON Format**

**Versioning**

| **Version** | **Release Date** | **Comments** |
| --- | --- | --- |
| v1 | 11th July 2016 | First documented version |
| v2 | 26th July 2017 | Add abstract, authenticated-orcid, fix contributor fields |

**Work**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| publisher | String | Yes | Name of work's publisher |
| Title | Array of String | Yes | Work titles, including translated titles |
| original-title | Array of String | No | Work titles in the work's original publication language |
| short-title | Array of String | No | Short or abbreviated work titles |
| abstract | XML String | No | Abstract as a JSON string or a JATS XML snippet encoded into a JSON string |
| reference-count | Number | Yes | *Deprecated* Same as references-count |
| references-count | Number | Yes | Count of outbound references deposited with Crossref |
| is-referenced-by-count | Number | Yes | Count of inbound references deposited with Crossref |
| source | String | Yes | Currently always Crossref |
| prefix | String | Yes | DOI prefix identifier of the form http://id.crossref.org/prefix/DOI\_PREFIX |
| DOI | String | Yes | DOI of the work |
| URL | URL | Yes | URL form of the work's DOI |
| member | String | Yes | Member identifier of the form http://id.crossref.org/member/MEMBER\_ID |
| Type | String | Yes | Enumeration, one of the type ids from https://api.crossref.org/v1/types |
| created | [Date](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#date) | Yes | Date on which the DOI was first registered |
| deposited | [Date](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#date) | Yes | Date on which the work metadata was most recently updated |
| indexed | [Date](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#date) | Yes | Date on which the work metadata was most recently indexed. Re-indexing does not imply a metadata change, see deposited for the most recent metadata change date |
| issued | [Partial Date](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#partial-date) | Yes | Eariest of published-print and published-online |
| posted | [Partial Date](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#partial-date) | No | Date on which posted content was made available online |
| accepted | [Partial Date](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#partial-date) | No | Date on which a work was accepted, after being submitted, during a submission process |
| subtitle | Array of String | No | Work subtitles, including original language and translated |
| container-title | Array of String | No | Full titles of the containing work (usually a book or journal) |
| short-container-title | Array of String | No | Abbreviated titles of the containing work |
| group-title | String | No | Group title for posted content |
| issue | String | No | Issue number of an article's journal |
| volume | String | No | Volume number of an article's journal |
| page | String | No | Pages numbers of an article within its journal |
| article-number | String | No |  |
| published-print | [Partial Date](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#partial-date) | No | Date on which the work was published in print |
| published-online | [Partial Date](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#partial-date) | No | Date on which the work was published online |
| subject | Array of String | No | Subject category names, a controlled vocabulary from Sci-Val. Available for most journal articles |
| ISSN | Array of String | No |  |
| issn-type | Array of [ISSN with Type](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#issn-with-type) | No | List of ISSNs with ISSN type information |
| ISBN | Array of String | No |  |
| archive | Array of String | No |  |
| license | Array of [License](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md" \l "license) | No |  |
| funder | Array of [Funder](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md" \l "funder) | No |  |
| assertion | Array of [Assertion](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#assertion) | No |  |
| author | Array of [Contributor](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md" \l "contributor) | No |  |
| editor | Array of [Contributor](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md" \l "contributor) | No |  |
| chair | Array of [Contributor](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md" \l "contributor) | No |  |
| translator | Array of [Contributor](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md" \l "contributor) | No |  |
| update-to | Array of [Update](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#update) | No |  |
| update-policy | URL | No | Link to an update policy covering Crossmark updates for this work |
| link | Array of [Resource Link](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md" \l "resource-link) | No | URLs to full-text locations |
| clinical-trial-number | Array of [Clinical Trial Number](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#clinical-trial-number) | No |  |
| alternative-id | String | No | Other identifiers for the work provided by the depositing member |
| reference | Array of [Reference](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#reference) | No | List of references made by the work |
| content-domain | [Content Domain](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#content-domain) | No | Information on domains that support Crossmark for this work |
| relation | [Relations](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#relations) | No | Relations to other works |

**Work Nested Types**

**Funder**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| name | String | Yes | Funding body primary name |
| DOI | String | No | Optional [Open Funder Registry](http://www.crossref.org/fundingdata/registry.html) DOI uniquely identifing the funding body |
| award | Array of String | No | Award number(s) for awards given by the funding body |
| doi-asserted-by | String | No | Either crossref or publisher |

**Clinical Trial Number**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| clinical-trial-number | String | Yes | Identifier of the clinical trial |
| registry | String | Yes | DOI of the clinical trial regsitry that assigned the trial number |
| type | String | No | One of preResults, results or postResults |

**Contributor**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| family | String | Yes |  |
| given | String | No |  |
| ORCID | URL | No | URL-form of an [ORCID](http://orcid.org/) identifier |
| authenticated-orcid | Boolean | No | If true, record owner asserts that the ORCID user completed ORCID OAuth authentication |
| affiliation | Array of [Affiliation](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#affiliation) | No |  |

**Affiliation**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| name | String | Yes |  |

**Date**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| date-parts | Array of Number | Yes | Contains an ordered array of year, month, day of month. Note that the field contains a nested array, e.g. [ [ 2006, 5, 19 ] ] to conform to citeproc JSON dates |
| timestamp | Number | Yes | Seconds since UNIX epoch |
| date-time | String | Yes | ISO 8601 date time |

**Partial Date**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| date-parts | Array of Number | Yes | Contains an ordered array of year, month, day of month. Only year is required. Note that the field contains a nested array, e.g. [ [ 2006, 5, 19 ] ] to conform to citeproc JSON dates |

**Update**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| updated | [Partial Date](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#partial-date) | Yes | Date on which the update was published |
| DOI | String | Yes | DOI of the updated work |
| type | String | Yes | The type of update, for example retraction or correction |
| label | String | No | A display-friendly label for the update type |

**Assertion**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| name | String | Yes |  |
| value | String | Yes |  |
| URL | URL | No |  |
| explanation | URL | No |  |
| label | String | No |  |
| order | Number | No |  |
| group | [Assertion Group](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#assertion-group) | No |  |

**Assertion Group**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| name | String | Yes |  |
| label | String | No |  |

**License**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| content-version | String | Yes | Either vor (version of record,) am (accepted manuscript,) tdm (text and data mining) or unspecified |
| delay-in-days | Number | Yes | Number of days between the publication date of the work and the start date of this license |
| start | [Partial Date](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#partial-date) | Yes | Date on which this license begins to take effect |
| URL | URL | Yes | Link to a web page describing this license |

**Resource Link**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| intended-application | String | Yes | Either text-mining, similarity-checking or unspecified |
| content-version | String | Yes | Either vor (version of record,) am (accepted manuscript) or unspecified |
| URL | URL | Yes | Direct link to a full-text download location |
| content-type | String | No | Content type (or MIME type) of the full-text object |

**Reference**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| key | String | Yes |  |
| DOI | String | No |  |
| doi-asserted-by | String | No | One of crossref or publisher |
| issue | String | No |  |
| first-page | String | No |  |
| volume | String | No |  |
| edition | String | No |  |
| component | String | No |  |
| standard-designator | String | No |  |
| standards-body | String | No |  |
| author | String | No |  |
| year | String | No |  |
| unstructured | String | No |  |
| journal-title | String | No |  |
| article-title | String | No |  |
| series-title | String | No |  |
| volume-title | String | No |  |
| ISSN | String | No |  |
| issn-type | String | No | One of pissn or eissn |
| ISBN | String | No |  |
| isbn-type | String | No |  |

**ISSN with Type**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| value | String | Yes |  |
| type | String | Yes | One of eissn, pissn or lissn |

**Content Domain**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| domain | Array of String | Yes |  |
| crossmark-restriction | Boolean | Yes |  |

**Relations**

A hashmap containing relation name, [Relation](https://github.com/CrossRef/rest-api-doc/blob/master/api_format.md#relation) pairs.

**Relation**

| **Field** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| id-type | String | Yes |  |
| id | String | Yes |  |
| asserted-by | String | Yes | One of subject or object |