# buildingSMART Data Dictionary JSON import model

You can deliver data for the buildingSMART Data Dictionary by using the bSDD JSON import model format. This document explains this format.

## Domain type

Contains general information about the domain and the delivered data.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | DataType | Required? | Translatable? | Description |
| OrganizationCode | Text | Yes | No | Official name of the organization that’s the owner of the data.  E.g. “buildingSMART” |
| DomainCode | Text | Yes | No | Code of the domain  E.g. “ifc” |
| DomainVersion | Text | Yes | No | Version of the data  E.g. “4.3” |
| VersionDate | Date | No | No | Date of release of the version  E.g. “2017-10-01” |
| LanguageIsoCode | Text | Yes | No | ISO language code: indicates the language of the data in this Access database. If you want to deliver data in multiple language use a database per language. \*  E.g. “de-DE” |
| LanguageOnly | Boolean | Yes | No | true if database contains only language specific information, no otherwise \* |
| License | Text | No | No | Description of the license the data will be made available  E.g. “No license” |
| Classifications | List of Classification | Yes |  | List of objects of type “Classification”. See next section |
| Properties | List of Property | Yes |  | List of objects of type “Property”. See next sections |

\* For delivering data in additional languages it is sufficient to fill the Domain type fields, all “Code” fields and the fields marked with “Translatable? = Yes” of the other types. Make sure that the OrganizationCode, DomainCode and DomainVersion are exactly the same and if the data is for adding a language to an existing Domain, set field “LanguageOnly” to true.

## Classifications

A classification can be any (abstract) object (e.g. “IfcWall”), abstract concept (e.g. “Costing”) or process (e.g. “Installation”). Classifications can be organized in a tree like structure. For example: “IfcCurtainWall” is a more specific classification of “IfcWall”. We use the term “parent” to identify this relation: the parent of “IfcCurtainWall” is “IfcWall”.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | DataType | Required? | Translatable? | Description |
| Code | Text | Yes | No | Unique identification within the domain of the classification  E.g. “ifc-00123-01” |
| Name | Text | Yes | Yes | Name of the classification  E.g. “IfcCurtainWall” |
| Definition | Text | No | Yes | Definition of the Classification |
| Status | Text | No | No | Status of the Classification: “Active” (default) or “Inactive” |
| ActivationDateUtc | Date | No | No |  |
| RevisionDateUtc | Date | No | No |  |
| VersionDateUtc | Date | No | No |  |
| DeactivationDateUtc | Date | No | No |  |
| VersionNumber | Integer | No | No |  |
| RevisionNumber | Integer | No | No |  |
| ReplacedObjectCodes | List of text | No | No | List of Classification Codes this Classification replaces |
| ReplacingObjectCodes | List of text | No | No | List of Classification Codes this classification is replaced by |
| DeprecationExplanation | Text | No | Yes |  |
| CreatorLanguageIsoCode | Text | No | No | Language ISO code of the creator |
| VisualRepresentationUri | Text | No | Yes |  |
| CountriesOfUse | List of text | No | No | List of country ISO codes this Classification is being used  E.g. “EN”,”NL”,”DE” |
| SubdivisionsOfUse | List of text | No | Yes | List of geographical regions of use  E.g. “US-MT” |
| CountryOfOrigin | Text | No | No | ISO Country Code of the country of origin of this classification  E.g. “DE” |
| DocumentReference | Text | No | No | Reference to document with full or official definition of the Classification |
| ClassificationType | Text | No | No | Must be one of: Class  ComposedProperty  Domain  ReferenceDocument  AlternativeUse |
| ParentClassificationCode | Text | No | No | Reference to the parent Classification. The ID in this field MUST exist in the data delivered.  E.g. “ifc-00123-00” |
| RelatedIfcEntityNamesList | List of text | No | No | References to the IFC equivalent of this Classification  E.g. “IfcCurtainWall” |
| Synonyms | List of text | No | Yes |  |
| ClassificationRelations | List of ClassificationRelation | No | No | See next sections |
| ClassificationProperties | List of ClassificationProperty | No | No | See next sections |

## Property type

A classification can have multiple properties and a property can be part of many classifications

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | DataType | Required? | Translatable? | Description |
| Code | Text | Yes | No | Unique identification within the domain of the property  E.g. “ifc-99088-01” |
| Name | Text | Yes | Yes | Name of the Property  E.g. “IsExternal” |
| Definition | Text | No | Yes | Definition of the Property |
| Status | Text | No | No | Status of the Property: “Active” (default) or “Inactive” |
| ActivationDateUtc | Date | No | No |  |
| RevisionDateUtc | Date | No | No |  |
| VersionDateUtc | Date | No | No |  |
| DeactivationDateUtc | Date | No | No |  |
| VersionNumber | Integer | No | No |  |
| RevisionNumber | Integer | No | No |  |
| ReplacedObjectCodes | List of text | No | No | List of Classification Codes this Classification replaces |
| ReplacingObjectCodes | List of text | No | No | List of Classification Codes this classification is replaced by |
| DeprecationExplanation | Text | No | Yes |  |
| CreatorLanguageIsoCode | Text | No | No | Language ISO code of the creator |
| VisualRepresentationUri | Text | No | Yes |  |
| CountriesOfUse | Text | No | No | Semicolon separated list of country ISO codes this Classification is being used  E.g. “EN;NL;DE” |
| SubdivisionsOfUse | Text | No | Yes | Semicolon separated list of geographical regions of use  E.g. “US-MT” |
| CountryOfOrigin | Text | No | No | ISO Country Code of the country of origin of this classification  E.g. “DE” |
| DocumentReference | Text | No | No | Reference to document with full or official definition of the Property |
| Description | Text | Yes | Yes |  |
| Example | Text | No | Yes | Example of the Property |
| ConnectedPropertyCodes | List of text | No | No | List of codes of connected properties |
| PhysicalQuantity | Text | No | Yes | Name of the physical quantity of the property  E.g. “without” or “mass” |
| Dimension | Text | No | No | In case of a physical quantity, dimension according to ISO 80000 (all parts)  E.g. “1 0 -2 0 0 0 0” |
| MethodOfMeasurement | Text | No | Yes | E.g. “Thermal transmittance according to ISO 10077-1” |
| DataType | Text | No | No | The datatype the property is expressed in (ISO/IEC 11404)  E.g. “integer” |
| IsDynamic | Boolean | No | No | Default: false If this is a dynamic property, the value is dependent on the parameters provided in field DynamicParameterProperties |
| DynamicParameterPropertyCodes | List of text | No | No | List of codes of properties which are parameters of the function for a dynamic property |
| Units | List of text | No | No | The units to represent a scale that enables a value to be measured (ISO 80000 or ISO 4217 or ISO 8601). List of values  E.g. “m3/h”,”m3/s” |
| DefiningValues | List of text | No | Yes | In case the value of the property is restricted to a limited list of values, list of values  E.g. “Heating”, “Cooling”, “Heating and Cooling” |
| TextFormat | Text | No | No | Pair for text type (encoding, number of characters)  The encoding is set according to “Name of encoding standard” of IANA, RFC 2978 E.g. “(UTF-8,32)” |

## ClassificationProperty type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | DataType | Required? | Translatable? | Description |
| Code | Text | No | No | Unique identification within the domain of this classification property |
| PropertyCode | Text | No \* | No | Reference to the property in the same domain |
| ExternalPropertyUri | Text | No \* | No | Reference to the property in a different domain |
| Unit | Text | No | No |  |
| SortNumber | Integer | No | No | Sort number of this property within the classification |
| Symbol | Text | No | No |  |
| PropertyType | Text | No | No | Type of the Property for the classification: “Property” (default) or “Dependency” |
| PropertySet | Text | No | No |  |
| PredefinedValue | Text | No | No | Predefined value for this property. E.g. value for property “IsLoadBearing” can be “true” for classification “IfcWall” |
| MinValue | Real | No | No |  |
| MaxValue | Real | No | No |  |

\* One of those is required.

## ClassificationRelation type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | DataType | Required? | Translatable? | Description |
| RelationType | Text | Yes | No | One of:  HasReference,  IsEqualTo,  IsSynonymOf,  IsParentOf,  IsChildOf |
| RelatedClassificationUri | Text | Yes | No | Full URI of the related classification. Can be to same or different domain. |

## Table IfcClassifications

This table should not be altered. It contains the IFC classification names you can choose from when linking your classifications to IFC classifications.