Terminology

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Team

A Team is a tenant/company which work on the building projects. The team has to be specified and setup through the bimplus portal as so called slugs to present a clean URL . The team slug will be used to know which tenant database to work on. Please see user administration service for more information.

- Please use the Bimplus Team Service for doing all the possible team related actions

Project

A Project is basically a holder which contains building models.

- The **project slug** (which should be provided during the creation of a project) should be provided as part of the URL which is necessary to verify the user's access rights on the project in an early stage of processing the API call (before any business data will be touched and any business logic will be executed)

- Please use the Bimplus Project Service for doing all the possible project related actions

Model

A Model is basically a technical building 3D plan.

- Please use the Bimplus Import Service for importing the existing models in the form of IFC or SketchUp files.
- Please use the Bimplus Model Service for doing all the possible model related actions

Layer

A group of element types constitute a layer. They are predefined. Please see the detailed structure of the attachment in the Object Model.

- Please use the Bimplus ElementType Service for knowing the existing layers.

⚠️ An ElementType cannot belong to two layers.

Object

Objects are the primary component of a project and it exists in two forms.

- **Node**: Objects with no graphical representation
- **Geometry**: Objects with graphical representation (See Geometry)

Please see the detailed structure of the issue in the Object Model

- Please use the Bimplus Object Service for doing all the possible object related actions

⚠️ A project is also basically an object.

Topology

Topology is a hierarchical tree representing all its child nodes. A topology tree consist of components which can have a graphical representation(objects or elements) or components which does not have a graphical representation(nodes). A topology tree can be obtained both on the project as well as on the object level.

- Please use the Bimplus Project Service for obtaining/filtering the project topology tree. This will yield the topology nodes filtered till the sub-project level.
- Please use the Bimplus Object Service for obtaining/filtering the object topology tree. This will yield the topology nodes with all the properties, attributes, geometry and children.

Geometry

It represents the geometrical information(graphical representation) of a building. Please see the detailed structure of the issue in the Object Model

There are three type of Geometry objects.

- **mesh: It is the default geometry type. It is an uncompressed mesh format where the geometry object will be compressed on the server before storing it into the database.**

Example

```
mesh: {
      colors: 4291993670,
      vertices: \[ 96.149, 179.546, ... \],
      faces: \[ 4,0,1,2,3, 3,4,5,6, ... \]
      }
where,
color:   array of decimal RGBA values;
vertices: plain array of 3D vertices coordinates like [x0, y0, z0, x1, y1, z1, ...]
faces: plain array of faces definitions like first number is quantity of vertices, than vertex indices
list, see example.
```

- **meshblob: It is a compressed mesh format intended to be used in the desktop CAD applications. Internal CAD format of the geometry will be converted into a Bimplus compressed mesh format with the help of a DLL in order to minimize the JSON object.**

Example

```
meshblob: "d273f7a6a7d8f8725484fe6282..."
```

- **threejs**: It is a format which is optimized for viewing on mobile devices or in browsers where the native model is filtered and tessellated in order to deliver minimal JSON size and maximal navigation speed (FPS). This model has ThreeJS JSON v 3.1 format and can be directly parsed by the client.

Example

```
threejs: {
        <ThreeJS_JSON_format>
        }
```

- Please use the Bimplus Object Service for seeing and filtering different geometry type information.

> ⚠ Objects with geometry types "mesh" or "meshblob" can be written into the Bimplus database, whereas the "threejs" geometry type is optimized for viewing on mobile devices or in browsers and cannot be written into the database directly.

ElementType

Element type describes the type of predefined building elements required to build a building (eg: wall, window, door etc) Each element type have an unique id. Please see the detailed structure of the ElementType in the Object Model

The available element types can be found under 2.1.4.1 Bimplus Element Types

- Please use the Bimplus ElementType Service for doing all the possible element type related actions

Issue

Issues are problems or remarks which can be assigned to any project. Comments or attachments can be added to the issue. Please see the detailed structure of the issue in the Object Model

- Please use the Bimplus Project Service for creating/deleting an issue or for getting all the issues assigned to a project
- Please use the Bimplus Issue Service for doing all the specific issue related actions

Pin

Pins are relation between an issue and an object. It defines position of an issue in the 3D space. Please see the detailed structure of the pin in the Object Model

- Please use the Bimplus Issue Service for creating/deleting a pin or for getting all the pins assigned to an issue
- Please use the Bimplus Pin Service for doing all the specific pin related actions

Comment

Comments can be added to the issues using the Bimplus Comment Service

Attachments

Attachments are mostly documents or any media files with additional information which can be assigned to any project, object or issue. Please see the detailed structure of the attachment in the Object Model

- Please use the Bimplus Project Service for creating/deleting an attachment or for getting all the attachments of a project
- Please use the Bimplus Object Service for creating/deleting an attachment or for getting all the attachments of an object
- Please use the Bimplus Issue Service for creating/deleting an attachment or for getting all the attachments of an issue
- Please use the Bimplus Attachment Service for doing all the specific attachment related actions