

4.4 Object Service

geometry

Object Service

- Create a new object
- Get the object details
- Generate, save & share the view of an object
- Check whether an object has been updated (See only the header info)
- Get the object tree with full property list without geometry (object topology tree)
- Get the optimized objects tree with selected property list whose geometry type is "ThreeJS"
- Get the object tree with full property list whose geometry type is "compressed geometry mesh (meshblob)"
- Get the object tree with selected property list whose geometry type is "ThreeJS" filtered by layer
- Get the object tree whose geometry type is "compressed geometry mesh (meshblob)" filtered by layer
- Get the different properties / structure(normal, viewer properties, object in hierarchical tree structure) of the object using different property combinations
- Get the complex properties of the object
- Update the object
- Create a new comment in the object
- Get all the comments of the object
- Create a new attachment in the object
- Get the attachment list from the object
- Delete all attachments from the object
- Create a new hyperlink for the object
- Get the hyperlink list from the object
- Capture/create an object view(scene) for sharing it with another user
- Improve the get model geometries performance using chunks & templates
- Delete the object
- Create a new custom table in the object
- Get all the custom tables of the object
- Delete all the custom tables from the object
- Get the report of object
- Get object geometry as binary gltf (glb)

Object Service

Objects are the primary component of the project tree 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](#)

Create a new object

URL / Resource / JSON Structure

Resource: objects

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects

Example: <https://api-stage.bimplus.net/v2/bimplus/objects>

JSON Structure:

Name	Mandatory / Optional	Type	Description
parent	mandatory	guid	The id of the parent to which the object can be associated
type	mandatory	string	Element type of the object
attributes	optional	string	Attributes of the object
children	optional	Object	Children of the object

HTTP Method

POST

Description

Creates a new object

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json

JSON
<pre>{ "parent": "925f9e2d-8877-406b-9806-afb4246ed2e2", "type": "Wall", "attributes": { "element": { "isparent": false, "nr": 0, "matrix": "AAAAAAAAA8D8AAAAAAAAAgAAAAAAAAACAInejcP1YsEAAAAAAAAAgAAAAAAAAPA/AAAAAAAAIAK16Nw /fy2QAAAAAAAAACAAAAAAAAAIAAAAAAADwPwAArkfheoS/AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA8D8=", "elementtyp": "10074eef-9418-4d64-9c6d-23932835a7f1", "divisionid": "e7859a8f-4b7a-4263-8420-405d565377aa" }, "general": { "name": "Brickwall", "isobjectvalid": true }, "quantity": { "width": 115 }, "geometry": { "mesh": "{\"Color\":4278255360,\"Vertices\": [4450.01,115.01,0.01,3200.01,115.01,0.01,3200.01,0.01,0.01,4450.01,0.01,0.01,2315.01,0.01,0.01,2315.01,115.01,0. 01,0.01,115.01,0.01,0.01,0.01,0.01,4450.01,115.01,2750.01,4450.01,0.01,2750.01,0.01,0.01,2750.01,0.01,115.01,275 0.01,2315.01,115.01,2190.01,3200.01,115.01,2190.01,3200.01,0.01,2190.01,2315.01,0.01,2190.01],\"Faces\": [4,0,1,2,3,4,4,5,6,7,4,8,9,10,11,4,0,3,9,8,8,6,5,12,13,1,0,8,11,4,7,6,11,10,8,3,2,14,15,4,7,10,9,4,12,15,14,13,4 ,15,12,5,4,4,13,14,2,1]}\" } } }</pre>

Response

Status
Status: 201 Created

JSON

```
{
  "elementtyp": "10074eef-9418-4d64-9c6d-23932835a7f1",
  "id": "33c741c1-f03e-4c47-b072-de8637f8f340",
  "parent": "925f9e2d-8877-406b-9806-afb4246ed2e2",
  "type": "Wall",
  "layerid": "0f106af0-a919-44c5-b211-15bd5ef620b6",
  "attributes": {
    "element": {
      "isparent": false,
      "nr": 0,
      "matrix": "AAAAAAAAA8D8AAAAAAAAAgAAAAAAAAACAInejcP1YsEAAAAAAAAAgAAAAAAAAAPA/AAAAAAAAIAK16Nw
/fy2QAAAAAAAAACAAAAAAAAAIAAAAAAAAAADwPwAArkfheoS/AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA8D8=",
      "elementtyp": "10074eef-9418-4d64-9c6d-23932835a7f1",
      "divisionid": "e7859a8f-4b7a-4263-8420-405d565377aa",
      "logparentid": "de87fc4d-cb5d-44ba-b2ea-1d96ac564a8a"
    },
    "general": {
      "name": "Brickwall",
      "isobjectvalid": true
    },
    "quantity": {
      "width": 115
    },
    "geometry": {
      "mesh": "{\"Color\\\":4278255360,\\\"Vertices\\\":
[4450.01,115.01,0.01,3200.01,115.01,0.01,3200.01,0.01,0.01,4450.01,0.01,0.01,2315.01,0.01,0.01,2315.01,115.01,0.
01,0.01,115.01,0.01,0.01,0.01,4450.01,115.01,2750.01,4450.01,0.01,2750.01,0.01,0.01,2750.01,0.01,115.01,275
0.01,2315.01,115.01,2190.01,3200.01,115.01,2190.01,3200.01,0.01,2190.01,2315.01,0.01,2190.01],\\\"Faces\\\":
[4,0,1,2,3,4,4,5,6,7,4,8,9,10,11,4,0,3,9,8,8,6,5,12,13,1,0,8,11,4,7,6,11,10,8,3,2,14,15,4,7,10,9,4,12,15,14,13,4
,15,12,5,4,4,13,14,2,1]}\"
    },
    "elementstate": {
      "state": "0aaf5a1c-2453-40cb-9232-315119dd288f"
    }
  }
}
```

Get the object details

URL / Resource / JSON Structure

Resource: objects/<object_id>

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>

Example: <https://api-stage.bimplus.net/v2/bimplus/objects/7cf910cb-e357-43f6-aa3a-b45c26380f75>

Optional query parameters

Name	Type	Default value	Description
revision	int	null (current)	If revision is specified, then the call will get the object from the requested revision, otherwise return current object (latest revision).
internal	boolean	false	false = return attributes in viewer format (as seen in the portal); true = return in different, internal server representation format.
children	boolean	false	false = return only properties of the object itself; true = return properties of the object and all its children
freeattributes	boolean	false	false = for each attribute return only name and value; true = return full definition for each object's attribute
disciplineId	Guid	null	Specifies the discipline (layer).

type	string	null	filter for requested element type. f.ex. if you use 'type=Wall', you will get a list of Walls, who are childs of the requested object_id this means, when you use <pre>{host}/v2/{slug}/objects/{objectId}?type=Column</pre> you will get all Columns, who exist in the project
documentversion	int	0 (current)	If document version is specified and when document version is supported by object, e.g. actually only attachment can have document version, then the call will get the result from the requested document version, otherwise return current object (latest revision). To get free attributes of attachment for exact document version can be used freeattributes and documentversion <pre>{host}/v2/{slug}/objects/{objectId}?freeattributes=true&documentversion=1</pre> In this case you will get free attributes of object for requested document version.
projectid	Guid	null	Specifies the project id. Note: This query parameter is mandatory in case when resource identification (object_id) represent the user. If resource id represent user id and this query parameter is missing the response will be not found. Together with query parameter 'freeattributes' is possible to get detail info about user. <pre>{host}/v2/{slug}/objects/{objectId}?freeattributes=true&projectid={projectid}</pre> The same query parameters must be used also in "PUT" version of this request.
shortinfo	boolean	false	true = return results without attributes and without localizedAttributeGroups (query can be set on true just when object_id is ID of selection objects).

HTTP Method

GET

Description

Gets the properties (attributes) of an object.

By using and combining the optional query parameters, the caller can shape the response to requested format (see response for more description).

If parameter is not used, its default value is used.

Note:

Following object-related api calls are now obsolete (they are still supported, but will be removed eventually), and should be replaced by using get object call with query parameters :

Obsolete call	Should be replaced by
GET /<teamslug>/objects/<object_id>/tree	GET /<teamslug>/objects/<object_id>?children=true
GET /<teamslug>/objects/<object_id>/internal	GET /<teamslug>/objects/<object_id>?internal=true
GET /<teamslug>/objects/<object_id>/properties/3	GET /<teamslug>/objects/<object_id>?children=true
GET /<teamslug>/objects/<object_id>/properties/8	GET /<teamslug>/objects/<object_id>?freeattributes=true

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json

Response

Status
Status: 200 OK

In general, the response json has following format :

```
{
  "elementtyp": "<type_id>",
  "id": "<object_id>",
  "parent" : "<parent_id>",
  "type": "<type_name>",
  "layerid": "<discipline_id>",
  "attributes": {
    "<attribute_group_1>": {
      "<property_name_1>": "<property_value>",
      "<property_name_2>": "<property_value>",
      "<property_name_3>": "<property_value>"
      ...
    },
    "<attribute_group_2>": {
      "<property_name_1>": "<property_value>",
      "<property_name_2>": "<property_value>"
      ...
    },
    ....
  },
  "children" : []
}
```

if query parameter "children" is used, the property "children" will contain of child objects in the same format as is the object itself.

If query parameter "freeattributes" is used, the "property_value" contains full attribute definition in following format:

```
{
  "id": "<attribute_id>",
  "name": "<attribute_name>",
  "group": "<attribute_group>",
  "type": "<attribute_value_type>",
  "isInternal": <true or false>,
  "value": "<attribute_value>"
}
```

Examples:

GET /<teamslug>/objects/<objectid>

```
{
  "elementtyp": "10074eef-9418-4d64-9c6d-23932835a7f1",
  "id": "94f0289c-41b3-450f-9c04-0527ef9a1138",
  "parent": "8015e60e-f9c6-4544-a3e8-feadbfd154ba",
  "type": "Wall",
  "layerid": "0f106af0-a919-44c5-b211-15bd5ef620b6",
  "attributes": {
    "element (default property set)": {
      "type": "Wall",
      "model": "Model A",
      "layer": "BuildingModel"
    },
    "general (default property set)": {
      "name": "Basic Wall:300_21_isolatie_208.5_spouwklein:4820766",
      "description": "Ifc Imported Element",
      "ifcglobaluniqueid": "2H$2pBsUL7TgKZ59zSDw0D",
      "ifcelementtype": "IfcWallStandardCase"
    },
    "content": {
      "tag": "4820766",
      "objecttype": "Basic Wall:300_21_isolatie_208.5_spouwklein:4296143",
      "skipparentlocations": "False",
      "extrudeprofiletype": "RectangleProfile",
      "polyeder area": "25,851 m²",
      "polyeder volume": "2,036 m³",
      "xdim": 5160.000000000001,
      "ydim": 208.5
    }
  },
  ...
}
```

GET /<teamslug>/objects/<object_id>?freeattributes=true

```
{
  "elementtyp": "10074eef-9418-4d64-9c6d-23932835a7f1",
  "id": "94f0289c-41b3-450f-9c04-0527ef9a1138",
  "parent": "8015e60e-f9c6-4544-a3e8-feadbfd154ba",
  "type": "Wall",
  "layerid": "0f106af0-a919-44c5-b211-15bd5ef620b6",
  "attributes": {
    "element (default property set)": {
      "type": {
        "id": "a0e8ae2c-c869-4ec3-9019-25d3704be707",
        "name": "Type",
        "group": "Element (default Property set)",
        "subGroup": "Element",
        "type": "Guid",
        "value": "Wall"
      },
      "model": {
        "id": "cd320d7b-7299-4abc-8409-c86e46fa45f9",
        "name": "Model",
        "group": "Element (default Property set)",
        "subGroup": "Element",
        "type": "Guid",
        "value": "Model A"
      },
      "layer": {
        "id": "4812c68a-3f8d-40c1-b3f8-551a4102a406",
        "name": "Layer",
        "group": "Element (default Property set)",
        "subGroup": "Element",
        "type": "Guid",
        "value": "BuildingModel"
      }
    },
    ...
  }
}
```

GET <teamslug>/objects/<object_id>?internal=true

```
{
  "elementtyp": "10074eef-9418-4d64-9c6d-23932835a7f1",
  "id": "94f0289c-41b3-450f-9c04-0527ef9a1138",
  "parent": "8015e60e-f9c6-4544-a3e8-feadbfd154ba",
  "type": "Wall",
  "layerid": "0f106af0-a919-44c5-b211-15bd5ef620b6",
  "attributes": {
    "element": {
      "isparent": true,
      "nr": 4,
      "elementtyp": "10074eef-9418-4d64-9c6d-23932835a7f1",
      "logparentid": "b1570b15-2786-4c22-baf0-94e07de69990",
      "divisionid": "1b6fa8ae-568a-4bc0-81b7-c6d282834a0c",
      "materialstring": "ISR_Isolatie",
      "matrix": {
        "values": [
          1,
          0,
          0,
          120,
          0,
          1,
          0,
          -228.5,
          0,
          0,
          1,
          -70,
          0,
          0,
          0,
          1
        ]
      },
      "articleid": "0583a9a7-3756-48b9-b836-63541bdf130e",
      "materialsurfaceid": "058578b6-6a32-48f5-ae4a-59dc452de287",
      "layerid": "0f106af0-a919-44c5-b211-15bd5ef620b6"
    },
    "general": {
      "name": "Basic Wall:300_21_isolatie_208.5_spouwklein:4820766",
      "description": "Ifc Imported Element",
      "isobjectvalid": true
    },
    "elementstate": {
      "state": "0aaf5a1c-2453-40cb-9232-315119dd288f"
    },
    "objectlog": {
      "createdby": "e4d7ac3c-94f3-4507-9b8b-a1505225845c",
      "created": "2016-01-28T10:51:04.843",
      "modifiedby": "e4d7ac3c-94f3-4507-9b8b-a1505225845c",
      "modified": "2016-01-28T10:51:04.843",
      "revision": 0
    }
  },
  ...
}
```

[Generate, save & share the view of an object](#)

URL / Resource / JSON Structure

Resource: objects/<object_id>

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>

Example: https://api-stage.bimplus.net/v2/bimplus/objects/7cf910cb-e357-43f6-aa3a-b45c26380f75

JSON Structure:

Name	Mandatory / Optional	Type	Description
parent	optional	string (guid)	The id of the parent to which the object can be associated
type	mandatory	string	Element type of the object
attributes	optional	string	Attributes of the object
children	optional	object	Children of the object
slide	optional	object	Slide is one of the children of attributes which contains the scene object for saving the view of an object
scene	optional	object	A JSON string which includes viewMode(transparent or not), camera values & positions, related objects, clipping plane, topology & layer details. An example template is specified below. Please remember, the server will process the scene information as a json string and hence the client has to take care on the information that is stored & retrieved.

An example scene template:

```
"scene": {
  "viewMode": "transparent",
  "camera": {
    "fov": 45,
    "position": {
      "x": 1231.4,
      "y": 234.3,
      "z": 3123.7
    },
    "quaternion": {
      "x": 0.9,
      "y": 0.7,
      "z": 0.7,
      "w": 0.23
    },
    "target": {
      "objectId": "<GUID>",
      "position": {
        "x": 1231.4,
        "y": 234.3,
        "z": 3123.7
      }
    }
  },
  "objects": {
    "selected": [
      0,
      1,
      2,
      3,
      4,
      5,
      6,
      7,
      8,
      9
    ],
    "transparent": [
      0,
      1,
      2,
      3,
      4,
      5,
      6,
      7,
```

```

        8,
        9
    ],
    "hidden": [
        0,
        1,
        2,
        3,
        4,
        5,
        6,
        7,
        8,
        9
    ]
},
"clippingPlane": {
    "axis": "x",
    "distance": -123.5,
    "selected": false
},
"topology": [
    [
        "<nodeId>",
        "<disciplineId>"
    ],
    [
        "<nodeId2>",
        "<disciplineId2>"
    ]
],
"layers": [
    {
        "id": "<GUID>",
        "divisionTopologyId": "<GUID>",
        "visible": true,
        "transparent": false
    }
]
}

```

HTTP Method

PUT

Description

A view of an object could be generated by updating an object with a scene object. The generated view could be saved and the url can be shared between different users.

Request

Headers

Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088
Content-Type: application/json

JSON

```
{
  "id": "852fb78c-4d2d-4196-9f5d-647617749eed",
  "type": "Wall",
  "attributes": {
    "slide": {
      "scene": "{\\"viewMode\\":\\"\\",\\"thumbnail\\":\\"data:image/png;base64,
iVBORw0KGgoAAANSUHuEugAAALQAAABwCAYAAAC3tFqQAAAJF0lEQVR4Xu2bWwWbVRSgz4yXrI3TJq1EKgkpZQ0tdGnmvmgohQKIIIEggIagqAYLn
9gHx0AIvIPHGA5uQALELQYFSRAUkobS00AoKikoBsYSKltZ04ux27BnuuY4dx56kJomD0Fe/kmNn7sx4/vN/c
/37ztgiNFRUAU5uQvQogBRUGAA0IRFUAQIuyE2IANBgQVQEALcp0iAHQYEBUBQC0KDshBkCDAVEVANCi7IQYAA0GRFUAQIuyE2IANBgQVQEALcp0i
AHQYEBUBQC0KDshBkCDAVEVANCi7IQYAA0GRFUAQIuyE2IANBgQVQEALcp0iAHQYEBUBQC0KDshBkCDAVEVANCi7IQYAA0GRFUAQIuyE2IANBgQV
QEALcp0iAHQYEBUBQC0KDshBkCDAVEVANCi7IQYAA0GRFUAQIuyE2IANBgQVQEALcp0iAHQYEBUBQC0KDshBkCDAVEVANCi7IQYAA0GRFUAQIuyE
2IANBgQVQEALcp0iDEK6Peeuan1RJW1Ldf26ECcfj/R3z6yckEH913eP7704V8i7c8+tu
/RUKRlAwvjttq2bV7emj+3AfLedEtThdJxYf+WqMzLLJzv2gYDbvvWunSwpbbr1Ng5on89qyy3W4PAonYoM05JFNXl17Pw5QuQ6Gx5+an
/7dItcJ03u2LzCXVYwPtCtXnpG3+6++PU7N59ZRTXVwyre2LHf7xvsAdDH8mZN98ggtBeiHH1zDJ2YrgJ6IjpgRetN7N532I7Z5hNbXxaztXiP04N
AoLayrppjgKDUgAplVSnGEvn3LmrZzB0nrrnQroPj9Rec3ko3SkzN3eWU46ZuW2l27dVVKfSIW0eGKA/ud5jXrEKlT4Z0vt
/S1Ci5pqqKpiHgrPdy+0LT3fo3efWlanHrL9Kr0Qb8fLuT+7cV/YYxteR21T1+uj8wKK0ElapNahn5a06t5Dh47r55qEN/CF10jm+z
/8X7LxvzxoL0NmC2gekTlLp4E+mdxE5eUBsqwAJRiX8pFL5PNR7f7d1GMN0g+3rJtWOG48Rute2EVday+grssuzPTX8tpT
/bR8xx69TfTMekqUndM7Ssne8r7oksWf76NQLDxxf0Nq8z+Jlh/aq8l5C8i
/Zr3en+UGaDg+TImkSw988bZeFpmfpH2rYvo1Z+h08xrBAXQhFfiP1ykwOG7tVqqsKlCUBWg0PkL+pILG9lH8o9epxz+SB7TTHaawN
/ZkgHYH+omCQeLn+CMKziyg
/fOuIttft05fmBp3vjgl0HXnXESBLKAHhgYo6Vp027tPA+gs9jBC55yIuS00FbpH8ahGaDtAyUSc7GRcwW3T6Cefa6C7bhgfhXlXD06Kt77TQEdX
NOj/GWiKx6m2b4SaPv6Rum5UfY0N5Ks4nyx/Hbl9ETRzix1ECvgJ+1P/cwxp+uYI1S+7lBr00js1QjswxRMJSjpEV7e
/CaAlAv3MKxvbyppyZZ+ijRyNuvbSGglUFZ0h6VcncLMzF5Zzs1TdVtUy+bv9mfzknY4M617hXhuYvhJyhV6
/On9Yr5MN08yZk6ELqVLR1ihU5aMejVFFZNp6hHUWJihyx91/0jBw8Iq97+dPxyKGys248QkdjEyJHphgqKzd1HJkycvAI7V
/TojdKUAjw4M6cvi6H8+rKTJ00TCbux0XC+hiZuh
/A3R2hnbJT00DKaAD0ScBTMTIUTSgk66hgN9WsTmoMnRMZWg1NaZmOzy2P8hJHNN50Lu5aiRe/PavKj/X6wf
/n25wf1Bn60gG1adm0bJbaH+YQj3hvP1xhg4dCNP8RVVkl1+c2SSPzjgSKkt7Ynszy8JjU84c0ThucMMxs9wNqrP6Tr0ZobPnoa2yZSpupA7VVTN
2Fv+xlXIO/6KXmbS5Qnfu7dNZOLuPwwagQ9+HU8uzsnJiUI253ZYG0nd
//EUx9DNPUku3vWRZ5q1c9YVQH1M8dRzc6sFOHY4cnKG5IUPPKmZzt70iJdbFnLZLVyecrPp91e6DS6aah0bkkIwlTNv1c132q6YGbo31MBjrJq
H7qZLd3UWPA+NDD053ADaA2ietktfKXT9TSoyp8rEuVwLZ/3a6TymnyeLH0lYoamGX1iZInLwfjike00vHTnsRpwfs9INxyXkZie68tzFpe
/CRvOSXmu2MvTfnRMvfZMC2h4D2lEQZV6rL4UaQPUL7eF3lFwnpcP06m55lCbyslqG3deKvAy7Lp9p/pUhu69XuXkgZNE1QtT
/dFe4i+MnLntIambQ5LqsjeFZHyCWR5Ap6ft0EcjQ5c0tt4Ht+Xo3dta0qKtqpcfM2pzFTl6KlKHAS9InRA8D1023E2fPXbt5vjLux1aeDCu7+Wo
br6Ykus26D5fxKFQ2yG+j9vufiKzPs+B8+PA8fEPXsxyzAiH4m685cjdRSTVkhCqJAK84PECh6Nhc1Qw0wwvYoKHCX1xhxbVpepkapTc8Zq+
sPLNnakbhtKNGbrud36wspPLC0ashTk4Asra9/s0Pd/eAHNI/SX96agTbeyHofWftBBtWc1E13BklXrc6k86HoC7fz9F33dN
/5DhekCvae1tt11xf1rlqcufLV9Biwd001LNNKPBa9XhWYL6IPVDlVVBqjydLePnuZ2T89L33zgs31ZPKsYXYVVTVSqWceGyD5wSr++qiE0LaAU0
LnbaahLHfKSA/qhvbfn
/eZvWo5go6JXYOjkiP5xCn9GKDkgC66C3gd0RUUA0KLtNU8cgbDbPc9GKAbr0e80TB6DN81y0YgAt2l7zxAFo8zwXrRhAi7bXPHEA2jzPRSSG0KLt
NU8cgbDbPc9GKAbr0e80TB6DN81y0YgAt2l7zxAFo8zwXrRhAi7bXPHEA2jzPRSSG0KLtNU8cgbDbPc9GKAbr0e80TB6DN81y0YgAt2l7zxAFo8zwX
rRhAi7bXPHEA2jzPRSSG0KLtNU8cgbDbPc9GKAbr0e80TB6DN81y0YgAt2l7zxAFo8zwXrRhAi7bXPHEA2jzPRSSG0KLtNU8cgbDbPc9GKAbr0e80T
B6DN81y0YgAt2l7zxAFo8zwXrRhAi7bXPHEA2jzPRSSG0KLtNU8cgbDbPc9GKAbr0e80TB6DN81y04n8AFGPHnvj28LgAAAAASUVORK5CYII=",
\\"viewBox\\":{\\\"position\\\":[41100.200000000004,10500,-53363.100000000006],\\"size\\\":
[110887.300000000002,21600,114908]},\\"camera\\":{\\\"fov\\\":45,\\"position\\\":
[41100.200000000004,10500.000000000011,141787.79481218164],\\"euler\\\":[-5.720026065953601e-17,0,0,\\\"XYZ\\\"],\\"
target\\\":[41100.200000000004,10500,-53363.100000000006]},\\"objects\\\":{\\\"selected\\\":[\\\"852fb78c-4d2d-4196-9f5d-
647617749eed\\\"],\\"highlighted\\\":[],\\"highlightedSelected\\\":[],\\"transparent\\\":[]},\\"clippingPlane\\\":null,\\"
topology\\\":[{\\\"id\\\":\\\"af938b96-fc92-488c-aa22-1bbfe9970fd\\\",\\"divisionTopologyId\\\":\\\"2643ad38-84cc-47d4-8f1b-
43ab8ac471db\\\",\\"visible\\\":true},{\\\"id\\\":\\\"d05aaefd-acc2-44b5-9df8-a45413ac3359\\\",\\"divisionTopologyId\\\":\\\"
2643ad38-84cc-47d4-8f1b-43ab8ac471db\\\",\\"visible\\\":true},{\\\"id\\\":\\\"c4aa6b72-096e-4f26-ad3f-f91b85ff3285\\\",\\"
divisionTopologyId\\\":\\\"2643ad38-84cc-47d4-8f1b-43ab8ac471db\\\",\\"visible\\\":true},{\\\"id\\\":\\\"3bb594d9-2af8-4602-
b261-bc5429bc3e9e\\\",\\"divisionTopologyId\\\":\\\"2643ad38-84cc-47d4-8f1b-43ab8ac471db\\\",\\"visible\\\":true},{\\\"id\\\":\\\"
68e38c99-4eca-425f-bf7a-7c51e47eaac0\\\",\\"divisionTopologyId\\\":\\\"2643ad38-84cc-47d4-8f1b-43ab8ac471db\\\",\\"
visible\\\":true}],\\"layers\\\":[{\\\"id\\\":\\\"0f106af0-a919-44c5-b211-15bd5ef620b6\\\",\\"divisionId\\\":\\\"9400f4b8-16b5-
4b8f-a3e1-c1deb9ae7a9b\\\",\\"divisionTopologyId\\\":\\\"2643ad38-84cc-47d4-8f1b-43ab8ac471db\\\",\\"visible\\\":true,\\"
opaque\\\":true,\\"opacity\\\":0.1,\\"divisionName\\\":\\\"Model1\\\",\\"name\\\":\\\"Building\\\",\\"revisions\\\":[]},{\\\"id\\\":\\\"
09e623d4-1e12-4a77-b358-ea1d0b28e4a7\\\",\\"divisionId\\\":\\\"9400f4b8-16b5-4b8f-a3e1-c1deb9ae7a9b\\\",\\"
divisionTopologyId\\\":\\\"2643ad38-84cc-47d4-8f1b-43ab8ac471db\\\",\\"visible\\\":false,\\"opaque\\\":true,\\"opacity\\\":0.1,
\\\"divisionName\\\":\\\"Model1\\\",\\"name\\\":\\\"Room\\\",\\"revisions\\\":[]}]}"
    }
  }
}
```

Response

Status
Status: 200 OK

Check whether an object has been updated (See only the header info)

URL / Resource / JSON Structure

Resource: objects/<object_id>

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>

Example: https://api-stage.bimplus.net/v2/bimplus/objects/7cf910cb-e357-43f6-aa3a-b45c26380f75

HTTP Method

HEAD

Description

Check whether an object has been modified by seeing an object's ETag by reading only the header information of an object.

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json If-None-Match: "ca85a1f3-1a37-4f6d-bf1e-d0af96357774"

Response

Status
Status: 304 Not Modified - if not changed or Status: 200 OK - if changed

Headers
ETag: "ca85a1f3-1a37-4f6d-bf1e-d0af96357774"

Get the object tree with full property list without geometry (object topology tree)

URL / Resource / JSON Structure

Resource: objects/<object_id>/topology

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/topology

Example: https://api-stage.bimplus.net/v2/bimplus/objects/7cf910cb-e357-43f6-aa3a-b45c26380f75/topology

HTTP Method

GET

Description

Get the object tree with full property list without geometry.

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json

Response

Status
Status: 200 OK

JSON
<pre>{ "ifcId": "1o1vYcpcH5KRRK15voLOXN", "ifcType": "IfcBuilding", "parent": null, "name": "Brickwall", "type": "Project", "children": [], "id": "7cf910cb-e357-43f6-aa3a-b45c26380f75" }</pre>

Get the optimized objects tree with selected property list whose geometry type is "ThreeJS"

URL / Resource / JSON Structure

Resource: objects/<object_id>/geometries/threejs

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/geometries/threejs

Example: https://api-stage.bimplus.net/v2/bimplus/objects/7cf910cb-e357-43f6-aa3a-b45c26380f75/geometries/threejs

Please see the [Templates & Chunk](#) section for improving the performance of geometry calls

HTTP Method

GET

Description

Get the optimized objects tree with selected property list whose geometry type is "ThreeJS". Please see the [Templates & Chunk](#) section for improving the performance of geometry calls

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json

Response

Status
Status: 200 OK

--

JSON

```
{
  "elementsCount": 1,
  "faceCount": 6,
  "verticesCount": 24,
  "viewbox": {
    "x": -5081.562,
    "y": 5005.8785,
    "z": 1231.1029999999996,
    "width": 5950,
    "height": 5540.835,
    "depth": 7065.71
  },
  "colors": [
    -9868951
  ],
  "objects": [
    {
      "id": "f5cc3c6c-1fdf-499d-a38d-0582adadc216",
      "type": "RoofLayer",
      "attributes": {
        "geometry": {
          "threejs": {
            "faces": [
              0,
              2,
              1,
              3,
              0,
              5,
              3,
              9,
              1,
              1,
              14,
              1,
              5,
              6,
              15,
              12,
              1,
              7,
              4,
              13,
              14
            ],
            "vertices": [
              -2106.562,
              7588.114,
              -2301.752,
              -8056.562,
              7588.114,
              -2301.752,
              -8056.562,
              -880.999,
              -4742.212,
              6700,
              -880.999,
              -4742.212,
              7412.539,
              -1821.578,
              -5522.212,
              7412.539,
              -1821.578
            ]
          },
          "metadata": {
            "formatVersion": 3,
            "colorid": 0
          }
        }
      }
    }
  ]
}
```

```

    }
  },
  "quantity": {
    "length": 7065.71,
    "height": 150,
    "volume": 7911354818.818842,
    "area": 52742365.4587924
  },
  "general": {
    "name": "<PP>RoofLayer"
  }
}
]
}

```

Get the object tree with full property list whose geometry type is "compressed geometry mesh (meshblob)"

URL / Resource / JSON Structure

Resource: objects/<object_id>/geometries/meshblob

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/geometries/meshblob

Example: <https://api-stage.bimplus.net/v2/bimplus/objects/7cf910cb-e357-43f6-aa3a-b45c26380f75/geometries/meshblob>

Optional query parameters

Name	Type	Default value	Description
elementTypeId	guid	null (current)	filter for requested element type. Get objects just with specified element type id.

HTTP Method

GET

Description

Get the object tree with full property list whose geometry type is "compressed geometry mesh (meshblob)".

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json

Response

Status
Status: 200 OK

JSON

```
{
  "elementsCount": 1,
  "objects": [
    {
      "id": "7cf910cb-e357-43f6-aa3a-b45c26380f75",
      "parent": "00000000-0000-0000-0000-000000000000",
      "type": "wall",
      "attributes": {
        "geometry": {
          "compress": true,
          "picture":
"H4sIAAAAAAEANVXW3PbRBTWylIisuUmctml6T900t7aua+eetiH0ndAQDLS8pBnhzyYVUeQiyR0cGJ545y9QGB54YYY3HvkXPPetQLlDuV
/2E7uqiEfUMzRDkwc
/zf10tHv02XP0WhKRJ0kPduG0q1VmcLVQMPE8xywVzLJXc+iV+k06nE69QB3XrNpTQ9lclpPNjExmxzIjufHRbDo1V70g0GXTmucUrXSqUctZZvk
yrV+pb1J7yq5ZLoo10qt0i3pu+QbdzKxe9UxrSw5RaeemZstuntBYk9tr1C16rRCnTh7Qb1ZNW1PoZUNqlwv1qm2ZTxrJg1t33LmKV2xbQ3nKp
lUcVjRsrL87FYTFGU2G3yFN316FZmDg
/LHrPbzSxRmzpm0bNiut6Lubw1SFsC09jSzJfdiMb6+luPwsQFFpfH28JFtm7ZmFP50rVmu3N0E6xjoRuUq03Sk0kJMyG4h4e16WaWYGsxwAKQG
WQSKg/s5pqajoURfxw0apRw5A0TBbrkCT1J/Z+eJU97IFsFGWjJBt12ajIBpWN67KxIRs3ZM0UjZdkY1N6cGnxuMwvace1wNj
/QX3AzBbdZEA6quGa21Qzbv01Jwv0QF02ra3De03TNXbr4EPBPj3+xfeP7vc3Y1rgvc5uh/hQ1Ef1/a4W9r
/zHqYF3idQkXzEkQgSEznQ11Qw+Rw0AtRbAW2AdkASgIn0vYB9gP2ATsABQBfgIADB1w8DjsAQXRsSgiGRrSK8n74dRwHHAMcB3YATAMyjnwt0AE
4BegF9gH7AAGAQCbpwBnAwkAacA2QA5wFZQA4wxKBniyf+FrqHWow98C0eBowARgFjgHHABGAScAFwEXAJa7WoiHZzm4NEIa+Q0t1GxrS0YMn7g9
fe1EsF5F+eSnz8zkfX8q92vr90Z/uNaYL9w9T3nv2wW5Xea1Ro26EgHgQK7VxBLNGgkAzP0PV2o0LHDoUGG/ZyBUE0K0zbodCwxP4dRooZ
/CVfezdP0i08CBQ0RCwRKHRFGBkoHixw05eP3c6TQxF7ESgcjt1LQ0FIRKiFgopaabqy1BLdM00Y+0uJriHzXPfvKLejXPDz7TgnIOA0Id2cuPhr
5AQn0G1bQKQ4AQH
/a81JTkBAVYI9nND4a+QUJ9AqUHyk1xMJ7jjp4wQE5Dbp50Qr40MhAzz5xgmTepbejpkGNKfn0EEBKQ70cuJdhGpdGgV35dzITt8XzKhAKEiyH1
OQEAFkCwn0oS3udCyvsZQ6BUSrQ43s51o0
/BLxReDG3u9iY00qyzb3bVQ0rX1lqu0ZZYeHgIj7ARjv4cfXaX8eJoeXQsNzk8QRMTk+v+EaRPwrs0QL8TPgFpVEjTkMaElIc0LqQZSBNCmoU0K
aQ5SBeENA
/popAWIF0S0iJ2Hyb8x6GIPtHjKDhNX+Jp6tcQogSj9SfD7LRgl8NsXrBPhdkZwV7mSekn5xqgV8K6c4J90qw7L9jVs06CYJ8Js4uCLYTYpHBJE6
1ENIykEsTDUK0gaRwTRN1L4o7KdzTfmUFByiTH9gd1ZEMXMRnhygnCP4tP+Gje/YwLGRFG5r+MD4go3v2cB5kQxc/40x0CBwBqDN
/8jkz9m4z8a3mF+EQ00P/4wxaOVf4YKiifYJk75m4xc2PsUTERbtLpPusfE7G1/iI+dpBQ0gCIMQAAA=",
          "type": 3,
          "matrix": "AAAAAAAAA8D8AAAAAAAAAgAAAAAAAAACAInejcP1YsEAAAAAAAAAgAAAAAAAAAPA/AAAAAAAAIAK16Nw
/fy2QAAAAAAAAACAAAAAAAAAIAAAAAAAAAADwPwAarkfheoS/AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA8D8="
        }
      }
    ]
  }
}
```

Get the object tree with selected property list whose geometry type is "ThreeJS" filtered by layer

URL / Resource / JSON Structure

Resource: objects/<object_id>/disciplines/<discipline_id>/geometries/threejs

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/disciplines/<discipline_id>/geometries/threejs

Example: <https://api-stage.bimplus.net/v2/bimplus/objects/bded6990-b08b-4a27-a8bc-55c87ef2a8f8/disciplines/ac21b9a1-8853-4658-9fbf-0cf62340bd18/geometries/threejs>

Please see the [Templates & Chunk](#) section for improving the performance of geometry calls

HTTP Method

GET

Description

Get the object tree with selected property list whose geometry type is "ThreeJS" filtered by layer. Please see the [Templates & Chunk](#) section for improving the performance of geometry calls

Request

Headers

Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088
Content-Type: application/json

Response

Status

Status: 200 OK

JSON

```
{
  "elementsCount": 4,
  "faceCount": 154,
  "verticesCount": 24,
  "viewbox": {
    "x": 4067.5,
    "y": -480,
    "z": -4652.5,
    "width": 9775,
    "height": 600,
    "depth": 9695
  },
  "colors": [
    -4272966
  ],
  "objects": [
    {
      "id": "684d5deb-5ab0-419f-83dd-508755bf8b1b",
      "parent": "aa89eca9-795a-4dc9-b430-50973d0a12ce",
      "type": "WallLayer",
      "attributes": {
        "geometry": {
          "threejs": {
            "faces": [
              1,
              2,
              1,
              0,
              3,
              1,
              5,
              6,
              7,
              4,
              1,
              4,
              7,
              3,
              0,
              1,
              5,
              4,
              0,
              1,
              1,
              6,
              5,
              1,
              2,
              1,
              7,
              6,
            ]
          }
        }
      }
    }
  ]
}
```

```

        2,
        3
    ],
    "vertices": [
        8955,
        -780,
        -9580,
        -820,
        -780,
        -9580,
        -820,
        -780,
        -9500,
        8955,
        -780,
        -9500,
        8955,
        -180,
        -9580,
        -820,
        -180,
        -9580,
        -820,
        -180,
        -9500,
        8955,
        -180,
        -9500
    ],
    "metadata": {
        "formatVersion": 3,
        "colorid": 0
    }
}

},
"quantity": {
    "length": 9775,
    "width": 80,
    "height": 600,
    "volume": 469200000.0000012,
    "area": 5865000.000000014
},
"general": {
    "name": "<PP>Wall layer"
}
}

},
{
    "id": "066c8b0a-aca0-456f-a5fc-747b8ae312e2",
    "parent": "041c2cec-09fb-49ae-9634-2998b305f2b5",
    "type": "WallLayer",
    "attributes": {
        "geometry": {
            "threejs": {
                "faces": [
                    1,
                    2,
                    1,
                    0,
                    3,
                    1,
                    5,
                    6,
                    7,
                    4,
                    1,
                    4,
                    7,
                    3,
                    0,
                    1,

```

```

        5,
        4,
        0,
        1,
        1,
        6,
        5,
        1,
        2,
        1,
        7,
        6,
        2,
        3
    ],
    "vertices": [
        -820,
        -780,
        -9500,
        -820,
        -780,
        115,
        -740,
        -780,
        115,
        -740,
        -780,
        -9500,
        -820,
        -180,
        -9500,
        -820,
        -180,
        115,
        -740,
        -180,
        115,
        -740,
        -180,
        -9500
    ],
    "metadata": {
        "formatVersion": 3,
        "colorid": 0
    }
}
},
"quantity": {
    "length": 9615,
    "width": 80,
    "height": 600,
    "volume": 461520000.0000002,
    "area": 5769000.000000003
},
"general": {
    "name": "<PP>Wall layer"
}
}
},
{
    "id": "7f9314a1-1a6a-43ef-bf28-83fda655cb6b",
    "parent": "b62c83db-69ea-485b-9315-26826110e578",
    "type": "WallLayer",
    "attributes": {
        "geometry": {
            "threejs": {
                "faces": [
                    1,
                    2,
                    1,
                    0,

```

```

        3,
        1,
        5,
        6,
        7,
        4,
        1,
        4,
        7,
        3,
        0,
        1,
        5,
        4,
        0,
        1,
        1,
        6,
        5,
        1,
        2,
        1,
        7,
        6,
        2,
        3
    ],
    "vertices": [
        -820,
        -780,
        195,
        8875,
        -780,
        195,
        8875,
        -780,
        115,
        -820,
        -780,
        115,
        -820,
        -180,
        195,
        8875,
        -180,
        195,
        8875,
        -180,
        115,
        -820,
        -180,
        115
    ],
    "metadata": {
        "formatVersion": 3,
        "colorid": 0
    }
},
"quantity": {
    "length": 9695,
    "width": 80,
    "height": 600,
    "volume": 465359999.99999976,
    "area": 5816999.999999998
},
"general": {
    "name": "<PP>Wall layer"
}
}
},

```

```

{
  "id": "4859603d-8153-4fcb-a2a4-fec3f5015dfc",
  "parent": "d1f15b9d-216a-478b-88f7-2767b5222bfe",
  "type": "WallLayer",
  "attributes": {
    "geometry": {
      "threejs": {
        "faces": [
          1,
          2,
          1,
          0,
          3,
          1,
          5,
          6,
          7,
          4,
          1,
          4,
          7,
          3,
          0,
          1,
          5,
          4,
          0,
          1,
          1,
          6,
          5,
          1,
          2,
          1,
          7,
          6,
          2,
          3
        ],
        "vertices": [
          8955,
          -780,
          195,
          8955,
          -780,
          -9500,
          8875,
          -780,
          -9500,
          8875,
          -780,
          195,
          8955,
          -180,
          195,
          8955,
          -180,
          -9500,
          8875,
          -180,
          -9500,
          8875,
          -180,
          195
        ],
        "metadata": {
          "formatVersion": 3,
          "colorid": 0
        }
      }
    }
  },
}

```

```
        "quantity": {
          "length": 9695,
          "width": 80,
          "height": 600,
          "volume": 465360000.00000006,
          "area": 5817000
        },
        "general": {
          "name": "<PP>Wall layer"
        }
      }
    }
  ]
}
```

Get the object tree whose geometry type is "compressed geometry mesh (meshblob)" filtered by layer

URL / Resource / JSON Structure

Resource: objects/<object_id>/disciplines/<discipline_id>/geometries/meshblob

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/disciplines/<discipline_id>/geometries/meshblob

Example: https://api-stage.bimplus.net/v2/bimplus/objects/bded6990-b08b-4a27-a8bc-55c87ef2a8f8/disciplines/ac21b9a1-8853-4658-9fbf-0cf62340bd18/geometries/meshblob

HTTP Method

GET

Description

Get the object tree whose geometry type is "compressed geometry mesh (meshblob)" filtered by layer.

Request

Headers

Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088
Content-Type: application/json

Response

Status

Status: 200 OK

JSON

```
{
  "elementsCount": 4,
  "objects": [
    {
      "id": "684d5deb-5ab0-419f-83dd-508755bf8b1b",
      "parent": "aa89eca9-795a-4dc9-b430-50973d0a12ce",
      "type": "WallLayer",
      "attributes": {
        "geometry": {
          "compress": true,
          "picture": "H4sIAAAAAAEANVX624TRxTe2Yu9TkocIIQ7mDSXtpgljh0gldIGXBqhRsiCwJ
/Imq7XQ9hmvaZ7QXUqFbXqg7Tq/z5DpT5Ef/cdeuXSdr7tjNka0azURIGN5tucM2fnf0fs0TNrhSiK8je
/cMf1hsrhTqNxNYoCt9VwnSg02HrvAauWS3dZELpdf3lhv1Kx5q3a1UuLVqVaw+JT9diD4bLP4iiwvXKpEbc81
/mI9da7W8xf9mPPM+CjffJN1WBQ699mWdfN05Hprbiuwg55Vv2aH7LrHZ/2o0fV6rM2CPH/AeNB1
/Uhn7U2m37MdZnboLbvtxuFYh15jftv1N40u5zE94iTVGx9omqbruvYtud0LI9ax6ph0Is47tFaZzwLXsdbcMPq4srEx1EufB3fNY9mLbDSb3+wG
```

```
xes8L682ww/5S9szh1NDvXdjP7oaBHPBZ3RbHqYmSxI0IbhmjLauly2IRc0gA4wADk0I8afvK8yLYnGyD+0vZhRqphYUBtXFP0P
/nza0yiFUKmt0pZKHZw2VcpUek+lmq9r1JXpZ+odEt5fpn5vCouZeDSQfg16BHQzFGXkwwNGrrbzKQP
/12TJ3suE7eNjQI3zUIBNzF0vKtXvWf3DH82C7V+9CPY3MXQjd2Kfk+b+/9FD2r96NE60TGMXPYdodChiYIF
/Ny5iw4NNe2LDiKtJjf8qLpQLnVCpxt4but5Umo8I
/2v5aIoXb5sLzqLlYpL1Rqbv7LubD7K7v42Px09tstv+k7ygyAoHsG+hrRQi+2omU08mS4wBioBxwEHAiCbhWATgCBYMSAcw04duq0mqT9afBBwFH
AMCB5wAnAsCpWgNAGCBZQA5zgc0P0j
/wnrpV5RbYnXKcCbGgNADGAWMid1VR2J2+cCGt5XeTSLWXgLIcuB17zfJbcj41H0+00UYw0Fla00sS75jPTINhzkcniDn098v
/r10R9XP10e+ek7ZX0F8s
/bX79PUKpjwgCKFwzGBwwG7+RgygAuXJA4NGAgXWB64oevVsJhIRz6BhND0PQNjgzhIA2MyZ0+hAabzGixTdfX+Hc4KkcVbwBtQ9B5k0LABDkmFM
n3DRTHhUKTj50QCk00HTkpFBDwY4CcEoq82MvJaaHiCfImZTbRHE25TZ5pJRymyx6Tih04cmYypICdHzIBD9Nwv0+FJK95x1Eg70n2YTQ5qWUh
nSjJQuQJqVkgVpTkoXORT1FmDix+FffDzj4ykfRdlqfIN8r64oa3y8y8ej0oH75FyYT3Uj0S+11bS2LLULae0Fqa2mtZbU1tLai1K7mNIWpwtTlp
0srqJ0bxqiEPLidRc1hSRWLPMIE339HrJKGiQzgoMMn+W+YkVRM5AUnFD72f8WmpGMiWzhFHvP7L/j/H73mm6ltDwAA",
    "type": 3,
    "matrix": "AAAAAAAAA8DAAAAAAAAAgAAAAAAAAACAAEfhehSgicAAAAAAAAAgAAAAAAAAAPA/AAAAAAAAAICF61G4
/o3CQAAAAAAAAACAAAAAAAAAIAAAAAAAAAADwP65H4XoUYIjAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA8D8="
  }
},
{
  "id": "066c8b0a-aca0-456f-a5fc-747b8ae312e2",
  "parent": "041c2cec-09fb-49ae-9634-2998b305f2b5",
  "type": "WallLayer",
  "attributes": {
    "geometry": {
      "compress": true,
      "picture":
"H4sIAAAAAAEANVXW28TRxTe2Yu9TiAOEFLumDSXtpgljh0gSGkDhkaoEbJK4Cwypuv1ELZZr+leUJ1KoFb9IUW88xuqvQn9Ln
/ofcBnw87Y5YUh5WaKHSj+SbnzNk535w5Z2atEEVRnVEHPZ59KofbjcavKArcVsN1ojhgq737rFou3WFB6Hb9xbnZSswatwqXLSxb1WptgQ
/VYw+Giz6Lo8D2yqVG3PJc5wPwW+1uMH/Rjz3PgI/yTdZuHejcYxvwZduR6624rcAOelb9qh2y6x4f9aNG1+uxNgvy
/AXjftf1I521151+13aY2aEf2m03Dkc69Crz266
/HnQ9j+kRj6neuKZpmq7r2mNyqxdGrGPVMehEnHdoLT0fBa5jrbhh9FF1bw0glz4P7pqvZTei0Wx+trMUr
/04vN4M3+ebtmsMJwZ678Z+dCUI7B4S0qPZ5CAzmZCgDcNhEZf12G1DLmgAHWAACHyGjF95XwWaEoWRf2B7MaNUMTGhNqoo+i/8
/bSnYT6guLulLZU6Km2r1Kn0rkrXVXpPpa5KP1bphvL8MfN5VTzKlkcH4f9BjYBmjrqcZGjQ0N1kJn3wz5w82D0Zuk01sXrTLBTQiaZjr17
/Atx2+dNZqPVXP4TDXTTD2KnV72px/7fVg1p/9SidnGhGLvuJU0jQRMECFu/cQYwGmvYwQ+CEYQ0/qs6VS53Q6Qae23oe1BqPCP97dShaFy
/a8878hpcCtcZmLy00m4+yu7/Fb0eP7bD/JC5Io8J+nFsoK4XIuprKVJPJFCOAImAUcABwEHAIMAY4DAdD0ghM9IEHajrrk
/nHAw8A9gC0Ao4B9jN0AE4CTgFOA0qAMxz26/nhF5b1Sq/ItsTrB0BNwCRgCjANmMG8qo7A7XECda6rPIrFLlyFJcuGtd7r1NuW8TBn
/HaKsYHEypaHmJd8SnPkEw5y0ezgZ2NP17/f/PI99J9/+82SlAlSDwSLQbono8Lgk8Wh754oqov
/MjjwEoMXXBx8iQsYQBr7+oslcmgAh77B2AA0fYPDAzhIA2N8uw+hrUvmtNi662v80xyZo4odQnKQVN64EDBAjghf8n0DxVgH00Rrx4TCEGVHjgs
FBPwYICEEii
/OcnJSKHLINXiq5TZRnE65TV4ppdwmk54RC114MiaYhAAVnzjBT5Nwry+F50x5B6vB2ZMcQmchTUqpDG1KSucgTUVJggJQjpfMcivIIMPHj8C/e
/uTtD96Kst4AfluxVfWELVM26M6gfvKxphNVSM5K7wVtLYstXNp7Tmpraa11tTW0trZujuf0hala10mnUyuonRvGiIR8mK7i5JCs1ZM+Tvvf8Za
JQ0TECBFh0/ynzAiQzIC24ofOz/iBFJx0S0cIv8xvsf8P/f/WbD220PAAA=",
    "type": 3,
    "matrix": "AAAAAAAAA8DAAAAAAAAAgAAAAAAAAACA/kbhehSgicAAAAAAAAAgAAAAAAAAAPA
/AAAAAAAAAIAAPwrXo8BcwAAAAAAAAACAAAAAAAAAIAAAAAAAAAADwP65H4XoUYIjAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA8D8="
  }
},
{
  "id": "7f9314a1-1a6a-43ef-bf28-83fda655cb6b",
  "parent": "b62c83db-69ea-485b-9315-26826110e578",
  "type": "WallLayer",
  "attributes": {
    "geometry": {
      "compress": true,
      "picture":
"H4sIAAAAAAEANVXW28TRxTe2Yu9TkocIIQ7mJBLC2aJyWdIpbSASyNEhKwSeIms6Xo9hCXrNewF1aU1Ko/pFXf+xuq
/ok+9xf0pff7fMuMWYwcVmqi0I3mm8yZs30+c+acmbVCFEX5hz
/o8byhcrjbaFyLosBtNVwnig021nvEquXSPRAebtdfXpivVKx5q3bl0qJVqdaW+FQ99qC47LM4CmyvXGrELc91brHewneT+ct+7HkGbJRvsw6LQu
cB27Ru341cb9VtBxBqs+rX7ZDd8PiShzW6Xo+1WZDnLxiPuq4f6ay9wft77tsPMDv3AbrtxONah15nfDv2No0t5TI84SfXme5qm6bqufUnu9MKIda
w6Jp2I8w6tFeazwHwsVTEmpqysrw/l0ufBTXNfdiMazeYX00HxBo
/L683wfb5pu8Zwaqj1buxH14LA7iGhM6pND10TCQnaUBwVcVmJ3TB6BQ2gAwxAjs0I8Ruvq0xLojDyT2wvZpQqJhbUxhVF/5W
/n7Y0yidUaqu0pVJHpw2VMpXev+mGSh+o1FXpQ5VukS8fM59XxaMMPD0I/w9qBDRz10UkQ40G7hYz6ZNna
/Jgz2Xitt6E96ZKKATTcdevf4FuK37s1m09b0fweEumm7s1Pe7wtz
/zXtQ63uP0smJZuSynwiFDk0EL0D3zj1UaKhpn2QInFC56UfVhXKPEzrdwHNBz4NS4xHhf680RevyZXvRwbXUwarW2PyVpWbzaXbzd/jt6LEdtp
/EBWlU2IdzC2WlEF1Xm5lqMl1idFAEjAP2Aw4ADgImAIdgYEQagJo+9EBN232y
/iTgMOAI4CjgGOA44ATgJOAU4DSgBDjDYz+eh33BRvdarBylVqcAZwHTgBnALGA066o6ArfHCTS8rvIoFrPwJlyWDZu81ym3LeNRzvitFGMDiZut
D7Eu+Yj0yBYM5HLyW8nv175fuvzdwd7g1QdEwqf
/vDt1ZcUxgcUHi+PfpEvstZXJPTtChC8pHBgQEh2wIlvPrtdKdG7h0FeYGMKhr3BoCAepYExu9yE0WGRGi224vsa
/w5E5qtgB1A1B5U2KASbIESFIvm8g0CoEmnztmBAYouzIcSHAAD8GyAkhyIuznJwUgpx4jZxKmU0Ep1NmK1dKKbPJomeEQBewjKksIUDFJ0bw0yT
c60sh0Xv0wRucPckhdB6jaTkqYzQjRxcwmpUjC6M50brIoSiPABM/Dv/m7S/e
```

```

/uStKEuNH5Dv1BV1lbe3eXtaJzCf3AvzqWok56W0kpaWpXQhLb0gpdW01JLSWlp6UuoXU9KiNG3KtJPJVZTmTUMkQ15sd1FSSHzFkn/w
/hf4KmmYiAAuOnyS/4wZScvEXHBD4WP/J8xIOiaihVvkd97/iP//BRHHAGftDwAA",
    "type": 3,
    "matrix": "AAAAAAAA8D8AAAAAAAAAgAAAAAAAAACAAEfhehSgicAAAAAAAAAgAAAAAAAAAPA
/AAAAAAAAAIB5H4XrUwBowAAAAAAAAACAAAAAAAAAIAAAAAAADwP65H4XoUYIjAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA8D8="
  }
}
},
{
  "id": "4859603d-8153-4fcb-a2a4-fec3f5015dfc",
  "parent": "d1f15b9d-216a-478b-88f7-2767b5222bfe",
  "type": "WallLayer",
  "attributes": {
    "geometry": {
      "compress": true,
      "picture": "H4sIAAAAAEANVXW28TRxTeq710ShwghDuYNJcWzBLHDPBKaqGXRqgRskrgJbKm6
/UQhqzXsBdUp1JRq/6QVn3vb6j6J
/rcX9CXtrTQFubbzphNhMNKTRS60Xyb0XNmznf0nD0zVlRFUz7zB288b2kcbjcaV6MoYK0Gc6M4oCu9B7RaLt2hQci6
/uLcbKViz9q1yxfn7Uq1tsCH6rEHxUWfx1HgeOVSI255zP2Y91a669Rf9GPPM2GjfJN2aBS69+i6ffN2xLx11gqcoGfXrzkhve7xUT9qdL0ebdMg
zyeYD7rMjwzaXqPGXcelVod84rRZHI50yDXqt5m/FnQ9jxoRJ6nd+FDXdcMw9G
/VW70woh27jkE34rxDe4n6NGCuvzcC6NPK6upALn0e3DT3ZTei0Wx+sxMUr
/04vNKMP+KbtmsMJwZa78Z+dDUInB4S0qPa5CA1mZCgDcVhEZe1mLXRL+gAA2ACchyGzD95XWVaEowRf+R4MSVEsbCgPqooxh98ftrSMB
/QiKORlkZcjbQ1QjVvYyNrGrmnEaaR+xpZV14+Vj6viUfZ8hgg/D+oEdDMecZJhiYJ2Qa1yKN
/1+TBnsnEbbUJ7y2rUMBLNAN79eYX4LbuT2eh1vd+Cie7aIa5U97vanH
/N+9Bre89SicnmpnLfiiU0iQR0IDf03dQoaGuf5EhcELlhh9V58qlTuh2A4+1XgalxiPC/14fitalS86803+xs1Ct0dnLC83m4+zmb
/Hb0aM7bD+JC9Kosa
/nFspKUWvdTWqyWSJEUARMARyDzga0AgYAxycgSfPaGrGwAM1nfXJ+u0Aw4AjjgK0AY4DjgBOAk4BTgNOAEuAMh31GfniTW6+1imxLrE4A3gZMAq
YA04AZrKsZCNweJ9DgusqjWkZC03BZNmzyXqfctoyH0eN3U4xNJFa2PMS66mdqT92AgVw00/hwcein75SVK5+Pfb/088bXH8i3ilQd2aLw5S8
/9hXVUaGQnr1JYf8rFdaZOPAKExgAjv3w1RX14AA0fYwXARz6CocGcJAK5vh2H0Jb18xs0TXm6
/w7HJmjiR1A2aiovHHRwYB6RAiS7xsIjgqBLqcdEwJTLJ16XajQwY8B9YQ5MVZrp4UgpyYpp5KmU0Ep1Nmkyml1N1k0TNCYAhL5kSWEKDiEyp4a
RLu9aWQnD1n4Q30nuQQ0ofep0yV0ZuSvfPoTcuejd6M7F3gUJRHgIUfh//w9jdvf
/FWlKXGD8j364qyzNt7vD2uqzCf3AuzqWpUz0lpJS0tS+lcwnpeSqtppS21tbT0gpT0p6RFadqSaSeTqyJNW6ZIhLzY7qKkkPiKJZ
/x9xP4KmlYiAAuOnyS/44RScvCXHBD4WP/N4xIOhaihVvkkX//iv9fAChNaqptDwAA",
    "type": 3,
    "matrix": "AAAAAAAA8D8AAAAAAAAAgAAAAAAAAACAK0tRuH5VwUAAAAAAAAAgAAAAAAAAAPA
/AAAAAAAAAIDAHoXrUwBowAAAAAAAAACAAAAAAAAAIAAAAAAADwP65H4XoUYIjAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA8D8="
  }
}
}
]
}

```

Get the different properties / structure(normal, viewer properties, object in hierarchical tree structure) of the object using different property combinations

URL / Resource / JSON Structure

Resource: objects/<object_id>/geometries/threejs/properties/{props}

where props is a binary sum of following possible values :

- 1 : show objects as hierarchical tree (default (/geometries/threejs or /geometries/threejs/properties/0 will give the object details in a flat structure))
- 2 : show also viewer attributes
- 4 : include FACE_NORMAL
- 8 : with templates
- 16: mixed geometry

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/geometries/threejs/properties/{props}

Example: https://api-stage.bimplus.net/v2/bimplus/objects/a17ff78a-8b42-4523-9bf7-283e725e3e95/geometries/threejs/properties/7 (i.e 7 gives you a combination of objects as tree(1) + viewer attributes(2) + face normal(4))

HTTP Method

GET

Description

Get the different properties / structure (normal, viewer properties, object in hierarchical tree structure) of the object using different property combinations.

url: /geometries/threejs/properties/{props}

where props is a binary sum of following possible values :

- 1 : show objects as hierarchical tree (default (/geometries/threejs or /geometries/threejs/properties/0 will give the object details in a flat structure))
- 2 : show also viewer attributes
- 4 : include FACE_NORMAL
- 8 : with templates
- 16: mixed geometry

You can also combine different property numbers

eg: geometries/threejs/properties/5 should give both the show objects as tree(1) + add FACE_NORMAL in three.js json(4)

geometries/threejs/properties/7 should give you a combination of objects as tree(1) + viewer attributes(2) + face normal(4)

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json

Response

Status
Status: 200 OK

JSON
<pre>{ "elementsCount": 1, "faceCount": 88, "viewbox": { "x": 21000, "y": 2850, "z": -19000, "width": 133, "height": 5700, "depth": 140 }, "colors": [4278190080], "objects": [{ "id": "a17ff78a-8b42-4523-9bf7-283e725e3e95", "type": "Column", "attributes": { "geometry": { "threejs": { "faces": [0, 2, 1, 0, 0, 4, 0, 3, 0, 7, 6, 5, 0, 8,</pre>

5,
6,
0,
9,
5,
8,
0,
10,
9,
8,
0,
13,
12,
11,
0,
16,
15,
14,
0,
17,
14,
15,
0,
18,
14,
17,
0,
19,
18,
17,
0,
7,
15,
6,
0,
16,
6,
15,
0,
7,
5,
15,
0,
17,
15,
5,
0,
17,
5,
19,
0,
9,
19,
5,
0,
2,
11,
1,
0,
2,
0,
11,
0,
13,
11,
0,
0,
13,
0,
12,
0,

4,
12,
0,
0,
4,
3,
12,
0,
20,
12,
3,
0,
18,
10,
14,
0,
8,
14,
10,
0,
8,
6,
14,
0,
16,
14,
6,
0,
0,
1,
21,
0,
21,
3,
0,
0,
1,
11,
22,
0,
22,
11,
12,
0,
12,
20,
23,
0,
3,
21,
23,
0,
23,
22,
12,
0,
23,
20,
3,
0,
26,
25,
24,
0,
24,
27,
26,
0,
25,
26,
28,

0,
31,
30,
29,
0,
32,
31,
29,
0,
35,
34,
33,
0,
32,
29,
36,
0,
38,
36,
37,
0,
36,
38,
32,
0,
39,
10,
18,
0,
24,
41,
40,
0,
42,
19,
9,
0,
43,
30,
37,
0,
36,
26,
27,
0,
37,
27,
43,
0,
27,
37,
36,
0,
26,
36,
29,
0,
30,
43,
28,
0,
29,
28,
26,
0,
28,
29,
30,
0,
24,
40,

43,
0,
43,
27,
24,
0,
33,
34,
39,
0,
39,
34,
44,
0,
45,
34,
35,
0,
38,
23,
21,
0,
21,
32,
38,
0,
21,
1,
31,
0,
31,
1,
22,
0,
31,
32,
21,
0,
45,
35,
25,
0,
24,
25,
35,
0,
41,
24,
35,
0,
33,
39,
18,
0,
42,
33,
18,
0,
18,
19,
42,
0,
45,
40,
44,
0,
44,
34,
45,
0,
44,

```
40,  
41,  
0,  
35,  
33,  
42,  
0,  
41,  
42,  
44,  
0,  
42,  
41,  
35,  
0,  
38,  
37,  
22,  
0,  
31,  
22,  
37,  
0,  
22,  
23,  
38,  
0,  
37,  
30,  
31,  
0,  
44,  
42,  
9,  
0,  
39,  
44,  
9,  
0,  
9,  
10,  
39,  
0,  
45,  
25,  
28,  
0,  
40,  
45,  
28,  
0,  
28,  
43,  
40  
],  
"vertices": [  
  21066.5,  
  0,  
  -18930,  
  21058,  
  0,  
  -18985.2,  
  21058,  
  0,  
  -18930,  
  21058,  
  0,  
  -19070,  
  21066.5,  
  0,  
  -19070,
```

20942,
0,
-18930,
20933.5,
0,
-19070,
20933.5,
0,
-18930,
20942,
0,
-19070,
20942,
0,
-18985.2,
20942,
0,
-19014.8,
21058,
5700,
-18930,
21066.5,
5700,
-19070,
21066.5,
5700,
-18930,
20942,
5700,
-19070,
20933.5,
5700,
-18930,
20933.5,
5700,
-19070,
20942,
5700,
-18930,
20942,
5700,
-19014.8,
20942,
5700,
-18985.2,
21058,
5700,
-19070,
21057.8,
0,
-19012.4,
21057.8,
5700,
-18987.6,
21057.8,
5700,
-19012.4,
20954,
5700,
-18997.2,
20954,
5700,
-19002.8,
21048.3,
5700,
-19003,
21048.3,
5700,
-18997,
21048.3,
0,

```

        -19003,
        21052.7,
        0,
        -19004.8,
        21052.7,
        0,
        -18995.2,
        21056,
        0,
        -18991.9,
        21056,
        0,
        -19008.1,
        20944,
        5700,
        -19008.1,
        20945.5,
        0,
        -19006.3,
        20947.3,
        5700,
        -19004.8,
        21052.7,
        5700,
        -19004.8,
        21052.7,
        5700,
        -18995.2,
        21056,
        5700,
        -19008.1,
        20942.9,
        0,
        -19010.2,
        20951.7,
        0,
        -18997,
        20949.4,
        5700,
        -18996.3,
        20942.9,
        5700,
        -18989.8,
        21048.3,
        0,
        -18997,
        20945.5,
        0,
        -18993.7,
        20949.4,
        0,
        -19003.7
    ],
    "metadata": {
        "formatVersion": 3,
        "colorid": 0
    }
},
"general": {
    "name": "B132",
    "description": "Ifc Imported Element"
},
"element": {
    "elementtyp": "Column",
    "layer": "BuildingModel",
    "model": "Structural model",
    "material": "S 235"
},
"elementstate": {
    "state": "Nothing Defined"
}

```

```

    },
    "allfreeattrib": {
      "globalid": "26gojRHan8_9KtPcvJkUQf",
      "skipparentlocations": "False",
      "extrudeprofilename": "HEA140",
      "extrudeprofiletype": "IShapeProfile",
      "filletradius": "12",
      "flangethickness": "8,5",
      "overalldepth": "133",
      "overallwidth": "140",
      "webthickness": "5,5"
    }
  }
}
]
}

```

Get Geometry as binary Gltf

URL / Resource / JSON Structure

Resource: <team_slug>/objects/<object_id>/geometries/glb?chunk=1&topology=true

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/geometries/glb?chunk=1&topology=true

Example: <https://api-stage.bimplus.net/v2/bimplus/objects/dc701cd2-7490-44dc-8b7e-bd697e1f72d5/geometries/glb?chunk=1&topology=true>

Optional query parameters

Name	Type	Default value	Description
chunk	int	null (diasabled)	If chunks are switched on, the geometry is divided into ~5MB blocks. The number of chunks is returned in the header using 'X-Total-Count'.
topology	boolean	false	If topology is enabled, the scene object contains additional topology nodes
levelOfDetail	int	1	switch geometry precision to 100 to reduce face count

Extension:

you can add an additional filter for disciplines (layer) by using

Url: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/disciplines/<discipline_id>/geometries/glb

HTTP Method

GET

Description

This API function returns geometry data based on root object <object_id> as binary gltf.

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json

Response

Status

Status: 200 OK

the response is no json!
it's a binary with mimetype "model/gltf-binary"
it can be saved as 'gltb' file.

Get the complex properties of the object

URL / Resource / JSON Structure

Resource: <team_slug>/objects/<object_id>/complexproperties?revision=<revisionNr>

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/complexproperties?revision=<revisionNr>

Example: <https://api-stage.bimplus.net/v2/bimplus/objects/dc701cd2-7490-44dc-8b7e-bd697e1f72d5/complexproperties?revision=2>

Optional query parameters

Name	Type	Default value	Description
revision	int	null (current)	If revision is specified, then the call will get the object from the requested revision, otherwise return current object (latest revision).

HTTP Method

GET

Description

This API function returns structure of all complex properties for required object.

Request

Headers

Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088
Content-Type: application/json

Response

Status

Status: 200 OK

JSON

```
{
  "children": [{
    "children": [{
      "children": [],
      "parent": "23240392-024d-4c05-bfc8-4d6eff6f7045",
      "name": "Object Layer Attributes #1",
      "type": null,
      "number": 2,
      "id": "dbf87493-6dad-4ee5-acba-115437accc68"
    },
    {
      "children": [],
      "parent": "23240392-024d-4c05-bfc8-4d6eff6f7045",
      "name": "Object Layer Attributes #0",
      "type": null,
      "number": 2,
      "id": "d17b5c98-f0cf-4acb-9314-af3cb686fe3d"
    }
  ],
  "parent": "dc701cd2-7490-44dc-8b7e-bd697e1f72d5",
  "name": "Allplan Attributes",
  "type": null,
  "number": 1,
  "id": "23240392-024d-4c05-bfc8-4d6eff6f7045"
}
],
"parent": "000000000-0000-0000-0000-000000000000",
"name": null,
"type": "Wall",
"number": 0,
"id": "dc701cd2-7490-44dc-8b7e-bd697e1f72d5"
}
```

Update the object

URL / Resource / JSON Structure

Resource: objects/<object_id>

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>

Example: https://api-stage.bimplus.net/v2/bimplus/objects/7cf910cb-e357-43f6-aa3a-b45c26380f75

JSON Structure:

Name	Mandatory / Optional	Type	Description
parent	optional	string (guid)	The id of the parent to which the object can be associated
type	mandatory	string	Element type of the object
attributes	optional	string	Attributes of the object
children	optional	object	Children of the object

HTTP Method

PUT

Description

Update or replace a specified existing object with a new one.

Request

Headers

Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088
Content-Type: application/json

JSON

```
{
  "parent": "925f9e2d-8877-406b-9806-afb4246ed2e2",
  "type": "Wall",
  "attributes": {
    "element": {
      "isparent": false,
      "nr": 0,
      "matrix": "AAAAAAAAA8D8AAAAAAAAAgAAAAAAAAACAINejcP1YsEAAAAAAAAAgAAAAAAAAAPA/AAAAAAAAIAK16Nw
/fy2QAAAAAAAAACAAAAAAAAAIAAAAAAAAAADwPwAArkfheoS/AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA8D8=",
      "elementtyp": "10074eef-9418-4d64-9c6d-23932835a7f1",
      "divisionid": "e7859a8f-4b7a-4263-8420-405d565377aa"
    },
    "general": {
      "name": "Brickwall",
      "isobjectvalid": true
    },
    "quantity": {
      "width": 115
    },
    "geometry": {
      "mesh": "{\"Color\":4278255360,\"Vertices\":
[4450.01,115.01,0.01,3200.01,115.01,0.01,3200.01,0.01,0.01,4450.01,0.01,0.01,2315.01,0.01,0.01,2315.01,115.01,0.
01,0.01,115.01,0.01,0.01,0.01,4450.01,115.01,2750.01,4450.01,0.01,2750.01,0.01,0.01,2750.01,0.01,115.01,275
0.01,2315.01,115.01,2190.01,3200.01,115.01,2190.01,3200.01,0.01,2190.01,2315.01,0.01,2190.01],\"Faces\":
[4,0,1,2,3,4,4,5,6,7,4,8,9,10,11,4,0,3,9,8,8,6,5,12,13,1,0,8,11,4,7,6,11,10,8,3,2,14,15,4,7,10,9,4,12,15,14,13,4
,15,12,5,4,4,13,14,2,1]]}"
    }
  }
}
```

Response

Status

Status: 200 OK

JSON

```
{
  "elementtyp": "10074eef-9418-4d64-9c6d-23932835a7f1",
  "id": "33c741c1-f03e-4c47-b072-de8637f8f340",
  "parent": "925f9e2d-8877-406b-9806-afb4246ed2e2",
  "type": "Wall",
  "layerid": "0f106af0-a919-44c5-b211-15bd5ef620b6",
  "attributes": {
    "element": {
      "isparent": false,
      "nr": 0,
      "matrix": "AAAAAAAAA8D8AAAAAAAAAgAAAAAAAAACAInejcP1YsEAAAAAAAAAAgAAAAAAAAPA/AAAAAAAAIAK16Nw
/fy2QAAAAAAAAACAAAAAAAAAIAAAAAAAAAADwPwAarkfheoS/AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA8D8=",
      "elementtyp": "10074eef-9418-4d64-9c6d-23932835a7f1",
      "divisionid": "e7859a8f-4b7a-4263-8420-405d565377aa",
      "logparentid": "de87fc4d-cb5d-44ba-b2ea-1d96ac564a8a"
    },
    "general": {
      "name": "Brickwall",
      "isobjectvalid": true
    },
    "quantity": {
      "width": 115
    },
    "geometry": {
      "mesh": "{\\"Color\\":4278255360,\\"Vertices\\":
[4450.01,115.01,0.01,3200.01,115.01,0.01,3200.01,0.01,4450.01,0.01,0.01,2315.01,0.01,0.01,2315.01,115.01,0.
01,0.01,115.01,0.01,0.01,0.01,4450.01,115.01,2750.01,4450.01,0.01,2750.01,0.01,0.01,2750.01,0.01,115.01,275
0.01,2315.01,115.01,2190.01,3200.01,115.01,2190.01,3200.01,0.01,2190.01,2315.01,0.01,2190.01],\\"Faces\\":
[4,0,1,2,3,4,4,5,6,7,4,8,9,10,11,4,0,3,9,8,8,6,5,12,13,1,0,8,11,4,7,6,11,10,8,3,2,14,15,4,7,10,9,4,12,15,14,13,4
,15,12,5,4,4,13,14,2,1]}"
    },
    "elementstate": {
      "state": "0aaf5a1c-2453-40cb-9232-315119dd288f"
    }
  }
}
```

Create a new comment in the object

URL / Resource / JSON Structure

Resource: objects/<object_id>/comments

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/comments

Example: https://api-stage.bimplus.net/v2//objects/cb96a9b1-48c9-4d97-8c9e-262476c1c6b2/comments

JSON Structure:

Name	Mandatory / Optional	Type	Description
issuelid	will be ignored	string(guid)	The id of the issue
text	mandatory	string	The comment text
createdAt	will be ignored	string (date)	Creation date of the comment
modifiedAt	will be ignored	string (date)	Modified date of the comment
author	will be ignored	object	The author of the comment

HTTP Method

POST

Description

Create a new comment for a specified object.

Request

Headers

Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088
Content-Type: application/json

JSON

```
{
  "text": "The fire exit should be x:120, y: 120; z: 340"
}
```

Response

Status

Status: 201 Created

JSON

```
{
  "issueId": "cb96a9b1-48c9-4d97-8c9e-262476c1c6b2",
  "text": "The fire exit should be x:120, y: 120; z: 340",
  "createdAt": "2013-07-02T13:26:18.8932853+00:00",
  "author": {
    "id": "00000000-0000-0000-0000-000000000000",
    "email": "",
    "firstname": "Unknown",
    "lastname": "User",
    "company": "",
    "fullname": "Unknown User",
    "displayname": "Unknown User",
    "info": "",
    "gender": "",
    "phoneWork": "",
    "phoneHome": "",
    "fax": "",
    "mobile": "",
    "birthDate": "0000-00-00",
    "address": {
      "street": "",
      "streetNr": "",
      "zip": "",
      "city": "",
      "country": ""
    },
    "preferredLanguage": null
  },
  "id": "d258c905-c8af-4463-b0d8-ac09dbcf255"
}
```

[Get all the comments of the object](#)

URL / Resource / JSON Structure

Resource: objects/<object_id>/comments

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/comments

Example: <https://api-stage.bimplus.net/v2/objects/cb96a9b1-48c9-4d97-8c9e-262476c1c6b2/comments>

HTTP Method

GET

Description

Get all the comments of a specified object.

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json

Response

Status
Status: 200 OK

JSON
<pre>[{ "issueId": "cb96a9b1-48c9-4d97-8c9e-262476c1c6b2", "text": "The fire exit should be x:120, y: 120; z: 340", "createdAt": "2013-07-02T13:26:18+00:00", "modifiedAt": "2013-07-03T13:26:18+00:00", "author": { "id": "00000000-0000-0000-0000-000000000000", "email": "", "firstname": "Unknown", "lastname": "User", "company": "", "fullname": "Unknown User", "displayname": "Unknown User", "info": "", "gender": "", "phoneWork": "", "phoneHome": "", "fax": "", "mobile": "", "birthDate": "0000-00-00", "address": { "street": "", "streetNr": "", "zip": "", "city": "", "country": "" } }, "preferedLanguage": null }, { "id": "d258c905-c8af-4463-b0d8-ac09dbcf255" }]</pre>

Create a new attachment in the object

URL / Resource / JSON Structure

Resource: objects/<object_id>/attachments

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/attachments

Example: https://api-stage.bimplus.net/v2/bimplus/objects/7cf910cb-e357-43f6-aa3a-b45c26380f75/attachments

HTTP Method

POST

Description

Create a new attachment in a object.

Request

Bimplus supports creating and updating of attachments only using requests with multipart/form-data content type. By standard, multipart/form-data content consists of several parts, each part containing a file data.

But Bimplus supports only one file sent per call, so only first part of multipart form data content is used, the rest are ignored. The parts are separated by boundaries, each part contains content headers and content data.

Examples :

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: multipart/form-data; boundary=----MyFormBoundaryt1TJWL8i2mvYwGPW

Content
-----MyFormBoundaryt1TJWL8i2mvYwGPW Content-Disposition: form-data; name="TestFile"; filename="TestFile.xml"; classification="Report"; tag="ABCDE" Content-Type: application/xml **** Here are file data ***** -----MyFormBoundaryt1TJWL8i2mvYwGPW

Where :

- name and filename are mandatory saved as attachment's "name" and "filename" properties
- classification and tag are optional, and are saved as attachment's properties "tag" and "classification"
- Content-Type is mandatory and is saved as attachment's property "type"

Response

Status
Status: 201 Created

JSON

```
{
  "objectIds": [
    "0d2ce2cc-3588-45d6-a59a-f6b89ebed34e"
  ],
  "fileName": "TestFile.xml",
  "type": "application/xml",
  "size": 211258,
  "createdAt": "2013-12-11T10:47:39",
  "creator": {
    "id": "e18941f4-a809-2d01-d27d-cd251f2b6cb6",
    "email": "test@bimplus.net",
    "firstname": "First Name",
    "lastname": "Second Name",
    "company": "Best-Company",
    "fullname": "First Name Second Name",
    "displayname": "Best-Company",
  },
  "changed" : "2013-12-11T10:47:39",
  "changedBy" : {
    "id": "e18941f4-a809-2d01-d27d-cd251f2b6cb6",
    "email": "test@bimplus.net",
  },
  "hash": "68a59c1f-1914-43b8-92fc-1cee4ad1c90c",
  "attachmentType" : "Document",
  "classification" : "Report",
  "tag" : "ABCDE",
  "sizeMB" : "0,21",
  "version" : "1",
  "relatedId" : "0d2ce2cc-3588-45d6-a59a-f6b89ebed34e",
  "rights" : {
    "update" : true,
    "share" : true,
    "delete" : true,
    "download" : true
  }
}
"id": "6cea110a-88f4-43ac-9a00-ebaf677be333"
}
```

Get the attachment list from the object

URL / Resource / JSON Structure

Resource: objects/<object_id>/attachments

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/attachments

Example: https://api-stage.bimplus.net/v2/bimplus/objects/7cf910cb-e357-43f6-aa3a-b45c26380f75/attachments

HTTP Method

GET

Description

Get all the attachments belonging to a specified object.

Request

Headers

Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088
Content-Type: application/json

Response

Status
Status: 200 OK

JSON
<pre>[{ "objectIds": ["0d2ce2cc-3588-45d6-a59a-f6b89ebed34e"], "fileName": "TestFile.xml", "type": "application/xml", "size": 211258, "createdAt": "2013-12-11T10:47:39", "creator": { "id": "e18941f4-a809-2d01-d27d-cd251f2b6cb6", "email": "test@bimplus.net", "firstname": "First Name", "lastname": "Second Name", "company": "Best-Company", "fullname": "First Name Second Name", "displayname": "Best-Company", }, "changed" : "2013-12-11T10:47:39", "changedBy" : { "id": "e18941f4-a809-2d01-d27d-cd251f2b6cb6", "email": "test@bimplus.net", }, "hash": "68a59c1f-1914-43b8-92fc-1cee4ad1c90c", "attachmentType" : "Document", "classification" : "Report", "tag" : "ABCDE", "sizeMB" : "0,21", "version" : "1", "relatedId" : "0d2ce2cc-3588-45d6-a59a-f6b89ebed34e", "rights" : { "update" : true, "share" : true, "delete" : true, "download" : true } }, ...]</pre>

Delete all the attachments from the object

URL / Resource / JSON Structure

Resource: objects/<object_id>/attachments

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/attachments

Example: https://api-stage.bimplus.net/v2/bimplus/objects/7cf910cb-e357-43f6-aa3a-b45c26380f75/attachments

HTTP Method

DELETE

Description

Delete all the attachments from a specified object.

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json

Response

Status
Status: 200 OK

Create a new hyperlink for the object

URL / Resource / JSON Structure

Resource: objects/<object_id>hyperlinks

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/hyperlinks

Example: https://api-stage.bimplus.net/v2/bimplus/objects/7cf910cb-e357-43f6-aa3a-b45c26380f75/hyperlinks

JSON Structure:

Name	Mandatory / Optional	Type	Description
orderNumber	will be ignored	integer	The ordering number of the hyperlink
name	mandatory	string	Name of the hyperlink
url	mandatory	string	The actual url
id	will be ignored	string (guid)	Id of the hyperlink
type	optional	string	Hyperlink type. Could be either none - link to web site, or "Attachment" - link to download url

HTTP Method

POST

Description

Create a new hyperlink for the object.

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: multipart/form-data

JSON
<pre>{ "name": "My website", "url": "https://www.bimplus.net/" }</pre>

Response

Status
Status: 200 Created

JSON
<pre>{ "orderNumber": 1, "name": "My website", "url": "https://www.bimplus.net/", "id": "e72e6ddd-63f4-40a3-b820-a32300e14c31" }</pre>

Get the hyperlink list from the object

URL / Resource / JSON Structure

Resource: objects/<object_id>hyperlinks

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>hyperlinks

Example: https://api-stage.bimplus.net/v2/bimplus/objects/7cf910cb-e357-43f6-aa3a-b45c26380f75/hyperlinks

HTTP Method

GET

Description

Get all the hyperlinks belonging to a specified object.

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json

Response

Status
Status: 200 OK

JSON
<pre>[{ "orderNumber": 1, "name": "My website", "url": "https://www.bimplus.net/", "id": "c46d1080-0450-4f03-aa4d-a32300e018e9" }, { "orderNumber": 2, "name": "My second website", "url": "https://www-stage.bimplus.net/", "id": "e72e6ddd-63f4-40a3-b820-a32300e14c31" }]</pre>

Capture/create an object view(scene) for sharing it with another user

A view of an object can be created similar to the Slideshow & Topics by updating the object (i.e PUT objects/<object_id>) This is similar to creating slides & the template for creating slides is present [here](#)

Improve the get model geometries performance using chunks & templates

The performance of the [Get Geometry call](#) can be improved by using templates & chunks.

Templates

- Templates are geometry references which are generated if more than one object has same geometry information. Templates are automatically generated on Bimplus import.
- Templates can be got for the whole project or per layer/discipline
eg: <https://api-dev.bimplus.net/v2/jay-company/objects/25f38274-7158-436d-9356-f5c917ee44c9/disciplines/30114b52-bc05-47c1-80b5-c7d5485d5840/templates/threejs> --> Get all the templates under a particular discipline in a project
eg: <https://api-dev.bimplus.net/v2/jay-company/objects/5cd37c77-d341-4ab2-9f0d-44467955b218/templates/threejs> --> Get all the templates under a project where object_id is the project_id
- Templates are referenced in the [Get Geometry call](#)
- eg: <https://api-dev.bimplus.net/v2/jay-company/objects/daf760d2-9fc2-4b89-907b-20df7fb62aeb/disciplines/30114b52-bc05-47c1-80b5-c7d5485d5840/geometries/threejs/properties/8>

```
{
  "id": "1e9d3697-cde5-4d67-8998-267edd4fe968",
  "type": "Door",
  "attributes": {
    "geometry": {
      "colorid": 1,
      "template": "5ad3b016-a9d8-4f8a-9e12-8919c411f076",
      "matrix": [
        1,
        0,
        0,
        75957.48,
        0,
        0,
        1,
        17100,
        0,
        -1,
        0,
        -64025,
        0,
        0,
        0,
        1
      ]
    }
  }
}
```

Chunks

- Objects/geometry information can be got in chunks if the geometry data is more which the client can't handle.
- Chunks can be used for the normal geometry call or templates call
eg: <https://api-dev.bimplus.net/v2/jay-company/objects/daf760d2-9fc2-4b89-907b-20df7fb62aeb/disciplines/30114b52-bc05-47c1-80b5-c7d5485d5840/geometries/threejs/properties/8?chunk=1&chunkSize=medium>
eg: <https://api-dev.bimplus.net/v2/jay-company/objects/25f38274-7158-436d-9356-f5c917ee44c9/disciplines/30114b52-bc05-47c1-80b5-c7d5485d5840/templates/threejs?chunk=1&chunkSize=medium>
- Chunk has 4 variants
off = 0,
low = 1000000 (1 MB)
middle = 5000000 (5 MB)
high = 20000000 (20 MB)
- The user will receive the "X-Total-Count: X" in the header. It means the number of chunks(the number of iterations the user have to make)
- Please remember that always the first call of chunk_size will take some time (as the "object to chunk conversion" takes place during the first call)

Delete the object

URL / Resource / JSON Structure

Resource: objects/<object_id>

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>

Example: <https://api-stage.bimplus.net/v2/bimplus/objects/7cf910cb-e357-43f6-aa3a-b45c26380f75>

HTTP Method

DELETE

Description

Deletes a specified object.

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json

Response

Status
Status: 200 OK

Create a new custom table in the object

URL / Resource / JSON Structure

Resource: objects/<object_id>/customtables

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/customtables

Example: <https://api-stage.bimplus.net/v2/objects/cb96a9b1-48c9-4d97-8c9e-262476c1c6b2/customtables>

JSON Structure:

Name	Mandatory / Optional	Type	Description
relatedId	optional	string(guid)	The id of the object the custom table belongs to. Will be taken from request url.
name	optional	string	Custom table name
description	optional	string	Custom table description
id	will be ignored	string(guid)	The id of the custom table.
created	will be ignored	string (date)	Creation date of the custom table
createdBy	will be ignored	object	The user which created custom table
changed	will be ignored	string (date)	Modified date of the comment
changed By	will be ignored	string (date)	The user which recently modified custom table
revision	optional	int (null=current)	Object revision. If revision is specified, then the call will get the object from the requested revision, otherwise return current object (latest revision).
dataTable	mandatory	object	A JSON string which includes data for custom table. An example template is specified below. Please remember, the server will process the dataTable information as a json string and hence the client has to take care on the information that is stored & retrieved.

HTTP Method

POST

Description

Create a new custom table for a specified object.

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json

JSON
<pre>{ "name": "Sample custom table", "description": "Sample custom table with all column types", "dataTable": { "columns": [{ "name": "Int column", "type": "Int32" }, { "name": "DateTime column", "type": "DateTime" }, { "name": "String column", "type": "String" }, { "name": "Double column", "type": "Double" }, { "name": "Guid column", "type": "Guid" }, { "name": "Bool column", "type": "Boolean" }], "rows": [{ "items": [1, "2017-07-12T00:00:00", "First row", 11, "614a203e-9f29-48b8-a9b7-a95a647edc65", true] }, { "items": [2, "2017-06-12T00:00:00", "Second row", 11, "614a203e-9f29-48b8-a9b7-a95a647edc65", true] }, { "items": [3, "2017-05-12T00:00:00", "Third row", 11, "614a203e-9f29-48b8-a9b7-a95a647edc65", true] }, { "items": [4, "2017-04-12T00:00:00", "Fourth row", 11, "614a203e-9f29-48b8-a9b7-a95a647edc65", true] }] } }</pre>

Response

Status
Status: 201 Created

JSON

```
{
  "name": "Sample custom table",
  "description": "Sample custom table with all column types",
  "relatedId": "cb96a9b1-48c9-4d97-8c9e-262476c1c6b2",
  "created": "2017-06-20T06:51:40.64",
  "createdBy": {
    "id": "78a94d0e-0d58-3f85-aafa-1e631c51b5d2",
    "email": null
  },
  "changed": "2017-06-20T06:51:40.64",
  "changedBy": {
    "id": "78a94d0e-0d58-3f85-aafa-1e631c51b5d2",
    "email": null
  },
  "revision": 0,
  "dataTable": {
    "columns": [
      { "name": "Int column", "type": "Int32" },
      { "name": "DateTime column", "type": "DateTime" },
      { "name": "String column", "type": "String" },
      { "name": "Double column", "type": "Double" },
      { "name": "Guid column", "type": "Guid" },
      { "name": "Bool column", "type": "Boolean" }
    ],
    "rows": [
      { "items": [ 1, "2017-07-12T00:00:00", "First row", 11, "614a203e-9f29-48b8-a9b7-a95a647edc65",
true ] },
      { "items": [ 2, "2017-06-12T00:00:00", "Second row", 11, "614a203e-9f29-48b8-a9b7-a95a647edc65",
true ] },
      { "items": [ 3, "2017-05-12T00:00:00", "Third row", 11, "614a203e-9f29-48b8-a9b7-a95a647edc65",
true ] },
      { "items": [ 4, "2017-04-12T00:00:00", "Fourth row", 11, "614a203e-9f29-48b8-a9b7-a95a647edc65",
true ] }
    ]
  },
  "id": "2517e000-eb32-4487-be36-c5db90b9b943"
}
```

Get all the custom tables of the object

URL / Resource / JSON Structure

Resource: objects/<object_id>/customtables

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/customtables

Example: <https://api-stage.bimplus.net/v2/objects/cb96a9b1-48c9-4d97-8c9e-262476c1c6b2/customtables>

HTTP Method

GET

Description

Get all the custom tables of a specified object.

Request

Headers

Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088
Content-Type: application/json

Response

Status
Status: 200 OK

JSON
<pre>[{ "name": "Sample custom table", "description": "Sample custom table with all column types", "relatedId": "cb96a9b1-48c9-4d97-8c9e-262476c1c6b2", "created": "2017-06-20T06:51:40.64", "createdBy": { "id": "78a94d0e-0d58-3f85-aafe-1e631c51b5d2", "email": null }, "changed": "2017-06-20T06:51:40.64", "changedBy": { "id": "78a94d0e-0d58-3f85-aafe-1e631c51b5d2", "email": null }, "revision": 0, "dataTable": { "columns": [{ "name": "Int column", "type": "Int32" }, { "name": "DateTime column", "type": "DateTime" }, { "name": "String column", "type": "String" }, { "name": "Double column", "type": "Double" }, { "name": "Guid column", "type": "Guid" }, { "name": "Bool column", "type": "Boolean" }], "rows": [{ "items": [1, "2017-07-12T00:00:00", "First row", 11, "614a203e-9f29-48b8-a9b7-a95a647edc65", true] }, { "items": [2, "2017-06-12T00:00:00", "Second row", 11, "614a203e-9f29-48b8-a9b7-a95a647edc65", true] }, { "items": [3, "2017-05-12T00:00:00", "Third row", 11, "614a203e-9f29-48b8-a9b7-a95a647edc65", true] }, { "items": [4, "2017-04-12T00:00:00", "Fourth row", 11, "614a203e-9f29-48b8-a9b7-a95a647edc65", true] }] }, "id": "2517e000-eb32-4487-be36-c5db90b9b943" }]</pre>

Delete all the custom tables of the object

URL / Resource / JSON Structure

Resource: objects/<object_id>/customtables

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/customtables

Example: <https://api-stage.bimplus.net/v2/objects/cb96a9b1-48c9-4d97-8c9e-262476c1c6b2/customtables>

HTTP Method

DELETE

Description

Delete all the custom tables of a specified object.

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json

Response

Status
Status: 200 OK

Get reports of the object

URL / Resource / JSON Structure

Resource: objects/<object_id>/reports

URL: https://api-stage.bimplus.net/v2/<team_slug>/objects/<object_id>/reports

Example: <https://api-stage.bimplus.net/v2/objects/cb96a9b1-48c9-4d97-8c9e-262476c1c6b2/reports>

Optional query parameters

Name	Type	Default value	Description
version	int	null	If version is specified, then the call will get report's of object from the requested version, otherwise return all reports of objects.
action	string	null	If action is specified, then the call will get report's of object from the requested action, otherwise return all reports of objects. Now we have report just for action = Download_Document

HTTP Method

GET

Description

Get report of a specified object.

Request

Headers
Authorization: BimPlus 9c1874a62c974dcfa75e0132c423a088 Content-Type: application/json

Response

Status
Status: 200 OK

JSON

```
[
  {
    "id": "cb96a9b1-48c9-4d97-8c9e-262476c1c6b2",
    "user": {
      "id": "78a94d0e-0d58-3f85-aafa-1e631c51b5d2",
      "email": "test@email.com"
    },
    "created": "2010-08-02T10:08:14.069124",
    "version": 1,
    "action": "Download_Document"
  },
  {
    "id": "cb96a9b1-48c9-4d97-8c9e-262476c1c6b2",
    "user": {
      "id": "98a94d0e-0d58-3f85-aafa-1e631c51b5d2",
      "email": "test8@email.com"
    },
    "created": "2010-08-02T10:08:14.069124",
    "version": 2,
    "action": "Download_Document"
  }
  ...
]
```

Selection Object