

# BlomURBEX WMS Implementation

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Audience: **BLOM ASA partners and developers**

Abstract: This document describes how to access the BlomURBEX WMS services.

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## 1 Scope

BlomURBEX™ offers a WMS (Web Map Service) service to allow access to the ortho images and the ortho-rectified obliques. It follows the directives and OGC's regulation. This protocol is a service of publication of the cartography across Internet.

The service gets a request from a client specifying the extent and size of the required image and returns the requested raster image. This raster image can be the ortho view or any of the rectified oblique views.

The service requires an http request with a few parameters, normalized by OGC, which define the request. These parameters are: the service, the version, the type of request, the system of spatial reference, the coordinates of the area that define the spatial area of the request, the size of the image of response, the format of image, the layers, the transparency, etc.

## 2 BlomURBEX™ WMS Services

### 2.1 Supported versions

Current supported versions are WMS 1.1.1. and WMS 1.3.0.

Refer to the OGC WMS to obtain more information about mandatory and optional parameters for this type of requests.

<http://www.opengeospatial.org/standards/wms>

### 2.2 Supported Reference Systems

BlomURBEX™ WMS service supports two Coordinate reference systems:

- Spherical Mercator
- WGS84 Latitude-Longitude.

Spherical Mercator (EPSG:3785) is available for all zoom levels and for all orthogonal data in the servers.

The WGS84 projection (EPSG:4326) is only available for the highest resolution levels, this is up to aprox. 150 meters / pixel.

### 2.3 Connecting to BlomURBEX™ WMS Service

To connect to BlomURBEX™ WMS service from a WMS client, it is necessary to provide the service URL to the client, so it can make a GetCapabilities request to get all needed information to retrieve the images.

The BlomURBEX™ WMS URL is:

```
http://www.blomurbex.com/v02/GetMap?usertoken=usertokenstring
```

In this request, `usertokenstring` must be replaced by the unique usertoken provided by Blom.

GetCapabilities will return information about available layers. There are 5 layers available in the Spherical Mercator projection and the same 5 layers in WGS84 projection. These layers are the ortho images, and the 4 ortho-rectified views.

#### 2.3.1 Parameters

- **version [mandatory – except for GetCapabilities]:** This parameter is the WMS version that is used for this request. Only two values are accepted in the current API version:
  - 1.1.1
  - 1.3.0.
- **request [mandatory]:** The type of service GetMap. Possible values are:
  - GetMap. Used for retrieving an image/map.
  - GetCapabilities used to obtain the web services descriptor xml file.
- **layers [mandatory]:** Identifies which view the user is requesting. Possible values:
  - Ortho: For the ortho images.
  - North: For the orthorectified North view images.
  - South: For the orthorectified South view images.
  - East: For the orthorectified East view images.
  - West: For the orthorectified West view images.
- **styles [mandatory]:** Parameter mandatory for WMS Standard, it must be present but its value is ignored by Blom Urbex.
- **crs or srs [mandatory]:** Projection system used, It must follow OGC nomenclature. For example **EPSG:4326** for WGS84 LATLON or **EPSG:3785** for Spherical Mercator projection.
- **bbox [mandatory]:** requested extent, following the rules of the WMS Standard: Xmin, Ymin, Xmax, Ymax
- **width [mandatory]:** Width of the requested image in pixels.
- **height [mandatory]:** Height of the requested image in pixels..
- **format [mandatory]:** Image format. The only supported format is: **image/jpeg**
- **usertoken [mandatory]:** User's Token for authentication purposes. This token is unique for each client and must be requested to Blom.
- **time [optional] :** A date following the structure YYYYMMDD or YYYYMM or YYYY. The service will use the most current images available, whose date is previous to the requested date. It is also possible to use a range of dates with the structure YYYYMMDD-YYYYMMDD, in this case the images used will be the most current ones available in the specified date range.

If the parameter is omitted the system will submit the most recent version of the tile.

- **Service[mandatory]:**This parameter is mandatory in the request if the **request** parameter is set to **GetCapabilities**, and it will have to take the value: **WMS**.

### 2.3.2 Result

The result of the request will be a JPG image with the data requested.

If the user is not authorized to see the content, a JPG file with the text 'unauthorized' is returned.

If the requested data is not available, the service will check up to two zoom levels up from the one requested to see if the user is entitled to check out that zoom level data and if data exists on those zoom levels. If so, the service will take that imagery, apply a digital zoom effect to adapt it to the bounding box and resolution requested and return it.

If no imagery is found either in the zoom level requested or in the two immediate upper zoom levels, a black JPG is returned.

### 2.3.3 Example

Example of a GetMap request:

```
http://www.blomurbex.com/v02/GetMap?version=1.1.1&request=GetMap&srs=EPSG:3785&bbox=-523000,4960000,-521500,4961500&width=550&height=550&layers=ortho&format=image/jpeg&usertoken=LP4BeNU0S8zYvDfROrPt12cOI0i1kfqie2mIUEeVpxAY07v3aV&styles=
```

The result of the previous request is an image like the one shown below:



#### 2.3.4 GetMap request with GetCapabilities:

To obtain the Xml file with the description of the Web service GetMap, the **request** parameter must be set to "GetCapabilities". It will also be necessary to set the **service**, and **usertoken** parameters.

Here is an example of a GetCapabilities request:

```
http://www.blomurbex.com/v02/GetMap?version=1.1.1&request=GetCapabilities&service=WMS&usertoken=LP4BeNU0S8zYvDfR0rPt12cOI0i1kfqie2mIUEeVpxAY07v3aV
```

The result would be an Xml file with the capabilities of the WMS like the one shown below.



```

<?xml version="1.0" encoding="ISO-8859-1" ?>
- <WMT_MS_Capabilities version="1.1.1">
- <Service>
  <Name>OGC:WMS</Name>
  <Title>Mapa Valladolid Blom</Title>
  <Abstract>Servicio del mapa de Blom que proporciona datos de las imágenes. Este servicio ahora está para los p
- <KeywordList>
  <Keyword>Blom</Keyword>
  <Keyword>Imágenes</Keyword>
</KeywordList>
  <OnlineResource xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="http://geoservices.blom.es" xlink:type="s
- <ContactInformation>
  - <ContactPersonPrimary>
    <ContactPerson>Antonio Flores</ContactPerson>
    <ContactOrganization>Blom Sistemas Geoespaciales, S.L.U.</ContactOrganization>
    </ContactPersonPrimary>
    <ContactPosition>Responsable</ContactPosition>
  - <ContactAddress>
    <AddressType>POSTAL</AddressType>
    <Address>Alcalá, 492</Address>
    <City>Madrid</City>
    <StateOrProvince>Madrid</StateOrProvince>
    <PostCode>E-28027</PostCode>
    <Country>España</Country>
    </ContactAddress>
    <ContactElectronicMailAddress>aflores@blom.es</ContactElectronicMailAddress>
  </ContactInformation>
  <Fees>none</Fees>
  <AccessConstraints>It isn't allowed to implement a not free added value service without getting in touch with BLC
  conditions.</AccessConstraints>
</Service>
- <Capability>
- <Request>
  - <GetCapabilities>
    <Format>application/vnd.ogc.wms_xml</Format>
  - <DCPType>
    - <HTTP>
      - <Get>
        <OnlineResource xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="http://geoservices.blom.es/v0
      </Get>
    - <Post>

```

## 2.4 Limitations

WGS84 is supported by all WMS clients, but since BlomURBEX™ data is stored using Spherical Mercator, it is necessary to re-project the data to WGS84 on the fly.

To avoid complexity, slower response times and processing power, the transformation used is only valid for the high resolution zoom levels, so for resolutions over 150 meters per pixel the WGS84 layers will not be authorized.