CzechGlobe Mapserver Manual

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Jiří Kozel

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# How to Add Place

## Add Place to config.js

Open file **/var/www/html/config.js** with text editor.

Add next record representing the place into “places” array. The simplest way is to copy&paste another already existing place and change values.

Each place has following attributes:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type and description** | **Example(s)** | **Mandatory** |
| title | multilingual string | *1.* “title”  *2.* {cs: “český název“, en: “English title”} | yes |
| baseLayer | string; one of values defined previously in “baseLayers” array | “gmap” | yes |
| extent | array of 4 geographic coordinates [left, bottom, right, top] | [15.152, 49.429, 15.355, 49.524] | yes |
| campaigns | array of campaigns; at least one is needed | [ *see* [*How to Add Campaign*](#h.1fob9te) ] | yes |

**Example**

{

title: "Bílý Kříž",

baseLayer: "gmap",

extent: [18.528, 49.482, 18.551, 49.515],

campaigns: [

...

]

}

# How to Add Campaign

## Add Campaign to config.js

Open file **/var/www/html/config.js** with text editor.

Find place to which the campaign belongs.

Add next record representing the campaign into “campaigns” array. The simplest way is to copy&paste another already existing campaign and change values.

Each campaign has following attributes:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type and description** | **Example(s)** | **Mandatory** |
| dateRange | date for single-day campaign or array of 2 dates [from, to] for multiple-days campaign | *1.* “2011-05-25”  *2.* [“2011-05-25”, “2011-05-27”] | yes |
| datasets | array of datasets; at least one is needed | [ *see* [*How to Add Dataset*](#h.6ke0xnwy2x64) ] | yes |

**Example**

{

dateRange: ['2006-09-14', '2006-09-14'],

datasets: [

...

]

}

# How to Add Dataset

## Requirements for input TIFFs

Prepare one or more raster TIFF files per each dataset, however one file per dataset is strongly preferred. Each file will have

* 3 bands (RGB) that will be later on visualized in mapserver without any correction \*
* “tif” extension
* one “tfw” file

In case of more files, files differ only in spatial extent, so they have the same Coordinate Reference System (CRS), resolution, data acquisition time, etc.

Place all raster files to any subdirectory of **/mnt/data/src/**

If the dataset has only one GeoTIFF file, it is possible to place it in one directory with other single GeoTIFFs. However if the dataset has more GeoTIFF files, save it to the special directory without any other GeoTIFF files.

\* Later on, it is possible to choose one color by hexadecimal RGB code that will be transparent. If you would like to use this transparency mechanism, you should ensure that only pixels that should be transparent have this color. By default, the transparent color is black.

## Publish TIFF in one step

If you have one file per dataset, you can publish TIFF in one single step using the script **/home/mapserver/bin/publtiff.py**

This script will

* Prepare TIFF for GeoServer
* Publish it as a layer to GeoServer
* Generate GeoWebCache tiles

**Usage**

**publtiff.py**

-c [EPSG code of the input, default is EPSG:32633]

[path/to/one\_or\_more\_input\_files.tif]

**Example**

**publtiff.py**

/mnt/data/src/ext/Bily\_Kriz/bily\_kriz\_AISA\_25082009.tif

**publtiff.py**

/mnt/data/src/ext/Bily\_Kriz/\*.tif

**publtiff.py**

-c “EPSG:32634” /mnt/data/src/ext/Bily\_Kriz/bily\_kriz\_AISA\_25082009.tif

**Table 1 Frequent EPSG Codes.**

|  |  |
| --- | --- |
| **CRS** | **EPSG code** |
| UTM-33N | EPSG:32633 |
| UTM-34N | EPSG:32634 |

If you cannot or don’t want to use publtiff.py, you can do these 3 steps manually one by one.

## Prepare TIFF for GeoServer

All input raster files will be converted into the GeoTIFF format suitable for GeoServer. The conversion will be done by script **/home/mapserver/bin/preptiff.py**

The script takes one or more input TIFFs from **/mnt/data/src/** and saves it into appropriate location inside **/mnt/data/geoserver/**

**Usage**

**preptiff.py**

-c [EPSG code of the input, default is EPSG:32633]

[path/to/one\_or\_more\_input\_files.tif]

**Example**

**preptiff.py**

/mnt/data/src/ext/Bily\_Kriz/bily\_kriz\_AISA\_25082009.tif

**preptiff.py**

/mnt/data/src/ext/Bily\_Kriz/\*.tif

**preptiff.py**

-c “EPSG:32634” /mnt/data/src/ext/Bily\_Kriz/bily\_kriz\_AISA\_25082009.tif

## Publish GeoTIFFs as a Layer on GeoServer

Login to GeoServer on <http://172.20.2.18:8080/geoserver/web>

Click “Data > Stores”.

Click “Add new store”.

If you have only single GeoTIFF per dataset, follow [Single GeoTIFF per One Dataset](#h.26in1rg). In case of multiple GeoTIFFs per dataset, go to [Multiple GeoTIFFs per One Dataset](#h.lnxbz9).

### Single GeoTIFF per One Dataset

Click “GeoTIFF”.

Enter “Data Source Name”, i.e. unique dataset name. It is good idea to use exactly same name as the filename without extension. Remember that dataset name must be unique within all places.

Click “Browse...” and select the GeoTIFF of the dataset.

Click “Save”.

Click “Publish”.

Click “Save”.

### Multiple GeoTIFFs per One Dataset

Click “ImageMosaic”.

Enter “Data Source Name”, i.e. unique dataset name. It is good idea to use exactly same name as the filename without extension. Remember that dataset name must be unique within all places.

Type “file:/path/to/dataset/GeoTIFFs/directory” into URL field, e.g. “file:/home/mapserver/spdata/sumava”.

Click “Save”.

Click “Publish”.

If you want some color to be transparent, type its hexadecimal RGB code into OutputTransparentColor field, e.g. “000000” for black.

Click “Save”.

## Generate GeoWebCache tiles

Login to GeoServer on <http://172.20.2.18:8080/geoserver/web>

Click “Tile Caching > Tile Layers”.

Click “Seed/Truncate” for the added dataset layer.

Select “image/png” in “Format” field.

Select “18” in “Zoom stop” field.

Increase number of tasks to 4 (it seems to give best results in March 2013).

Click “Submit”.

The process can take a long time depending on raster size. You can check it by “Refresh List” button or by “Tile Caching > Tile Layers” and then “Seed/Truncate”. Anyway, you can continue with following step immediately (you do not need to wait until this process ends).

## Add Dataset to config.js

Open file **/var/www/html/config.js** with text editor.

Find campaign to which the dataset belongs.

Add next record representing the dataset into “datasets” array. The simplest way is to copy&paste another already existing dataset and change values.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type and description** | **Example(s)** | **Mandatory** |
| title | multilingual string | *1.* “title”  *2.* {cs: “český název“, en: “English title”} | yes |
| date | date and time including time zone | “2011-05-25 08:15Z” | yes |
| dataTypes | array of data type(s) of the dataset; use “id” values defined previously in “dataTypes” array | ['hyper'] | yes |
| ekosystemTypes | array of ekosystem type(s) of the dataset; use “id” values defined previously in “ekosystemTypes” array | ['agro'] | yes |
| layer | object with two mandatory attributes:  1. “type” always use “gwc” value  2. “sublayers” dataset layer name (Data Source Name specified in 3.2) | {  type: 'gwc',  sublayers: 'jenin\_2011\_ext'  } | yes |
| spatialResolution | number; units are meters | 0.4 | no |
| pointsPerMeter | number | 10 | no |
| spectralRange | array of 2 numbers [from, to]; units are nanometers | [400, 980] | no |
| spectralResolution | number or array of 2 numbers [from, to]; units are nanometers | *1.* 5  *2.* [8.64, 9.46] | no |
| numberOfBands | number | 65 | no |
| description | multilingual string | *1.* “description”  *2.* {cs: “český popis“, en: “English description”} | no |

Save the file and see changes at <http://mapserver.czechglobe.cz/>

**Example**

{

title: 'ortofoto Šumavy',

date: '2002-04-12 08:55Z', //'Z' indicates UTC time zone

dataTypes: ['orto'],

ekosystemTypes: ['les'],

spatialResolution: 0.25,

pointsPerMeter: 158,

spectralRange: [400, 700],

spectralResolution: 100,

numberOfBands: 3,

layer: {

type: 'gwc',

sublayers:'sumava'

},

description: 'Popis snímku Šumavy.\n\

Druhý řádek.'

}