



# EXTERNAL SERVICE INTERACTION GEOLOCATION IN ADOXX

## Agenda



- ▶ **Prerequisites**
- ▶ Hands On Sessions:
  - ▶ Analysis of Model Structure on ADOxx
  - ▶ Implementation of the Service Interaction
- ▶ Q&A

## Prerequisites for SMS service



- ▶ ADOxx v 1.3  
download at [www.adoxx.org](http://www.adoxx.org)
- ▶ GnuWin32 Wget  
download at <http://downloads.sourceforge.net/gnuwin32/wget-1.11.4-1-setup.exe>
- ▶ Availability of geolocation web services, services used:  
OpenStreetMap  
Google Maps API  
WeatherOnline

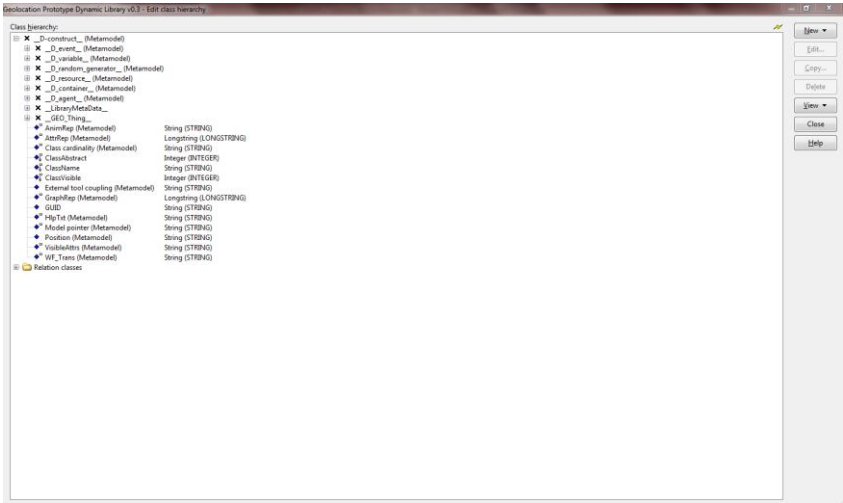
## Agenda



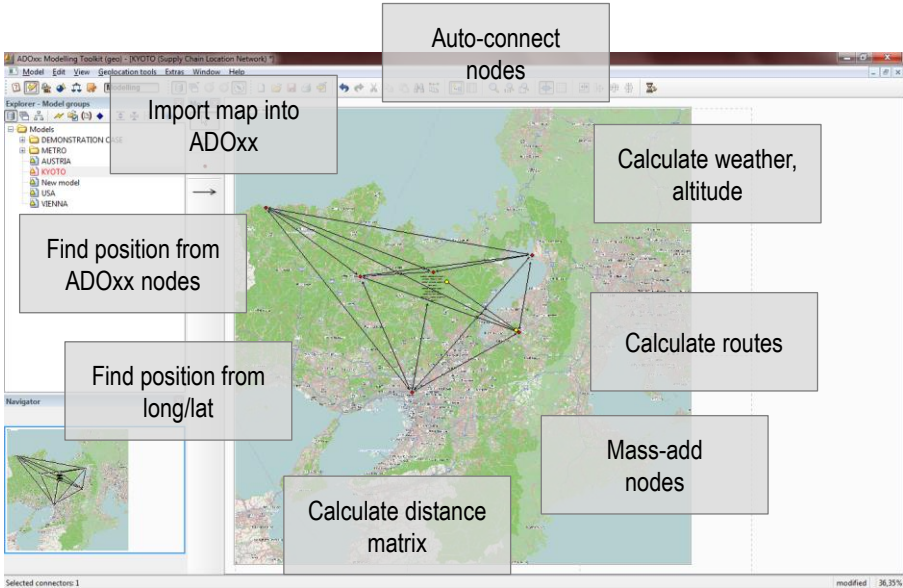
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# Definition of Modelling Language on ADOxx

Define Classes,  
Attributes and Model  
Types



# Modelling tool functionality



## AdoScript for Map Service 1

### AdoScript Code

```
CC "AdoScript" SET_CWD path:(sADOxxPathGeo)
CC "Modeling" GET_ACT_MODEL
SETL nCurrentModelID:(modelid)

CC "Core" GET_ATTR_ID classid:bp-model attrname:("Map center")
SETL nMapCenterAttrID:(attrid)
CC "Core" GET_ATTR_ID classid:bp-model attrname:("Map longitude")
SETL nMapLongAttrID:(attrid)
CC "Core" GET_ATTR_ID classid:bp-model attrname:("Map latitude")
SETL nMapLatAttrID:(attrid)
CC "Core" GET_ATTR_ID classid:bp-model attrname:("Display name")
SETL nDisplayNameAttrID:(attrid)

CC "Core" GET_ATTR_ID classid:bp-model attrname:("GeoLocation Data")
SETL nGeoLocationDataAttrID:(attrid)
CC "Core" GET_ATTR_ID classid:bp-model attrname:("GeoLocation URL")
SETL nGeoLocationURLAttrID:(attrid)
CC "Core" GET_ATTR_ID classid:bp-model attrname:("Map width")
SETL nMapWidthAttrID:(attrid)
CC "Core" GET_ATTR_ID classid:bp-model attrname:("Map height")
SETL nMapHeightAttrID:(attrid)
CC "Core" GET_ATTR_ID classid:bp-model attrname:("Map URL")
SETL nMapURLAttrID:(attrid)

CC "Core" GET_ATTR_VAL objid:(nCurrentModelID) attrid:(nMapCenterAttrID)
SETL sMapCenterValue:(val)
CC "AdoScript" MSGWIN ("Searching for map center location at " + sMapCenterValue)
# get tempfilename for longitude and latitude values
CC "AdoScript" GET_TEMP_FILENAME
SETL sXMLMapCenter:(filename)
SYSTEM ("download coordinates.bat \"\""+sMapCenterValue+"\" \"\""+sXMLMapCenter+"\" \"\" + g_proxyServer +
\"\"") with-console-window
```

## AdoScript for Map Service 2

### AdoScript Code

```
CC "AdoScript" FREAD file:(sXMLMapCenter)
SETL sMapLocationJSON:(text)

CC "AdoScript" MSGWIN hide
# user selection which location to use
SETL lMapLocations:(replall (replall (sMapLocationJSON, "},"", "{["", """, "},{", "\n"))
# only if more than 1 found
IF (tokcnt (lMapLocations, "\n") > 1) {
  SETL lSelectionField:""
  FOR sMapLocation in:(lMapLocations) sep:"\n" {
    SETL sTempLatString:(copy (sMapLocation, search(sMapLocation, "\"lat\":\","", 0)+7, -1))
    SETL sLatString:(copy (sTempLatString, 0, search (sTempLatString, "\"", 0)))
    SETL sTempLongString:(copy (sMapLocation, search(sMapLocation, "\"lon\":\","", 0)+7, -1))
    SETL sLongString:(copy (sTempLongString, 0, search (sTempLongString, "\"", 0)))
    SETL sTempDisplayNameString:(copy (sMapLocation, search(sMapLocation, "\"display_name\":\","",
0)+16, -1))
    SETL sDisplayNameString:(copy (sTempDisplayNameString, 0, search (sTempDisplayNameString, "\"",
0)))
    SETL lSelectionField:(tokunion (lSelectionField, sDisplayNameString + ";" + sLongString + ";" +
sLatString, "\n"))
  }
  CC "AdoScript" LISTBOX entries:(lSelectionField) toksep:"\n" title:"Search results" oktext:"Ok"
  boxtext:"Choose the location to be used"
  IF (endbutton = "ok") {
    SETL sMapLocationJSON:("\display_name\":\","" + token (selection, 0, ";") + "\", \"lat\":\","" +
token (selection, 2, ";") + "\"lon\":\","" + token (selection, 1, ";") + "\"")
  }
  ELSE {
    EXIT
  }
}
ELSE {
  # if only one, reset the variable to the single one found!
  SETL sMapLocationJSON:(lMapLocations)
}
```

### AdoScript for Map Service 3

#### AdoScript Code

```
CC "Core" SET_ATTR_VAL objid:(nCurrentModelID) attrid:(nGeoLocationDataAttrID) val:
SETL sTempLatString:(copy (sMapLocationJSON, search(sMapLocationJSON, "\"lat\":\"",
SETL sLatString:(copy (sTempLatString, 0, search (sTempLatString, "\"", 0)))
CC "Core" SET_ATTR_VAL objid:(nCurrentModelID) attrid:(nMapLatAttrID) val:(sLatString)

SETL sTempLongString:(copy (sMapLocationJSON, search(sMapLocationJSON, "\"lon\":\"", 0)+7, -1))
SETL sLongString:(copy (sTempLongString, 0, search (sTempLongString, "\"", 0)))
CC "Core" SET_ATTR_VAL objid:(nCurrentModelID) attrid:(nMapLongAttrID) val:(sLongString)

SETL sTempDisplayNameString:(copy (sMapLocationJSON, search(sMapLocationJSON, "\"display_name\":\"",
0)+16, -1))
SETL sDisplayNameString:(copy (sTempDisplayNameString, 0, search (sTempDisplayNameString, "\"", 0)))
CC "Core" SET_ATTR_VAL objid:(nCurrentModelID) attrid:(nDisplayNameAttrID) val:(sDisplayNameString)

CC "Core" UPDATE_EXPR_ATTRS modelid:(nCurrentModelID) synchronous:1

CC "AdoScript" INFOBOX ("Your map is centered at " + sDisplayNameString + ".\nLongitude: " +
sLongString + "\nLatitude: " + sLatString)

CC "AdoScript" MSGWIN ("Map is downloaded and constructed at " + sDisplayNameString)
CC "AdoScript" GET_TEMP_FILENAME
SETL sGeoLocationURL:(filename + ".png")

CC "Core" GET_ATTR_VAL objid:(nCurrentModelID) attrid:(nMapURLAttrID)
SETL sMapURLValue:(val)
SETL sMapFile:(sGeoLocationURL)

SYSTEM ("download_map.bat \"\""+sMapURLValue+"\" \"\""+sMapFile+"\" \"\" +g_sProxyServer+ "\"") with-
console-window

CC "Core" SET_ATTR_VAL objid:(nCurrentModelID) attrid:(nGeoLocationURLAttrID) val:(sGeoLocationURL)

CC "Core" GET_ATTR_VAL objid:(nCurrentModelID) attrid:(nMapHeightAttrID)
SETL nMapHeight:(val/ 96 * 2.54cm)

CC "Core" GET_ATTR_VAL objid:(nCurrentModelID) attrid:(nMapWidthAttrID)
SETL nMapWidth:(val/ 96 * 2.54cm)
```

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## Further Questions?

[tutorial@adoxx.org](mailto:tutorial@adoxx.org)