



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
- ▶ 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

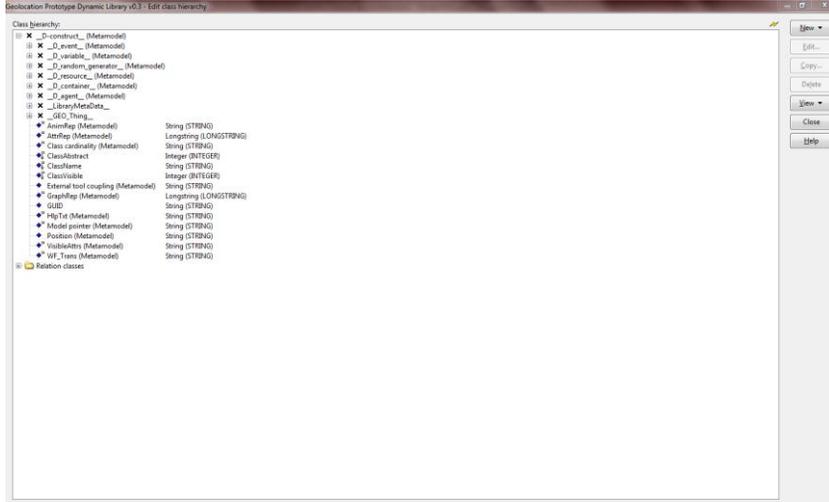
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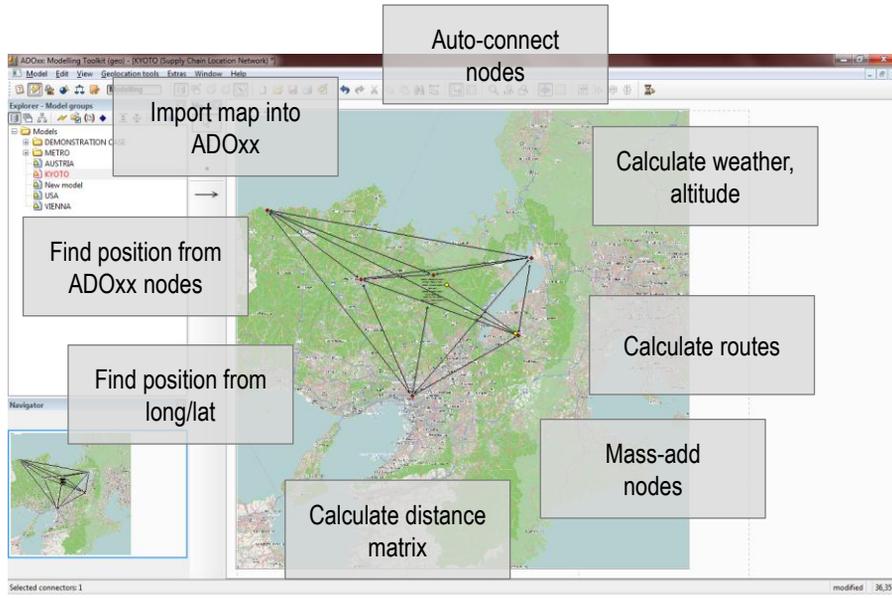
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Definition of Modelling Language on ADOxx

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_sProxyServer +
\"") 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 (replall (sMapLocationJSON, "}],", ""), [{"", ""}, {"", ""}], {"", ""}))
# 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?

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