



Merging data having different LODs

Assignment

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Version

Version 2.0

Date: 2025-04-29

Learning outcomes

At the end of this assignment, the learner is expected to be able to

- Combine 3D geospatial data having different geometry types
- Interpret different Level of Details (LODs)

Expected competences when entering the assignment



- Basic knowledge in 3D Data Sources.
- Basic knowledge in 3D Data Tools and Applications.
- Basic knowledge in QGIS.

Summary

The assignment explains possibilities of combining 3D data with different geometries and level of details (LoD)

Expected Workload

29 slides with assignment learning content, 2 hours

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Revision History:

Revision	Date	Author(s)	Status	Description
0.1	2024-03-11	V. Cetl	Final Draft	Assignment ready for review
1.0	2024-03-24	V. Cetl	Final	Final after revision
2.0	2025-04-29	V. Cetl	Final	Updated EU logo and disclaimer. Edited by T. Näslund

Assignment task

The task of the assignment is to merge data having different LODs.

Preparation

1) Data sources

In this assignment 2 data sources will be used:

1. Cadastral parcels as a WMS service available through the INSPIRE Geoportal
2. 3D city model of Zagreb (part of the city) File name: ZG3D_izvadak.gdb (available under the BIRGIT project in the assignment data folder)

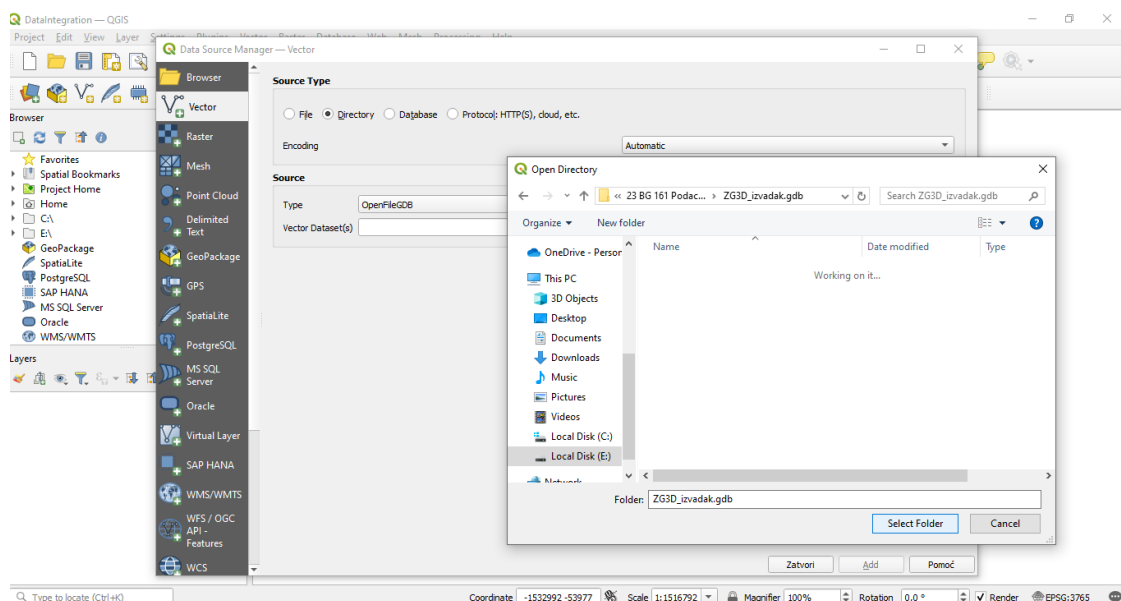
Software

The QGIS software (version 3.28) is used for the exercise. The software together with many learning materials is available here: <https://qgis.org/en/site/>.

Data Import

Before importing data it is necessary to create and save the new project (i.e. DataIntegration.qgz) and to set the CRS to EPSG 3765 – HTRS96/ Croatia TM.

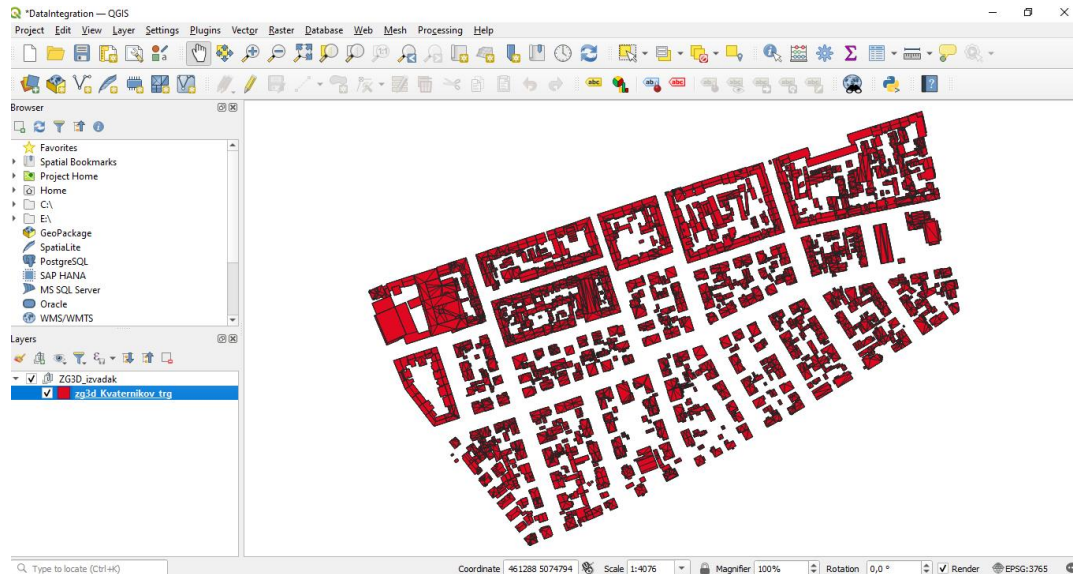
3D city model of Zagreb can be added as a vector layer



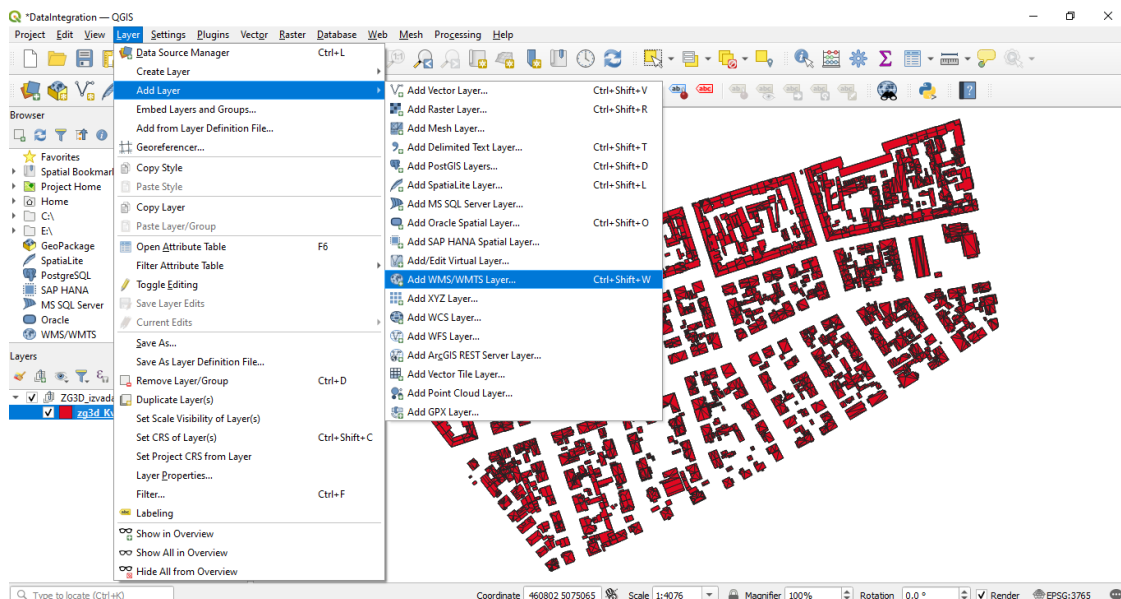
We will use zg3D Tresnjevka which is a part of the Zagreb city.



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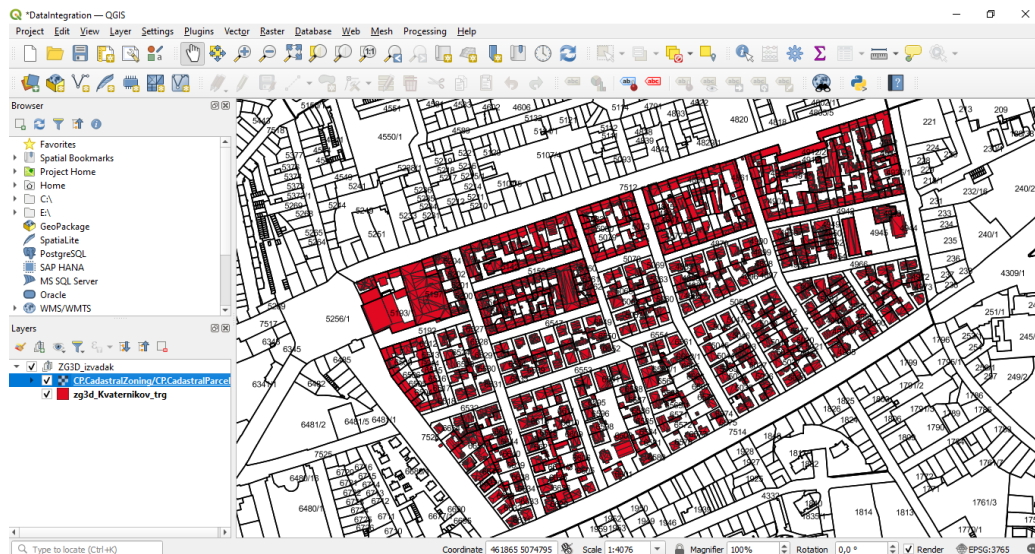
Cadastral data should be added as a WMS Layer (URL: https://api.uredjenazemlja.hr/services/inspire/cp_wms/ows?REQUEST=GetMap&SERVICE=WMS&VERSION=1.3.0&LAYERS=CP.CadastralZoning&FORMAT=image/png&CRS=EPSG:4326&BBOX=1.5646197848183165,2.302144192592216,2.607699641363861,3.836906987653693&HEIGHT=256&WIDTH=256&STYLES=)



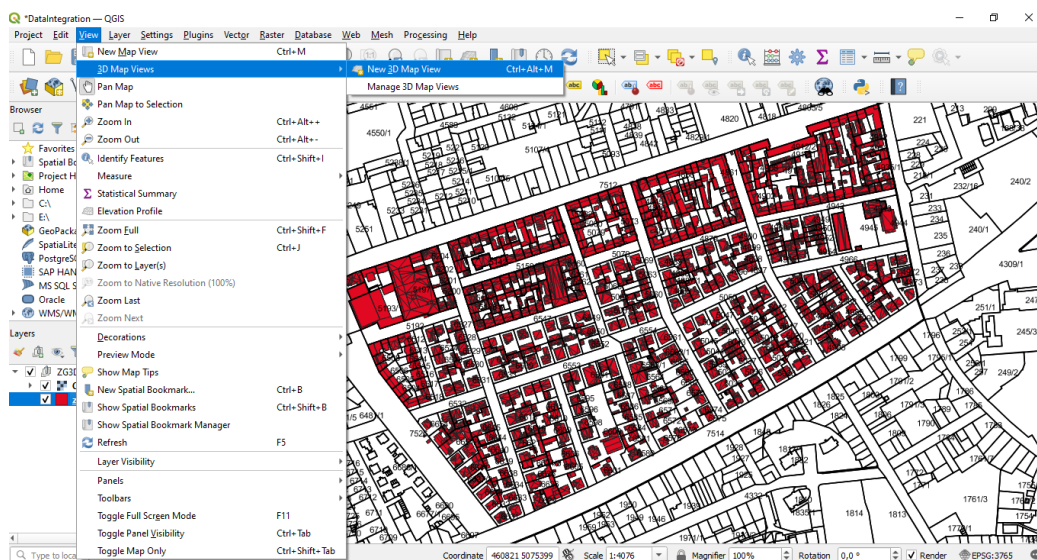
The WMS layer to be added is: katastarske čestice. The result is combination of 2 datasets where cadastral parcels represent 2D geometry with LOD0, while buildings is 3D geometry with LOD1.



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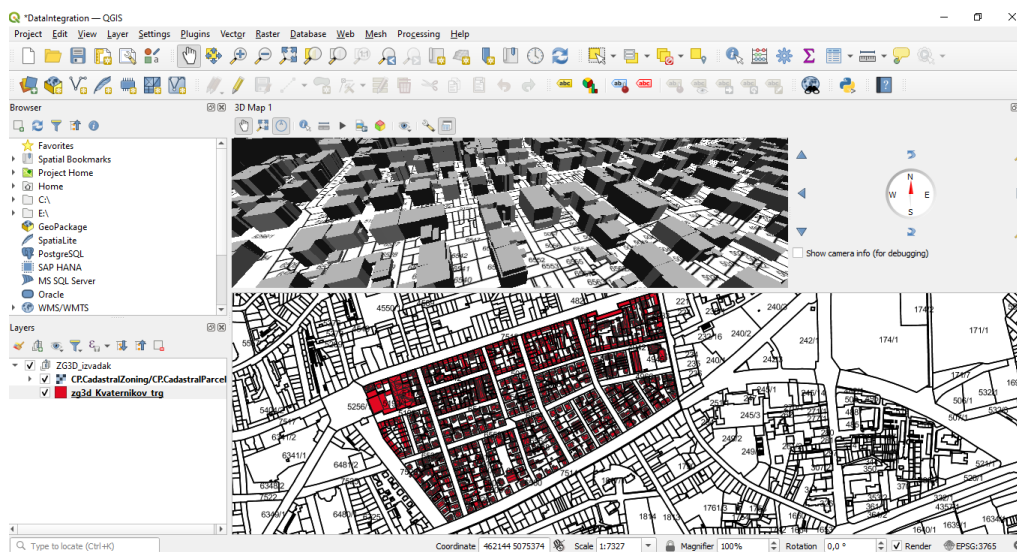
In order to view 3D data it is necessary to set up new 3D data view



The result is



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The result is a combination of LOD0 (cadastral parcels) with LOD 1 (Zagreb 3D model).