Voxel Terrain (Processed)

A **Voxel Terrain** entity represents a fully volumetric terrain surface. Unlike mesh-based terrain, this format captures both surface continuity and sub-surface volume, making it ideal for detailed rendering and volumetric analysis—such as detecting changes in terrain over time.

Voxel Terrain entities can be generated from **point clouds** and **heightmaps**, and they may also include **associated Ortho-Imagery**, whether supplied by the user or auto-generated during import.

Generate continuous voxel-based terrain models from point clouds or heightmaps. Supports integration with ortho-imagery and computed normals.
→ *Ideal for topographic visualization and volume change detection.*

Creating a Voxel Terrain

1. Navigate to your project's **Catalog** section.
2. Click **"Add Object"** and select **"Voxel Terrain"** from the menu.

image.png

3. Fill in the configuration fields:

Field	Description
Item Name	A descriptive name for the new terrain entity.
Source	Select one or more **Point Cloud** or **Heightmap** entities to be used as the base for the terrain.
Include *(Point Cloud only)*	Choose which point classifications to include in the terrain model. By default, all points are used.
Ortho-Imagery	Select one or more **Ortho-Imagery** entities to be draped over the terrain. These can be aerial photos or computed textures.
Detail Recovery – Use Point Cloud Colors	If selected, the system will use RGB values from point clouds (if available) to generate an Ortho-Imagery set automatically.
Detail Recovery – Generate Terrain Normals	Requests the system to generate a high-frequency elevation detail set in the form of a **normal map**, enhancing terrain realism.

Finalizing and Viewing

- Click **“Create”** to start the voxelization and processing workflow.
- Progress can be monitored in the project’s **“Pending”** section.

Once processing is complete:

- Click **“View”** next to the Voxel Terrain entity in the **Catalog** to open it directly.
- Alternatively, create a **View** entity and set the Voxel Terrain as its source to include it in a broader visualization.

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