

## How to add SObjects with the scripts

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- 1) Create the list of SObjects
- 2) Run “add\_subjects”
- 3) Insert the list of Objects and SObjects in the Venue.xml

### 1. Create the list of SObjects

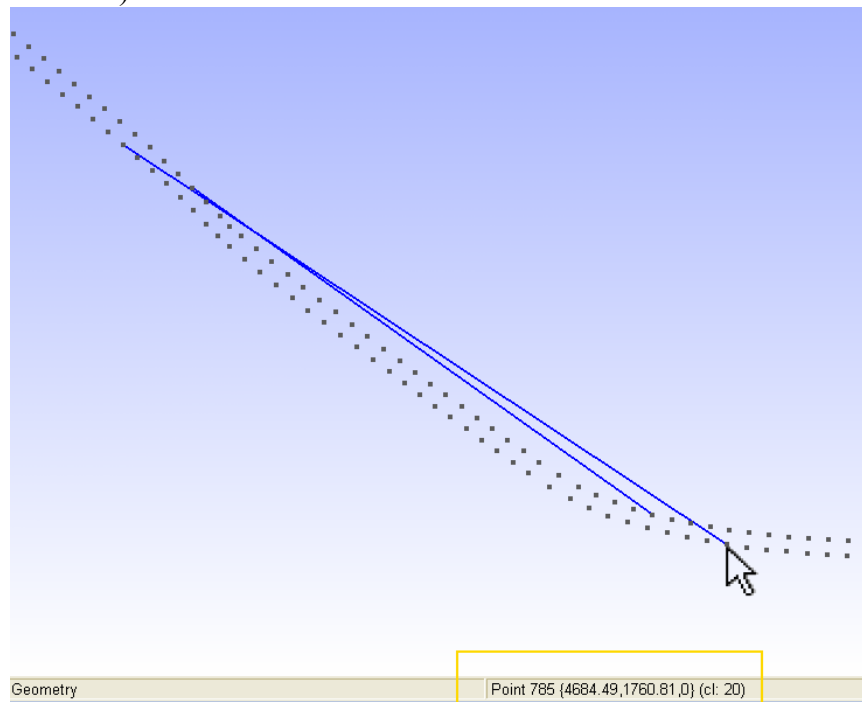
Create a text file called **subjects.txt** inside **s7\_walls\_b** with the following format:

Type	Start-point	End-Point	Start-width	End-Width
------	-------------	-----------	-------------	-----------

L	1466,	1493,	5.5,	5.5
L	6092,	6108,	5.5,	5.5
L	1538,	1556,	5.5,	5.5
S	1589,	1615,	4.5,	4.5
S	6302,	6789,	4.5,	4
L	1880,	1889,	4.5,	4.5

Type must be “L” or “S”. If **L** is used, file **inicio\_subject\_L.txt** will be used for the SObject. If **S** is used, file **inicio\_subject\_S.txt** will be used for the SObject.

Start point and end point are point numbers for starting and end position of the SObject. To get them, make a copy of s1\_mesh\salida\anchors\_carretera.geo, and delete all but the starting list of points (until the first Line is found). Then open the file with gmsh and moving the mouse on the points will tell you the point number on the status bar (bottom side of the window)



Maybe you could find it easier to create with gmsh Lines for L-type SObjects and 2-point Splines for S-type SObjects, selecting the start and finish points for them. Lines

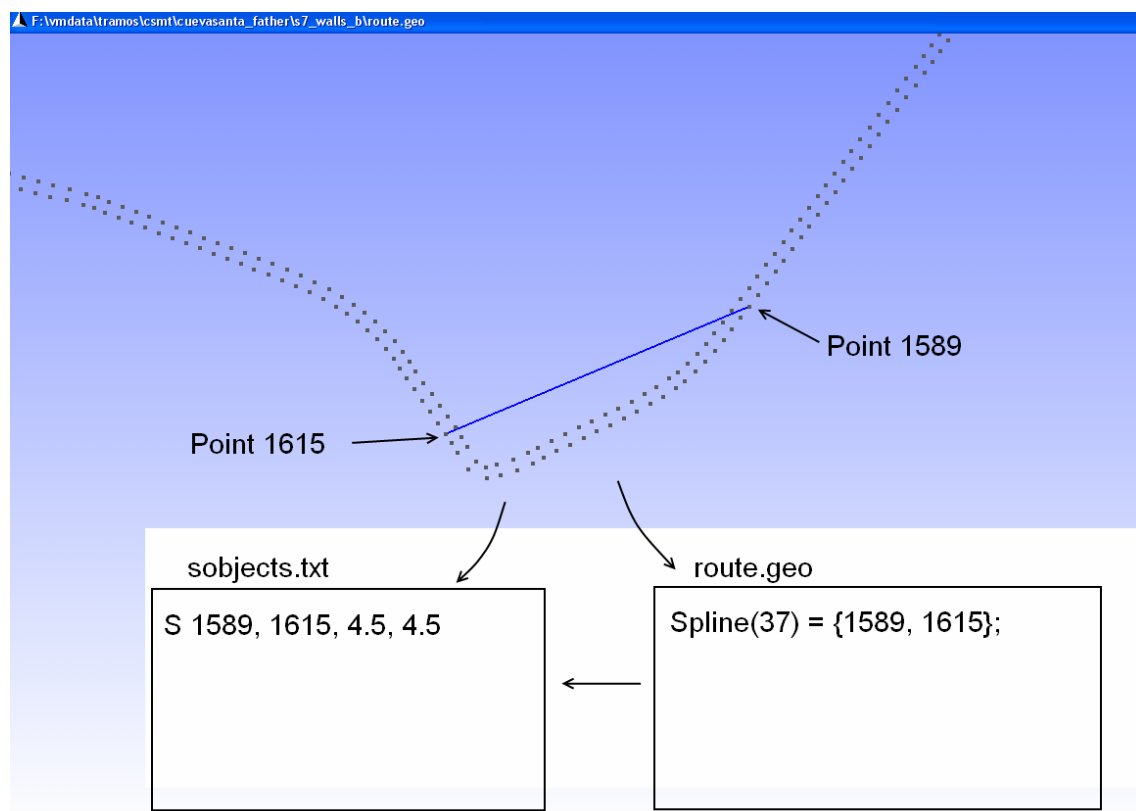
and Splines would then be recorded at the end of the .geo file and then you only have to process a little that file to create the subjects.txt.

For example, the .geo file could have the following contents and we then would have to change it to have the subjects.txt format presented above.

```
Line(34) = {1466, 1493}  
Line(35) = {6092, 6108}  
Line(36) = {1538, 1556}  
Spline(37) = {1589, 1615}  
Spline(38) = {6302, 6789}  
Line(39) = {1880, 1889}
```

But this is only a trick to record easily the start and end points of the SObjects. You can write them directly to subjects.txt from gmsh screen info.

Finally, the widths you must write inside the subjects.txt are the “width of the road” at the start and at the end of the subject, so if for example you use **5, 5** and you have SObjects on both sides of the road, they will be 5m apart from each other. If the road where the SObject starts is 5m width but at the end of the SObject it is only 4.5m, then you must add **5, 4.5** at the end of that line.



## 2. Run add\_subjects

```
> cd s7_walls_b  
> add_subjects(20)
```

Where the parameter is the maximum number of points used for each individual SObject (i.e if you use start and end points 1,95 for a SObject and 20 for this parameter, 5 SObjects will be created)

Two files are created: salida\subjects\_L.txt and salida\subjects\_S.txt, with the list of objects. On screen you can see **the total amount of SObjects: write it down**, because you need it for the next step.

## 3. Insert the list of Objects and SObjects in the Venue.xml

BTB needs 2 changes to import the generated list of SObjects: first, the Objects that compose the SObjects must be listed. For example, the list of Objects could be changed this way to add the 4 objects used (*pretil*, *central32*, *inicio* and *final* that belong to XPack guarda):

```
<ObjectGroups>  
  <ObjectGroup Visible="True" Selected="False">  
    <Name>default</Name>  
  </ObjectGroup>  
</ObjectGroups>  
<Objects>  
  <Object>  
    <Name>pretil</Name>  
    <Path>guarda\Objects\pretil</Path>  
    <Instances />  
  </Object>  
  <Object>  
    <Name>central32</Name>  
    <Path>guarda\Objects\central32</Path>  
    <Instances />  
  </Object>  
  <Object>  
    <Name>inicio</Name>  
    <Path>guarda\Objects\inicio</Path>  
    <Instances />  
  </Object>  
  <Object>  
    <Name>final</Name>  
    <Path>guarda\Objects\final</Path>  
    <Instances />  
  </Object>  
</Objects>
```

(you can find the above code in file s7\_walls\_b\list\_objects.txt)

Then, if for example we have 122 SObjects, we would change the Venue.xml code this way:

```
<SObjects count="122">
```

[insert here the contents of salida\sobjets\_L.txt]

[insert here the contents of salida\sobjets\_S.txt]

</SObjects>

**NOTE:** **inicio\_subject\_L.txt**, **inicio\_subject\_S.txt** and list\_objects.txt are just examples. You should change them to fit your needs. It is really easy because the code needed is exactly the same you will find inside the XPack of the SObject you want to use (unzip it and look for the xml files inside SObjects folder). Nevertheless if you want to use “guarda” XPack (the one I am using) for quick testing, ask for it and I will give you a link.

### ***Example files***

**s7\_walls\_b** folder with the files I used to add SObjects to my project

[http://www.mediafire.com/file/mhyqigyqyya/s7\\_walls\\_b\\_cuevasanta.7z](http://www.mediafire.com/file/mhyqigyqyya/s7_walls_b_cuevasanta.7z)

The rest of the files for the project can be downloaded from

[http://www.mediafire.com/file/ymjzwft4qz5/example\\_multitrack.7z](http://www.mediafire.com/file/ymjzwft4qz5/example_multitrack.7z)

or from <http://www.mediafire.com/file/dnyzwygy4zz5/csmnt.7z> in a more advanced state (this one can't be opened directly with BTB because a few changes need to be done to the Venue.xml to use the background images. More info can be read here: <http://btbtracks-rbr.foroactivo.com/tutoriales-f31/satellite-mapping-within-btb-t454-30.htm#2460>)