

Create your custom Maps into Meridian Editor using-free graphics editors

Note: In this post we are guide you to a process to upload your own custom maps, but we highly recommend you work close with meridian specialized team for PoC in order to guaranteed and appropriate and professional map at maps@meridianapps.com

During our internal demos or small demos to customers we need to upload our custom maps for a specific location into Meridian Accounts in order to catch the customer attention or engage it with our solutions. For that reason in this post we will to share a way to upload functional, custom maps into the Meridian Editor.

Step 1 - What will we need?

To start with is important to clarify that Meridian already support maps [uploading](#) functionality, and we highly recommend working close with Meridian team (hpe-aruba-meridian-poc@hpe.com) because upload a valid file into the editor could be a little tricky and will be necessary some additional concerns.

We will need the following:

- The floor map
- An PC with an image editor

Step 2 - Understanding map format basics

Meridian Maps are created in SVG format and contain all the elements in group named Layers.

According with the map layer styling [guide](#) Layers types are organized by group ID's each of one have an defined style, these are the valid group Ids:

Base Layers

The base layers are opaque with a fill and have no shadow. They will display regardless of zoom level. Base layer IDs are **floor** or anything with the **base_** prefix.

Accent Layers

The accent layers are opaque with a fill. They will display regardless of zoom level. Accent layer IDs are **concessions** or anything with the **accent_** prefix.

Outline Layers

The outline layers are strokes without fill. They will display regardless of zoom level. Outline layer IDs are **exterior-walls** or anything with the **outline_** prefix.

Secondary Accent Layers

The secondary accent layers are fill without strokes. They will display regardless of zoom level. The secondary accent layers are:

- **concrete**
- **grass**
- **inaccessible**
- **moving-walkways**
- **restrooms**
- **rock**

- roof
- roof2
- stairs-elevators
- streets
- walkways
- water

Any ID with the `secondaryaccent_` prefix

Secondary Outline Layers

The secondary outline layers are strokes without fill. They will only display at higher zoom levels. Secondary outline layers are `interior-walls` or anything with the `secondaryoutline_` prefix.

As well as there are valid groups Meridian only supports the following elements:

- Circle
- Elipse
- Line
- Polygon
- Polyline
- Rec
- Path

The following images are reference for some layers:

						
Grass	Concret	Streets	Roof	Exterior- Walls	Restrooms	<code>secondaryaccent_Custom</code>

The editor will validate if the format is either valid or invalid according with the layers you are using, for that, if you not use the correct layers you won't see what you want into the editor

Step 2 - Installing Inkscape and GUI

Now you already know the Theory it's time to create your own maps.

Firstly, you should consider that Meridian supports SVG (Scalable Vector Graphics) format to upload maps, for that reason, you need an image editor that supports that format to create your own maps.

There are many software providers that offers their solutions as paid as free that support this format (the Meridian team recommends Illustrator® that is a paid suite from Adobe). In this post we will use Inkscape because it is a free tool, and has all the features and functionalities we need.

To download Inkscape you have to go to Inkscape's official site <https://inkscape.org/en/release/0.92.3/>, select Download option and choose the operative system of your computer, after download the software run the installation wizard and follow the instruction in the window.



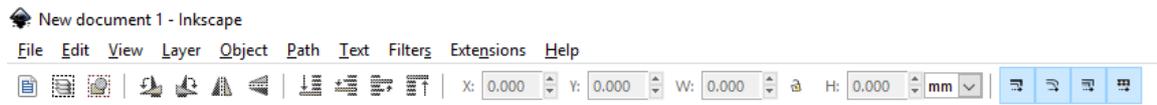
Once you have installed the program, go to the application desktop on your Desktop and open Inkscape



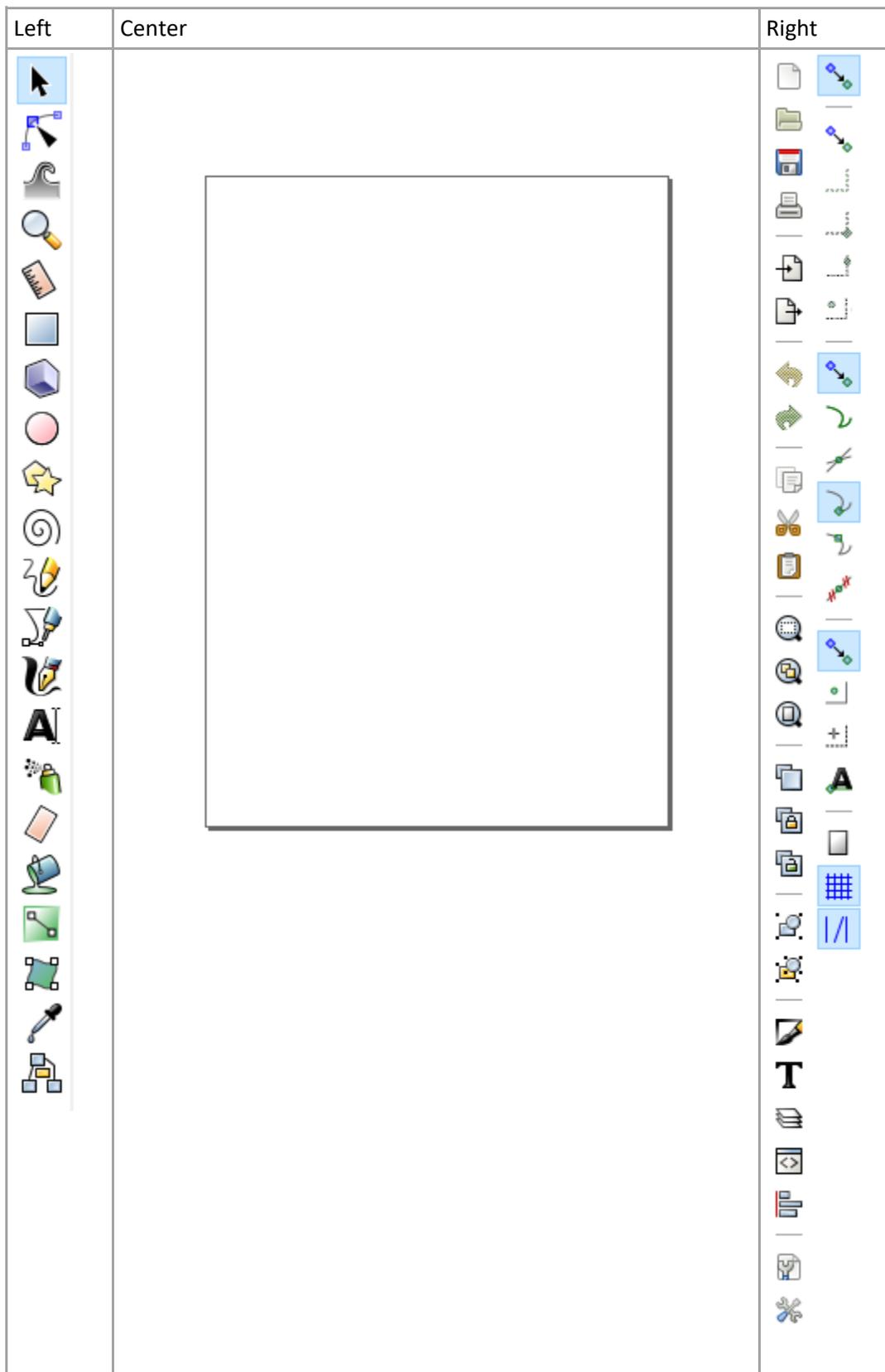
When you open Inkscape a new document is created,

Unless you can configure the Inkscape GUI the basic configuration is organized in the above way

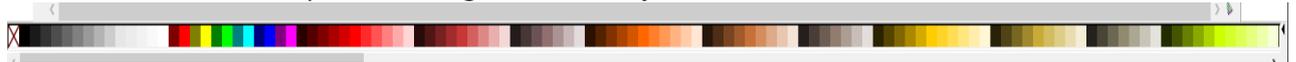
At the Top of the file you can find a menu with features



At the middle you can find icons set with tools to create your own map and the work space



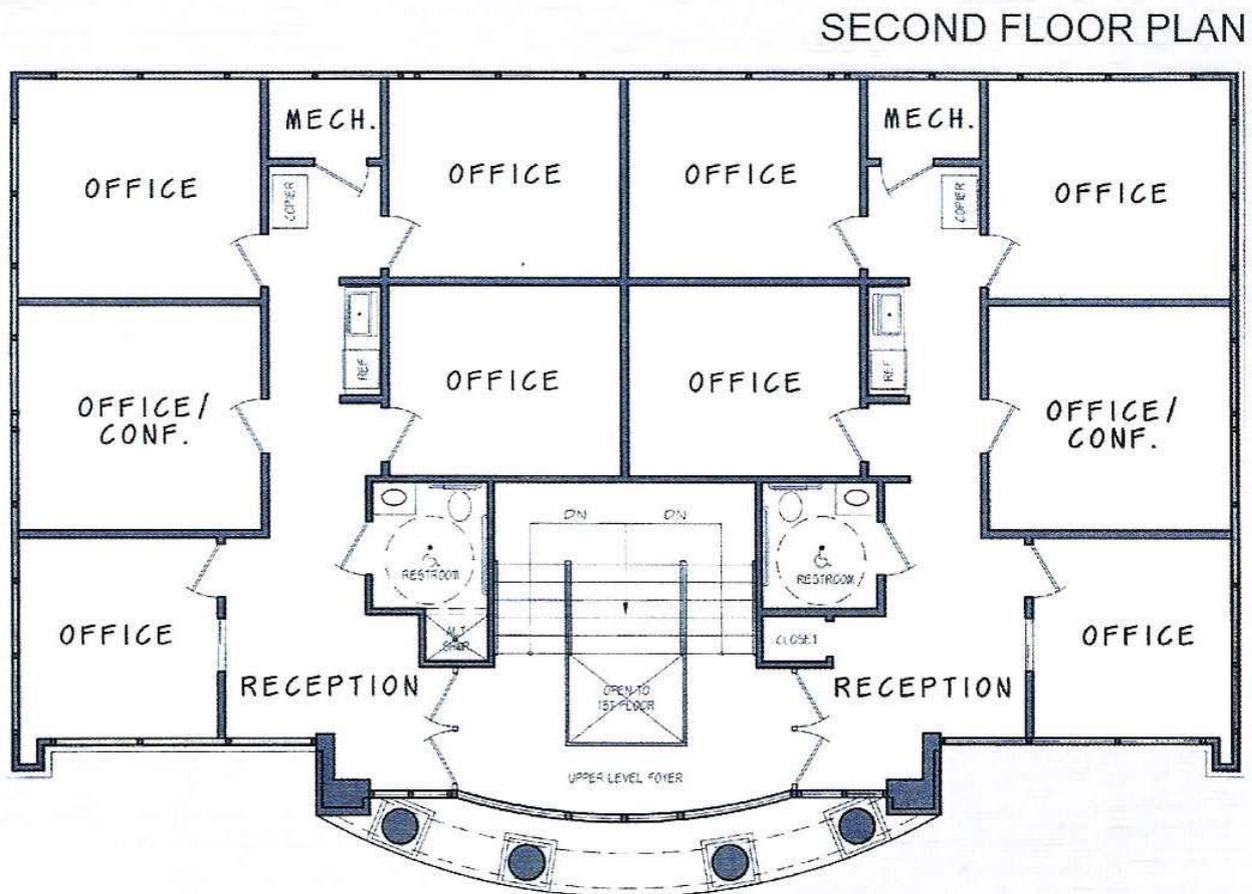
And at bottom there is a pane to change the color objects



You can know more about Inkscape basic features in the [Inkscape tutorial: Basic](#)

Step 3 - Hands on. Let's create a map

First you will need a map to recreate it in the editor. For this tutorial we will use the following map simulating that is the floor plan for a customer demo.



To start with you should know in which scale you are going to work with your map in order it maintains the shape and will be displayed correctly in the editor.

- **Change size:** You can change the workspace height and width in the following route: File -> Document Properties (Also using Shift + Ctrl + D combining keys) and in custom size fields update the values for what you want.
This will increased or reduce the size of your work space.

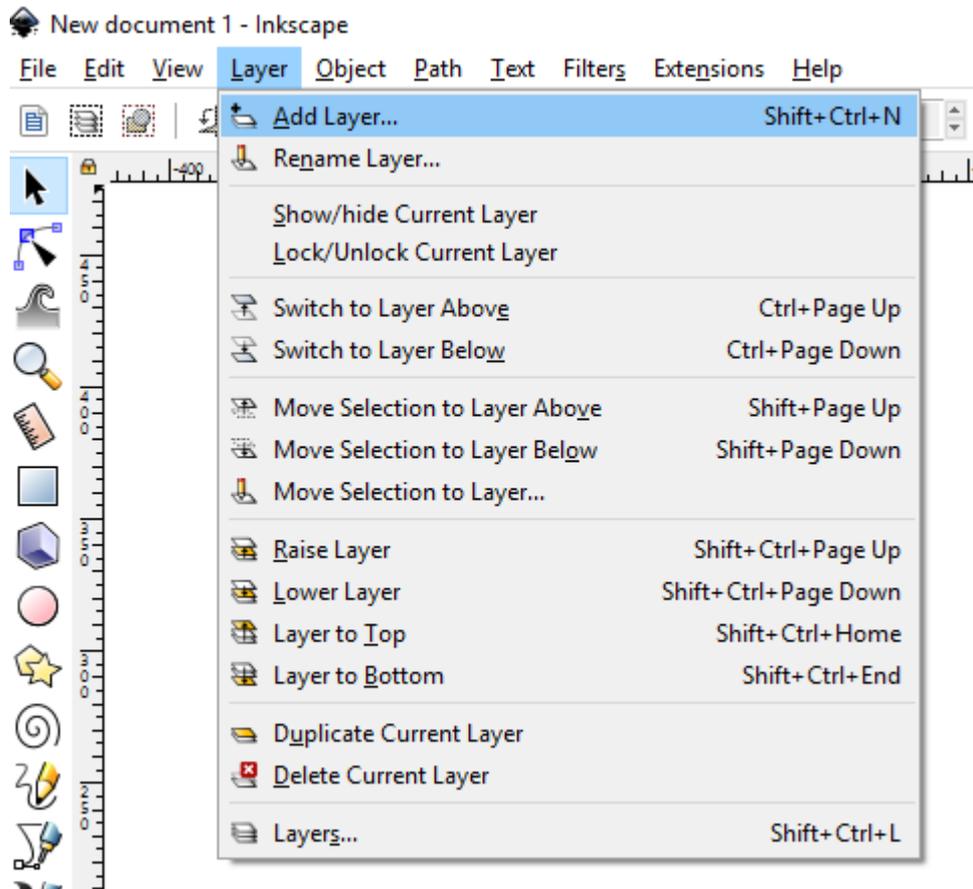
Custom size

Width:	<input type="text" value="210.00000"/>	Units:	<input type="text" value="mm"/>
Height:	<input type="text" value="297.00000"/>		

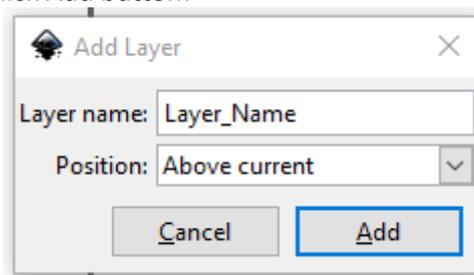
Resize page to content...

To continue we are going to create a layer named **Base**

Creating a new Layer: To create a new Layer go to Layer option on tab menu bar and Select Add Layer (or press Shift +Ctrl+N)



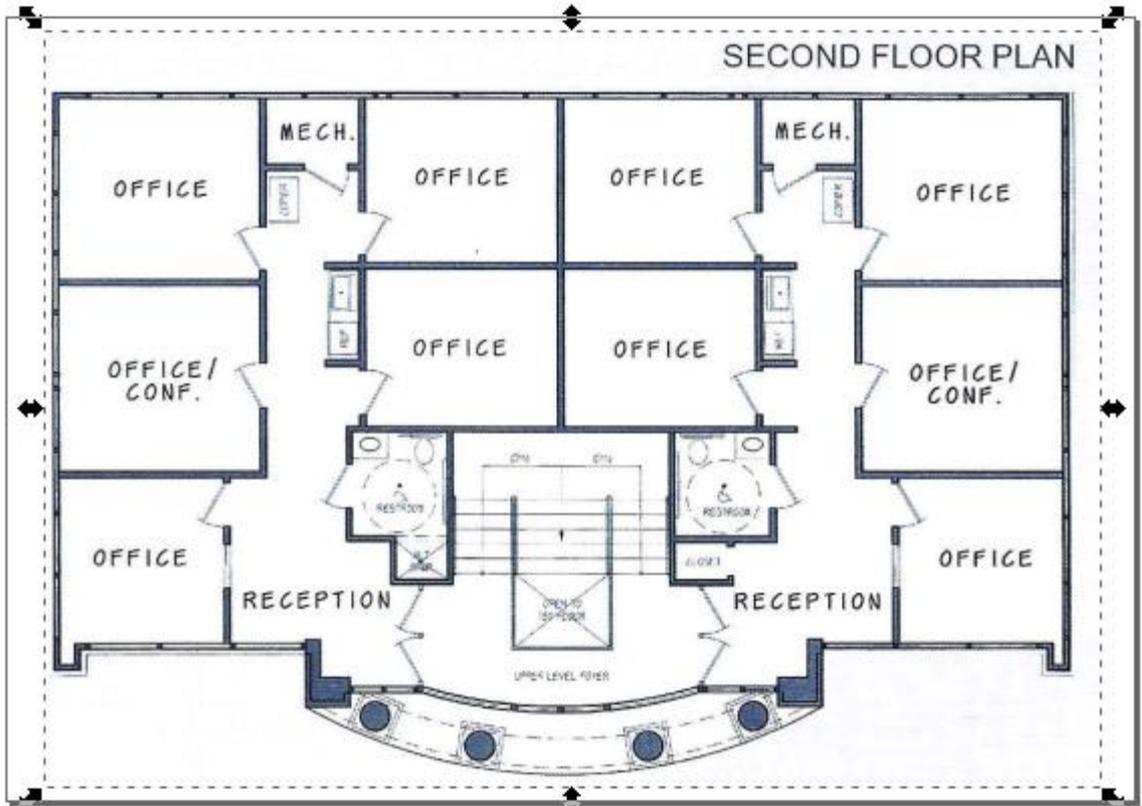
Select a Layer_Name and click Add button



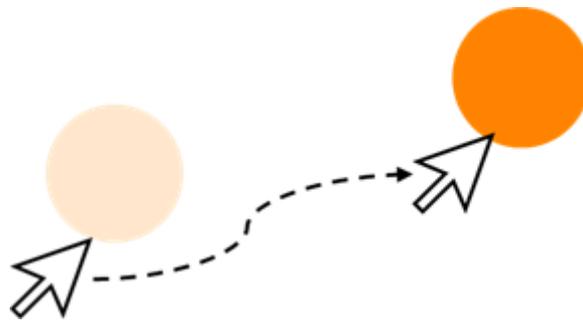
With Layer created, paste the image Map into the work space, and it is now an object in our file



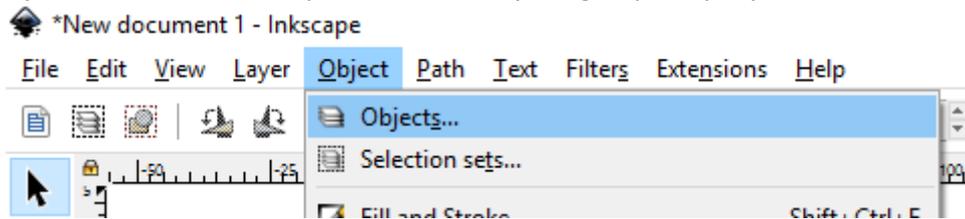
- **Resizing and Moving objects:** If you click an object (or a group of them) you can modify his size clicking on arrows in each corner or edge to increase or reduce it. Also if you press Ctrl key while you select an arrow it will be modified proportionally in all directions and not change the original proportions.



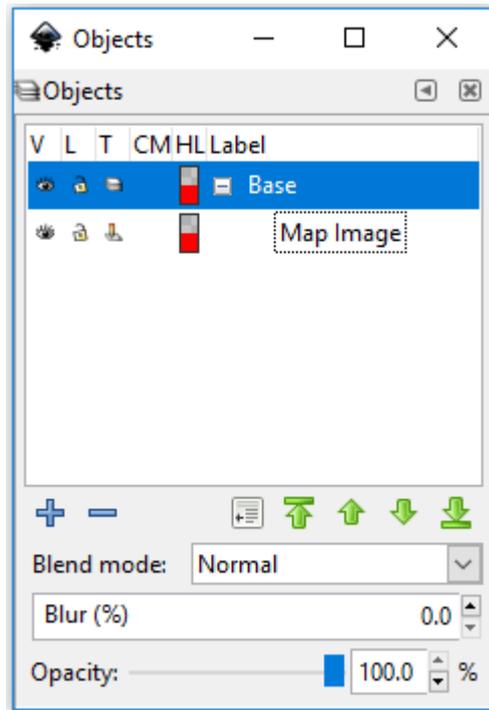
Also if you need to move the object you can select it and move it into the direction you want with the cursor



- **See Objects in your file:** You can see all Objects in your file by clicking in Objects options, and select Objects..., this will show a panel with the objects grouped by Layers



This is an example with one object and one Layer

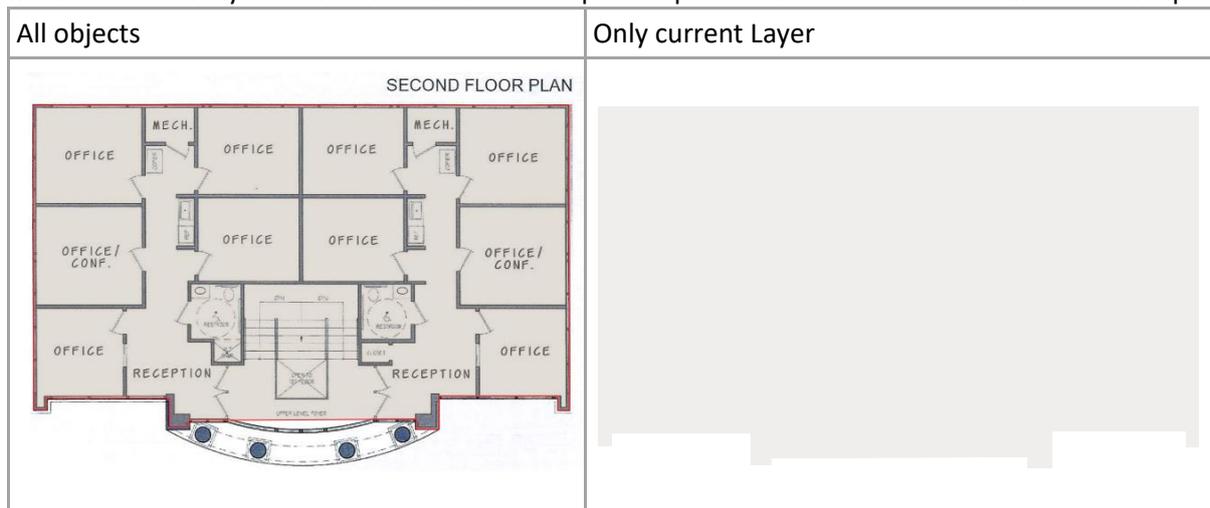


If you click the eye in the left of the object you will hide the object and it won't be seen in the editor unless you clicked again, if you click the eye in the left of the layer you will hide all elements in that Layer

With the map image in the editor we will be creating the Layers required and adding the objects to represent the map.

Note: You can choose the colors you want because they will be replaced in the editor. You can see the colors used by the editor in this [page](#)

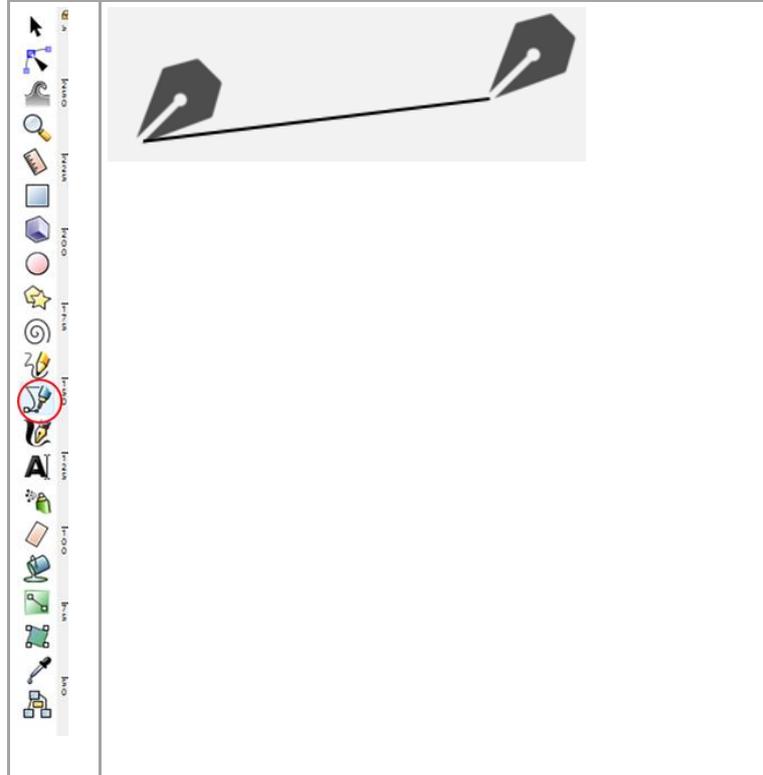
floor Add a new layer named floor and create a path of points that describes all outline of the map



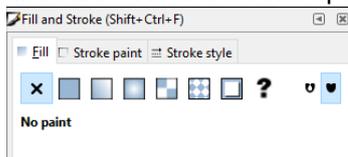
Be careful that you are in the layer for the object you are drawing



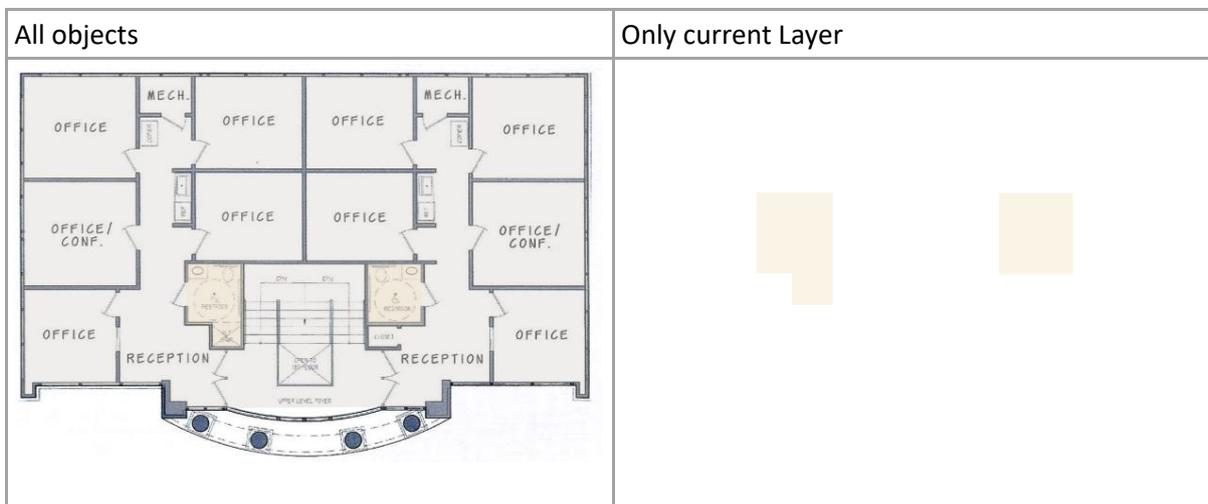
- **Create object from path:** Select Draw bezier curves and straight lines tool, and click



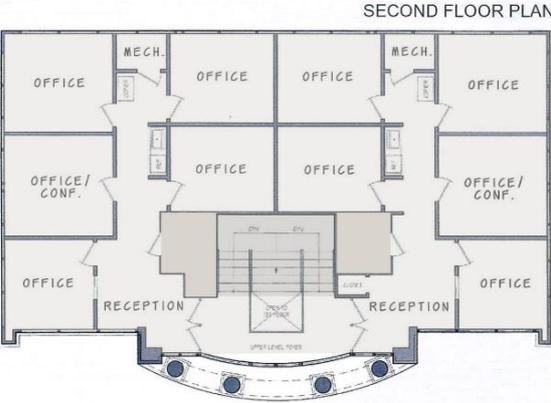
And you can change properties with fill and stroke pane (To access to this panel go to Object and select Fill and Stroke option, you can also use Shift+Ctrl+F combination keys)



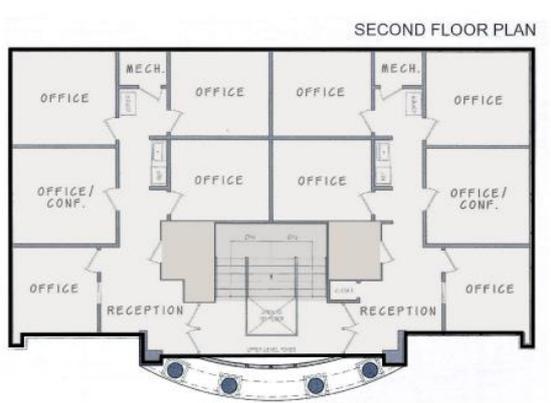
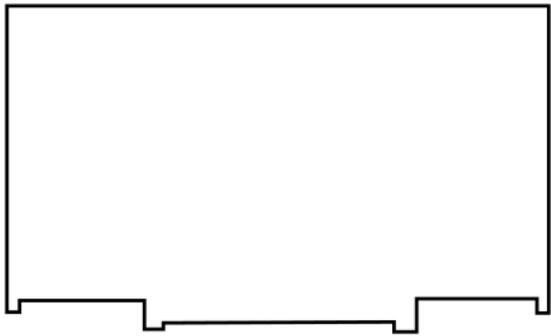
restrooms



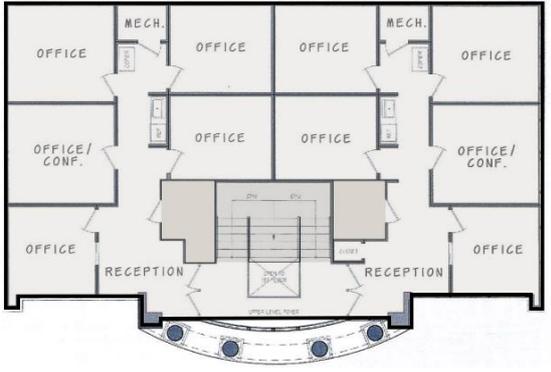
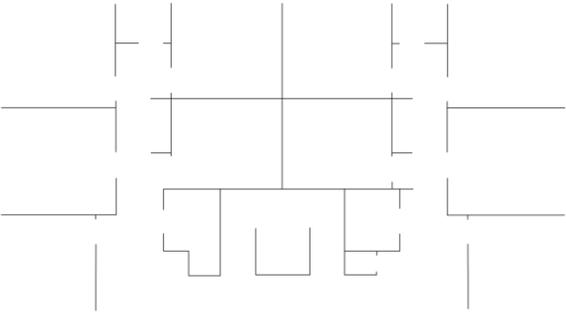
stairs-elevators

All objects	Only current Layer
 <p>SECOND FLOOR PLAN</p> <p>The floor plan shows a central staircase and two elevators. The layout includes several offices, two reception areas, and two office/conference rooms. Mechanical rooms (MECH.) are also indicated.</p>	

exterior-walls

All objects	Only current Layer
 <p>SECOND FLOOR PLAN</p> <p>The floor plan shows the perimeter of the building, including the curved front entrance area. Rooms include offices, reception, and conference rooms.</p>	

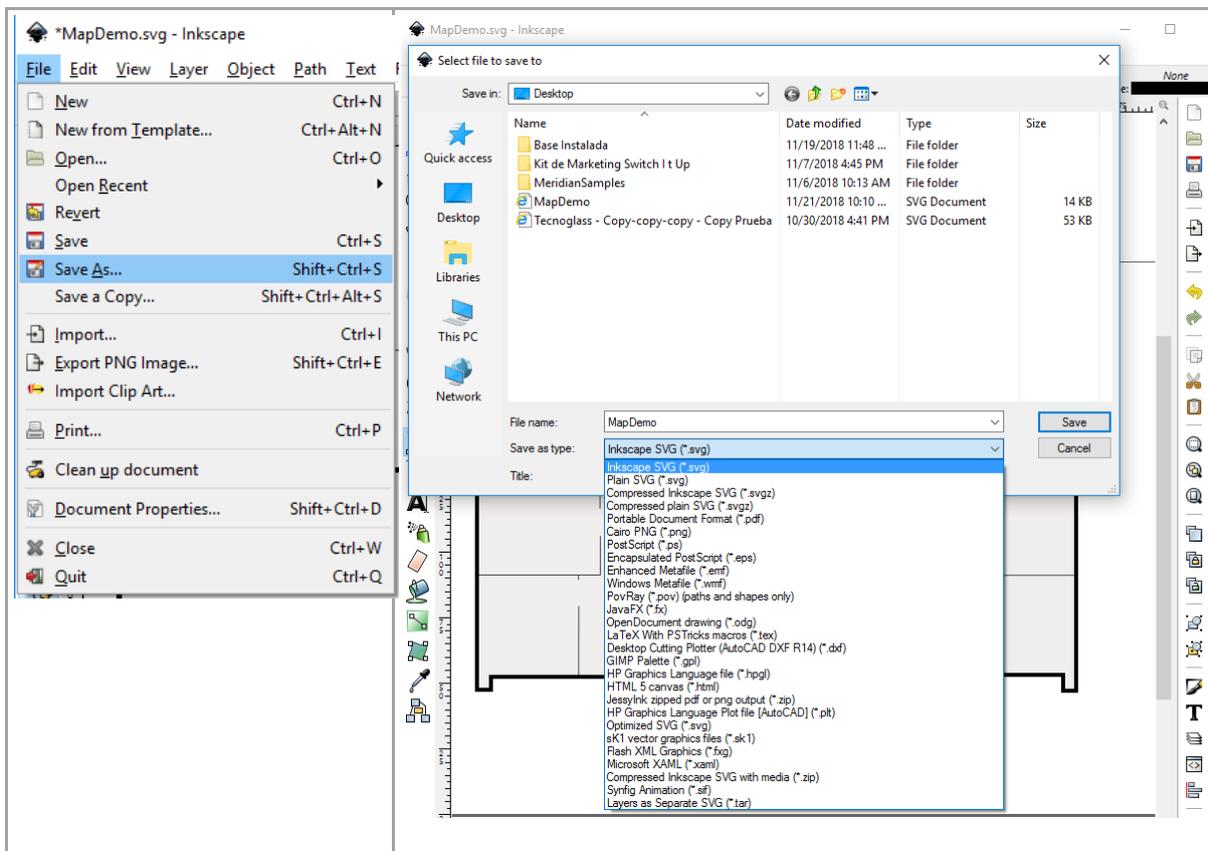
interior-walls

All objects	Only current Layer
 <p>SECOND FLOOR PLAN</p> <p>The floor plan shows the internal layout of the building, including all room boundaries and corridors. Rooms include offices, reception, and conference rooms.</p>	

When you finished all Layers you want, erase the object that contain the map image and you will see the map:



Now save the file in a location as Inkscape SVG. And we have completed the map.



Step 4 - Parsing the file to be Readable by Meridian

Unfortunately Inkscape Layer ID are not set by the name, therefore if you will upload the file (at this moment) to Meridian Editor you will receive an error message that the file has groups not supported.

To overcome this, you only need to change the id in each Layer for the correct name. You can do it manually using the file with a text editor

The following image is an example of how a Layer is represented in a text editor, as you can see the name you defined before is assigned to inkscape:label tag and not in the id, so you can copy the value into the id

As Is

```
<g
  inkscape:groupmode="layer"
  id="layer3"
  inkscape:label="restrooms"
  style="display:inline">
  <path
    style="fill:#d9d5ce;fill-opacity:1;stroke:none;stroke-width:0.26458332px;stroke-linecap:butt;stroke-linejoin:miter;stroke-opacity:1"
    d="m 173.19065,108.70485 h 22.18337 v 24.9897 h -22.18337 z"
    id="path4899"
    inkscape:connector-curvature="0" />
  <path
    style="fill:#d9d5ce;fill-opacity:1;stroke:none;stroke-width:0.26458332px;stroke-linecap:butt;stroke-linejoin:miter;stroke-opacity:1"
    d="m 123.47852,108.70485 h -22.71791 v 24.9897 h 10.02261 v 9.88898 h 12.6953 z"
    id="path4901"
    inkscape:connector-curvature="0" />
</g>
```

To Be

```
<g
  inkscape:groupmode="layer"
  inkscape:label="restrooms"
  id="restrooms"
  style="display:inline">
  <path
    style="fill:#d9d5ce;fill-opacity:1;stroke:none;stroke-width:0.26458332px;stroke-linecap:butt;stroke-linejoin:miter;stroke-opacity:1"
    d="m 173.19065,108.70485 h 22.18337 v 24.9897 h -22.18337 z"
    id="path4899"
    inkscape:connector-curvature="0" />
  <path
    style="fill:#d9d5ce;fill-opacity:1;stroke:none;stroke-width:0.26458332px;stroke-linecap:butt;stroke-linejoin:miter;stroke-opacity:1"
    d="m 123.47852,108.70485 h -22.71791 v 24.9897 h 10.02261 v 9.88898 h 12.6953 z"
    id="path4901"
    inkscape:connector-curvature="0" />
</g>
```

Maybe you noticed that you have to do this for each of the Layers you created, so we are proposing you an Python Script that you only have to execute it with the location and file name and it will create a copy of your file with the correct syntax to be processed by the Meridian Editor

Script in Python	File.py
<pre>file_direction="C:/Director1/Director2" file_name="FileName" with open(file_direction+file_name+".svg", 'r') as rf: with open(file_direction+file_name+"- copy.svg", 'w') as wf: group=False for line in rf: if "<g" in line: group=True list=[] if group==True:</pre>	

<pre> if"inkscape:label"inline: s=line.find("=") t=line.find("'",s+2) id=line[s+1:t+1)+"\n" if">"inline: group=False list.append("id="+id) foriinlist: wf.write(i) else: list.append(line) elif">"inline: group=False list.append("id="+id) foriinlist: wf.write(i) else: if"id"inline: pass else: list.append(line) ifgroup==False: wf.write(line) </pre>	
<p>Note: When using the script, add the name of the file without the file extension.</p>	<p>Note: You will need to download and install Python 3 to run this script</p>

Step 5 - Time to upload the Map

To upload the map file its necessary a valid and active Meridian account, so please Log in into your account and location where you want to upload the map.

The screenshot shows the Aruba Meridian dashboard for 'SE Locations'. The left sidebar contains navigation options: Dashboard, Featured, Pages, Events, Feeds, Theme, Floors, Categories, Languages, Reports, Beacons, Campaigns, Tags, Settings, and Permissions. The main content area is divided into four panels:

- Beacons:** Three status items: 'You haven't deployed any Beacons to your location.' (red X), 'You've configured your Aruba network for Beacons Management.' (green check), and 'Your Aruba network has stopped reporting updates to the Editor.' (red X).
- Floors:** Two status items: 'You've set GPS coordinates for all of your floors.' (green check) and 'All of your floors have a map.' (green check).
- Campaigns:** One status item: 'All of your campaigns have been set up correctly.' (green check).
- Feeds:** One status item: 'You haven't imported any pages, placemarks, or events feeds.' (red X).

At the bottom of the dashboard, there is a footer with copyright information: © Aruba, a Hewlett Packard Enterprise company. | API 3.21.3 WEB 8.74.8 | meridianapps.com | Terms and Conditions | Privacy & Security | Help | Developers

Go to Floors option

Dashboard | Floors | Buildings | Portals | Placemarks

Search for floors... [Filters] [Add +]

Select Add+ Option to create a new map and complete the fields you consider necessary

<p>Floor</p> <p>NAME [Redacted]</p> <p>BUILDING [Redacted] x v</p> <p>IS DEFAULT <input type="checkbox"/></p> <p>FLOOR NUMBER [Redacted]</p> <p>FLOOR LABEL [Redacted]</p> <p>USE GPS <input type="checkbox"/></p> <p>NORTH OFFSET [Redacted]</p>	<p>Map Settings</p> <p>IMAGE (SVG) [DRAG & DROP OR CLICK]</p> <p>WIDTH (METERS) [Redacted]</p> <p>HEIGHT (METERS) [Redacted]</p> <p>ZOOM MAX [Redacted] v</p> <p>ZOOM SCALAR [Redacted]</p> <p>ASSET TRACKING CONTROL TAGS <input type="checkbox"/></p>
--	--

To load the map file click over the IMAGE (SVG) option and select the file in your computer. After validating the file a message will be show

Your SVG has invalid elements. They will be removed when you save the floor.

Invalid group attributes:
 {http://www.inkscape.org/namespaces/inkscape}label, style, transform, {http://www.inkscape.org/namespaces/inkscape}groupmode

Invalid group tags: defs, .net/DTD/sodipodi-0.dtd}namedview, metadata

Invalid element attributes: style, {http://sodipodi.sourceforge.net/DTD/sodipodi-0.dtd}nodetypes, {http://www.inkscape.org/namespaces/inkscape}connector-curvature, id

Invalid group IDs: Base

[Cancel] [Upload]

[Click here for more information](#)

The Meridian editor will delete all information that he could not parse as the metadata added by inkscape, as this data it's not necessary the file will be shown correctly in the editor, so click Upload button to continue.

A Meridian map requires GPS control points to display correctly.

Floor

NAME
Piso1

BUILDING
Apto

IS DEFAULT

FLOOR NUMBER
1

FLOOR LABEL

USE GPS

NORTH OFFSET
0

Map Settings

IMAGE (SVG)

WIDTH (METERS)
10.65

HEIGHT (METERS)
10

ZOOM MAX
Office

ZOOM SCALAR
1

ASSET TRACKING CONTROL TAGS

Map Control Points (Vector Map)

Map Control Points (Reference)

Enter an address above

< Floors
Save

Floor

NAME
NewMap

BUILDING
Mall

Map Settings

IMAGE (SVG)

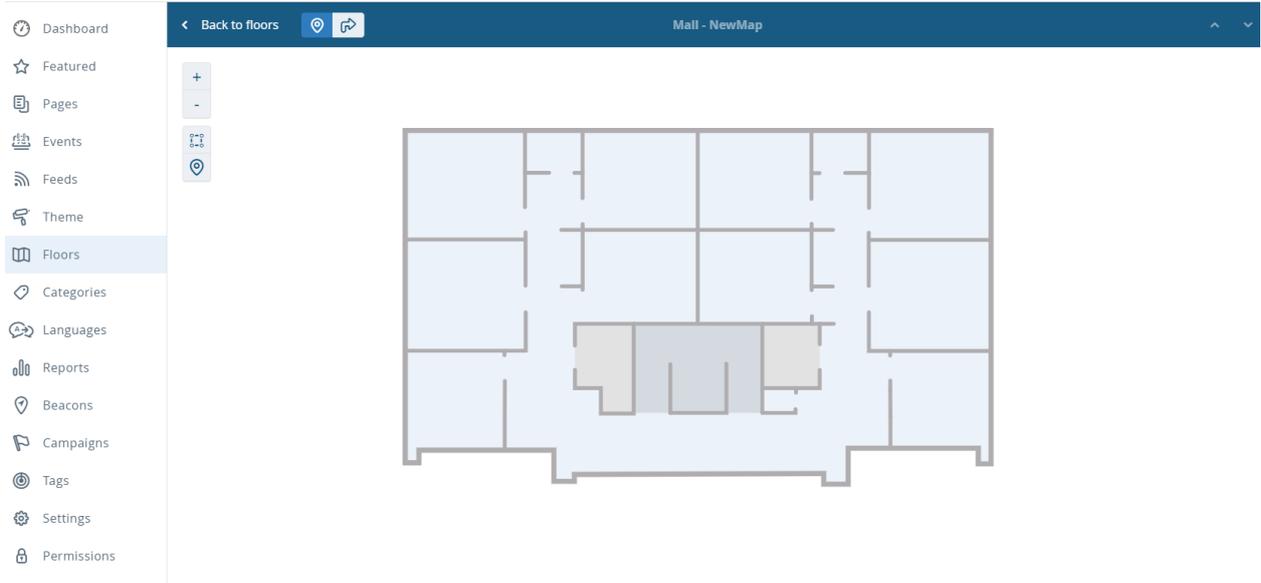
Click Save button, and set the control points to complete the map setting

Map Control Points (Vector Map)

Map Control Points (Reference)

If you go to Floor option again, you will see the map in your map list, and you can already set placemarks or routings

Mall 1 NewMap



Congratulations you have creating and uploading your new map!!!

Note: when you are uploading your maps be sure you have no Invalid groups Ids listed. For example if you named the Layers with capital letters this will cause an error when the editor will parse the file

