



**Andhra Pradesh State Skill  
Development Corporation**



# **ARCHITECTURAL MODELING USING REVIT**

**TYPES OF ROOFS  
&  
CREATION OF ROOF**

## **CREATION OF ROOF AND EDITING**

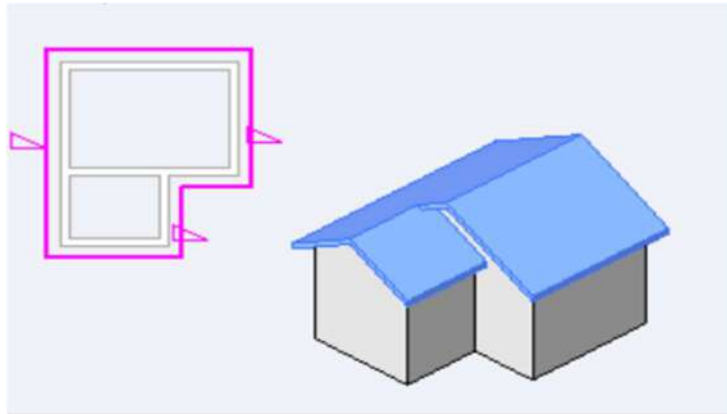
### **ROOF:**

The structure forming the upper covering of a building is known as the roof.



### **CREATION OF ROOF:**

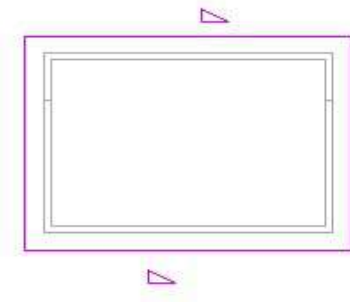
#### **Roof by Footprint:**

Creates a roof using the building footprint to define its boundaries.

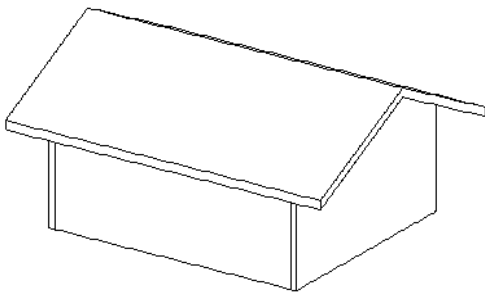


#### **Steps to create roof by footprint:**

1. Display a floor plan view.
2. Then Click Architecture tab ► Build panel ► Roof drop-down ►  (Roof by Footprint).  
**Note:** If you try to add a roof on the lowest level, a dialog prompts you to create the roof on the lowest level, move it to a higher level. If you choose not to move the roof to a different level, Revit notifies you later if the roof is too low, if you choose yes then the roof will create at the level what you had chosen
3. On the Draw panel, select a sketch or pick tool. To edit roof properties (i.e. Thickness, type of roof etc.) before sketching, use the Properties palette. When using Pick Walls, you can specify the overhang in options bar before you sketch the roof. On the Options Bar, select Extend to wall core if you want the overhang to be measured from the core of the wall, and then specify a value for Overhang.
4. Sketch or pick, a closed loop for the roof to be created.
5. Specify slope defining lines. To change the slope definition of a line, select the line and, on the Properties palette, click Defines Roof Slope. You can then change the slope value. When a roof line is set to slope defining, this symbol  appears adjacent to it, if not there is no symbol then it means the roof has no slope there.



6. Click (Finish Edit Mode), and then open a 3D view.



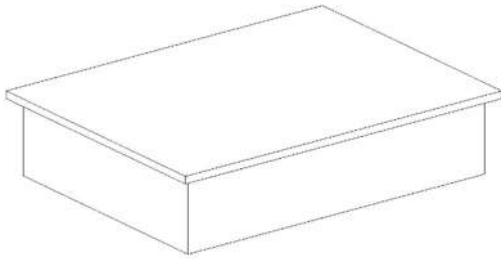
Completed gable roof with overhang

## Creation of flat roof:



If we want to create a flat roof then just uncheck the define slope option in the options bar and create the roof by specifying the boundaries and over hanging as shown below.



Click ✓ (Finish Edit Mode), and then open a 3D view



To Edit the roof sketch

1. Select the roof, and click Modify | Roofs tab ► Mode panel ►  (Edit Footprint) or  (Edit Profile).
2. Make necessary changes. If you want to change the position of the roof, use the Properties palette to edit the Base Level and Offset properties to change the position of the reference plane. If you're warned that the roof geometry cannot move, edit the roof sketch, and check for constraints on the sketch, such as between a level line and a sketch line of the roof.
3. Click ✓ (Finish Edit Mode).

## **VARIOUS TYPES OF ROOFS**

How many types of roofs are available in Revit Software?

They are 6 types

- Roof by footprint
- Roof by extrusion
- Roof by face
- Roof soffit
- Roof fascia
- Roof gutter

In architecture tab roof is available for creating roof in plan

If you want to see various types of roofs in Revit software just drop down the roof component.

### **ROOF BY EXTRUSION:**

Creates a roof by extruding a profile that you sketch.

To create a roof by extrusion, open an elevation view, a 3d view or a section view.

After choosing view ► Architecture tab ► Build panel ► Roof drop-down ► Roof by Extrusion



To specifying work plane

1. go to Architecture tab ➤ work plane panel
2. Choose set work plane option why because specifies the work plane for the current view or a selected work plane-based element
3. After choosing a set work plane dialogue box will come. In that specify a new work plane by clicking a plane option
4. After that in the selected view select any one element suitable for the work plane.
5. go to Roof Reference Level and Offset dialog, select a value for Level. The highest level in the project is selected by default, to raise or lower the roof from the reference level, specify a value for Offset. Revit places a reference plane at the specified offset. Using the reference plane, you can control the position of the extruded roof in relation to a level.

Sketch the profile of the roof as an open loop. While sketching the roof profile, you can use a combination of straight lines and arcs, as well as reference planes.

Click on finish edit mode after completion of sketch path, and then open a 3D view ➤ Extrude a Roof

Before creating extrude Attach walls to the roof, if desired.

### **ROOF BY FACE:**

Roof by Face is used to draw the Roof by picking up the face directly in the place where we want to draw the Roof.

### **ROOF SOFFIT:**

To create a roof soffit in the building mode.

1. To create a roof soffit, open a plan view
2. For creating roof soffit at first

Go to Architecture tab ➤ Build panel ➤ Roof drop-down ➤ Roof Soffit

3. To create a soffit that is associated with walls and roofs, use the pick roof edges and pick walls tools. To create a non-associative soffit, use the lines tool.

4. To create a sloping soffit, use the slope arrow tool

Click Modify /Create Roof Soffit Boundary tab ➤ Draw panel ➤ Pick Roof Edge

This tool creates a locked sketch line. After that highlight the roof, and click to select it.

For that case go to Click Modify /Create Roof Soffit Boundary tab ➤ Draw panel ➤ Pick Walls, highlight the outside faces of the wall beneath the roof, and click to select, Trim the excess sketch lines and close the sketch loop. After completion of that click on finish edit mode to see the soffit better, create a section view through the plan view that shows the wall meeting roof.



## **ROOF FASCIA:**

Use the Fascia tool to add fascia to edges of roofs, soffits, model lines, and other fascia

1. Fascia will work on 3d view only for creating roof fascia

Go to Architecture tab ➤ Build panel ➤ Roof drop-down ➤ Roof Fascia. Highlight edges of roofs, soffits, other fascia, or model lines, and click to place the fascia. Watch the status bar for information about valid references.

2. As you click edges, Revit treats this as one continuous fascia. If the fascia segments meet at corners, they miter.

For selecting Click Modify | Place Fascia tab ➤ Placement panel ➤ Restart Fascia to finish the current fascia and start a different fascia. Move the cursor to a new edge and click to place.

This different fascia does not miter with other existing fascia, even if they meet at the corners.

After completion of these things Click onto white space in the view to finish placing roof fascia.

## **ROOF GUTTER:**

Use the Gutter tool to add gutters to roofs, soffits, model lines, and fascia.

1. Roof gutter also work on 3d view only for creating at first

Go to Architecture tab ➤ Build panel ➤ Roof drop-down ➤ Roof Gutter

2. Highlight horizontal edges of roofs, soffits, fascia's, or model lines, and click to place the gutter. If you see in the status bar for information about valid references.

As you click edges, Revit treats this as one continuous gutter.

3. For that case we are moving to Click Modify | Place Gutter tab ➤ Placement panel ➤ Restart Gutter to finish the current gutter and start a different gutter, Move the cursor to a new edge, and click to place.

4. To finish placing gutters, click on white space in the view.