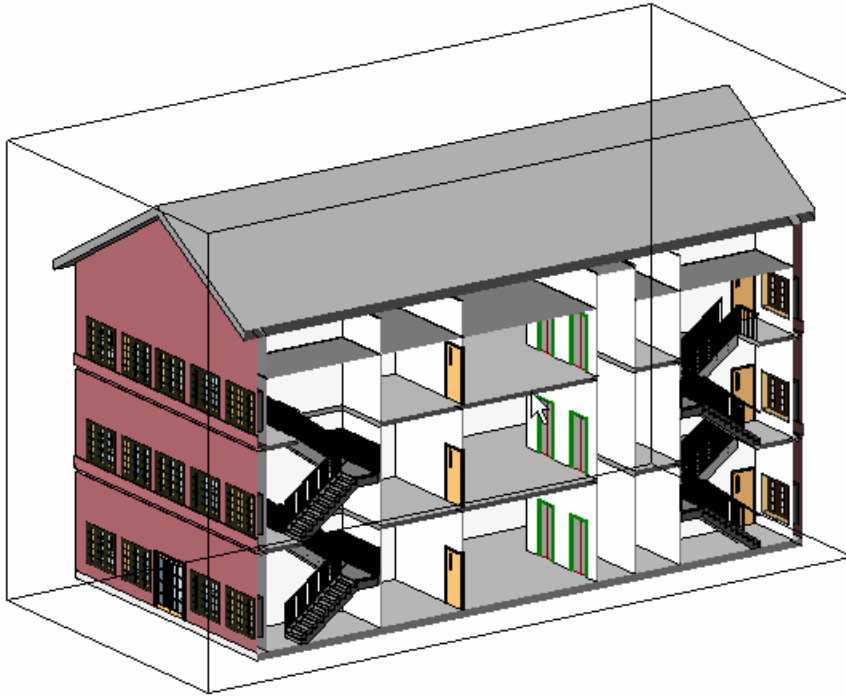


7 - Adding Multi-Level Stairs

In this exercise, you create a set of stairs from Level 1 to Level 2. Rather than repetitively creating the same stairs on each level and in each stairwell, you modify the original stairwell to be a multi-storey stair, and then mirror it to the other stairwell.



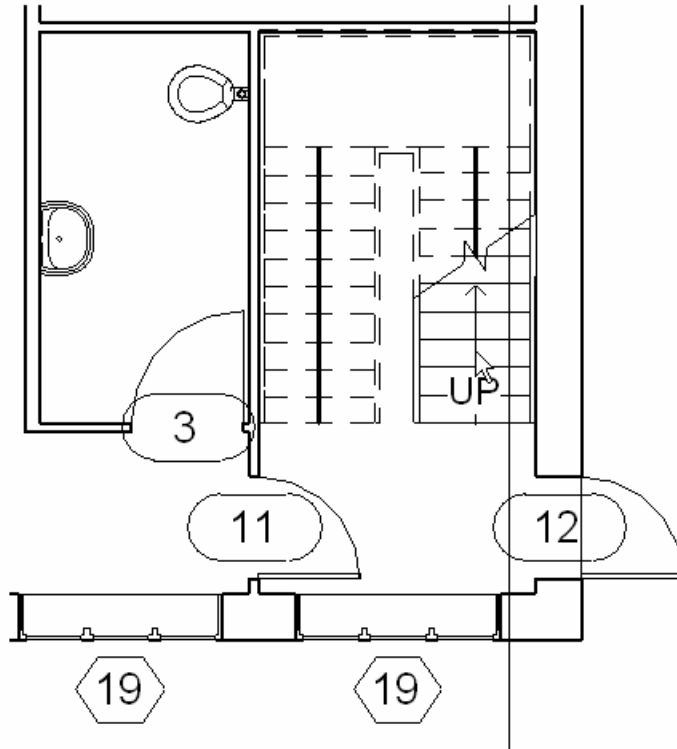
This exercise requires the completion of the previous exercises in this tutorial. You must use the project you saved at the end of the last exercise.

Add stairs between Levels 1 and 2

1. In the Project Browser, under Views (all), under Floor Plans, double-click Level 1.

2. Zoom in to the stairwell in the lower left corner of the building model.

In the steps that follow, you create a set of U-shaped stairs similar to following illustration. In order to sketch the stairs accurately, you add temporary model lines that provide an underlay to trace over.

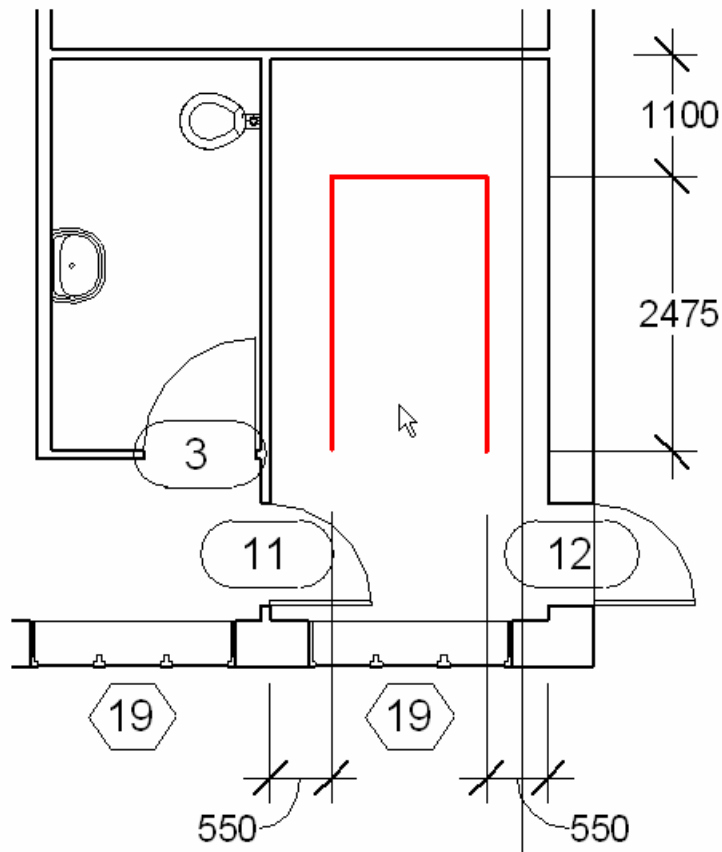


3. On the Basics tab of the Design Bar, click Lines.
4. In the Type Selector, select Wide Lines.

5. Add the three lines as shown, and specify the dimensions accordingly.

The dimension lines have been added as a training aid.

Note: It is important to dimension the vertical lines to the interior face of the walls, not to the centreline. Click on the dimension control until it moves to the interior face of the wall, and then specify the value as 550.



When you sketch the stair run, you can trace the run over the two vertical lines. The dimensions have been predetermined.

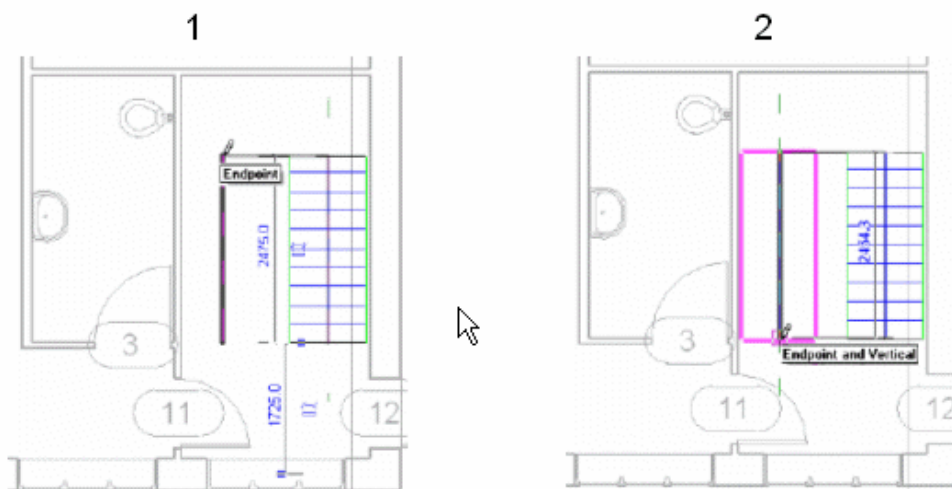
6. On the Modelling tab of the Design Bar, click Stairs.

You are in sketch mode. By default, the Run tool is active.

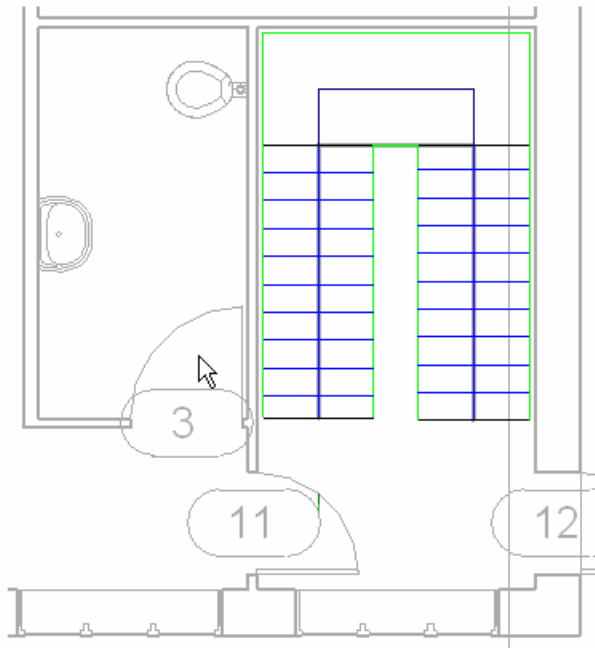
7. Sketch the first half of the run by clicking on the bottom endpoint of the right vertical line, and then clicking the top endpoint of the same line.



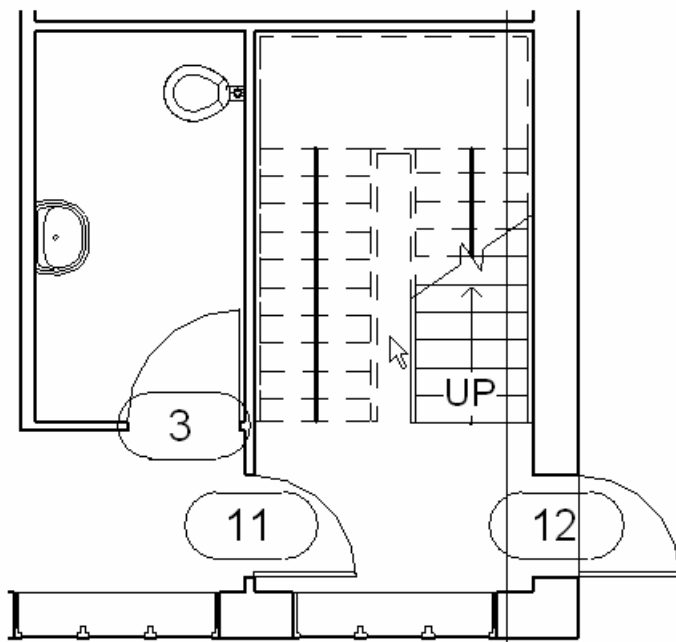
Sketch the second half of the run by clicking on the top endpoint of the left vertical line, and then clicking the bottom endpoint of the same line.



The stair run is complete.



9. On the Design Bar, click Finish Sketch.



Notice that the model lines still display.

10. Move the cursor over one of the vertical model lines and press TAB until the chain of lines highlights.
11. Select the lines and delete them.

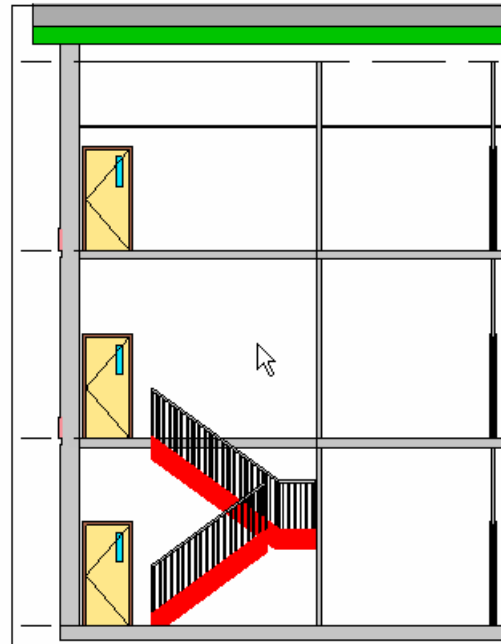
12. In the Project Browser, under Views (all), under Sections, double-click Section 1.



Modify stairs

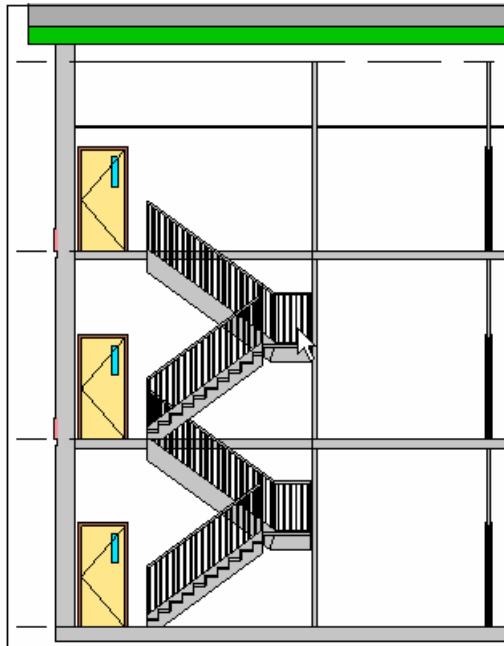
13. Select the stairs.

IMPORTANT: Be careful not to select the railings. Use TAB or zoom in, if necessary.



14. On the Options Bar, click. 
15. Select Level 3 for Multi-storey Top Level, and click OK.

16. On the Design Bar, click Modify.



Copy west stairs to east stairwell

17. Select the stairs created in the previous steps.

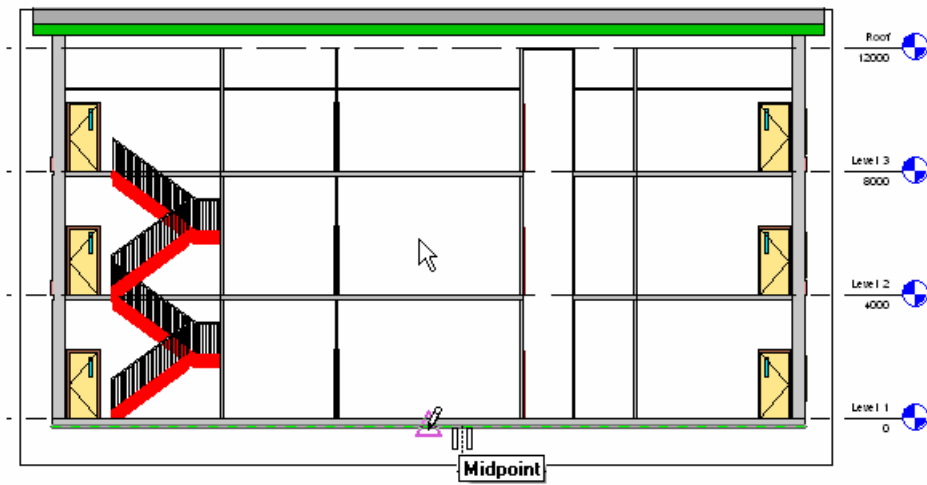
Do not select the railings.

18. On the Edit menu, click Mirror.

19. On the Options Bar, click  and Copy.

20. Place the cursor over the centre of bottom edge of the Level 1 floor.

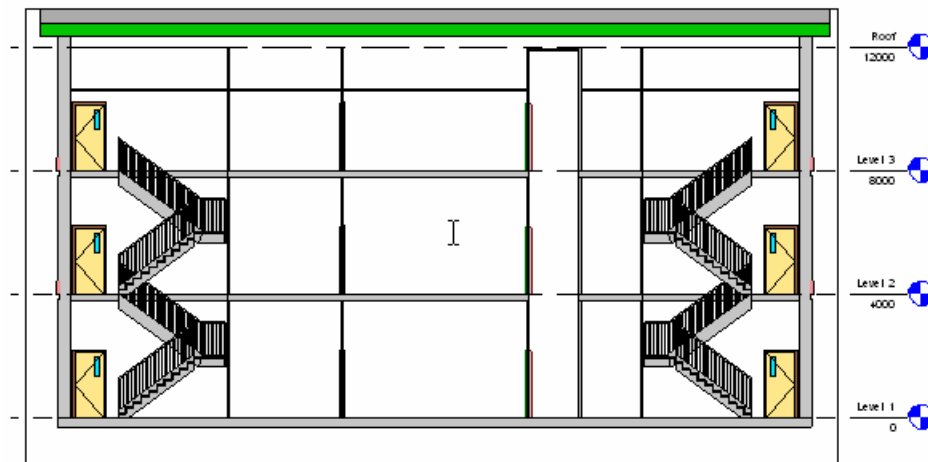
21. When the midpoint symbol and tool tip displays, click to specify the start point of the mirror axis.



22. Move the cursor up, and click to set the mirror axis endpoint, as shown.



23. On the Design Bar, click Modify.



24. On the View toolbar, click. 

25. On the File menu, click Save.

In this exercise, you learned how to create a set of stairs. You modified the stair height so that it rose to Level 3, and then mirrored it to the opposite stairwell.

In the following exercise, you mirror the entire west wing and add a curtain wall passageway between the wings.