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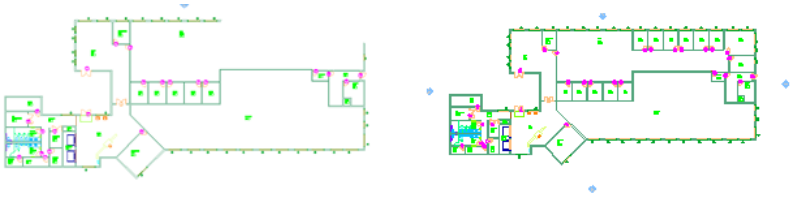
Creating Floor Plans in AutoCAD 2009 (Imperial)



This exercise leads you through the process of adding in walls, door and windows (dynamic blocks), room and door tags. The preceding images show the starting and ending point of this exercise.

Audience: Architects who want to work with the new AutoCAD 2009 interface

Prerequisites: Working knowledge of commands such as: LINE, FILLET, TRIM, and INSERT

Tasks Covered in This Tutorial

1. Adding Walls
2. Adding Doors And Windows
3. Adding Door And Room Tags

Tutorial Files

All the necessary files for this tutorial can be found in http://www.autodesk.com/autocad-tutorials.

Recommended: Before starting the tutorials:

1. Download the *floor_i_plans.zip* file from http://www.autodesk.com/autocad-tutorials.
2. Unzip *floor_i_plans.zip* to C:\My Documents\tutorials.

In This Tutorial

- Lesson 1: Adding Walls on page 2
- Lesson 2: Adding Doors And Windows on page 7
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Before You Begin

The intent of this tutorial is not to teach you how to draw lines and work with blocks, but rather to introduce the new AutoCAD 2009 interface. This tutorial assumes that you are familiar with a previous version of AutoCAD and familiar with basic AutoCAD commands such as LINE, FILLET, TRIM, and INSERT.

Lesson 1: Adding Walls

In this part of the exercise, you add in walls to finish the exterior and add offices to the northwest area of the building.

File Name: *1st_floor_plan_i_start.dwg*

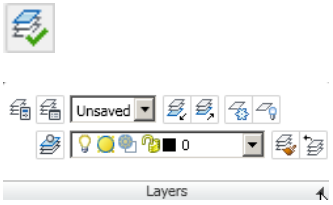
Commands used: LINE, FILLET, OFFSET, ARRAY, TRIM, EXTEND, MIRROR, BREAK

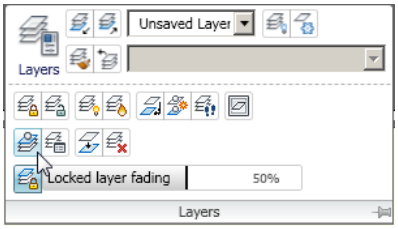
Laying Out Exterior Walls

In this part of the exercise, you add in walls to finish the exterior and add offices to the northwest area of the building.

1. Set Layer to A-Wall:

   a. Click Home tab ➤ Layers panel ➤ ➤ Change to Current Layer.

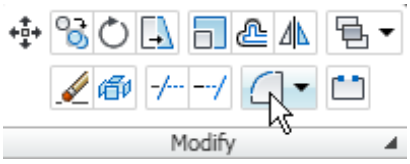




   b. Click one of the green wall lines (polylines) in the drawing.

   AutoCAD 2009 adds many commonly used layer tools on the drop layers expansion panel.

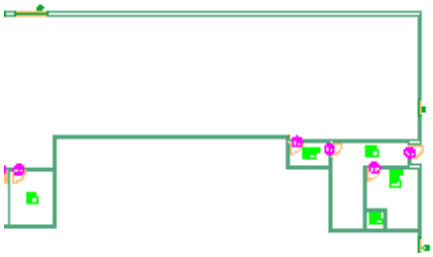
2. Click ➤ Home tab ➤ Modify panel ➤ Fillet.



   Most of the common tools are now available from the standard ribbon panels.

3. Select the line on the east side of plan, then select the existing inside line on the west side of the plan.

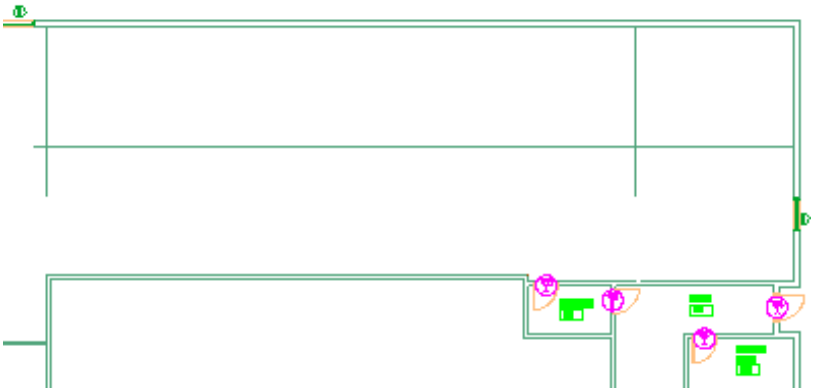
4. Right-click the mouse, select Repeat Fillet, and repeat step 3 with the outside lines.



Laying Out Interior Walls

In this part of the exercise, you add in walls to finish the exterior and add offices to the North West section of the building.

1. Click Home tab ➤ Modify panel ➤ Offset.
2. Enter 91'5" as the offset distance, and press the [Enter] key.
3. Select the inside line on the newly drawn east wall. Move towards the center of the plan, and click to offset the line.
4. Press the [Enter] key to end the command.
5. Right-click the line. Select Repeat Offset.
6. Repeat steps 2 and 3 offsetting the inside face of the east wall 19'-5".
7. Press the [Enter] key to end the command.
8. Right-click the line. Click Repeat Offset.
9. Enter 14'-8" as the offset distance and click Return.
10. Repeat Step 3 on the inside of the north Wall.



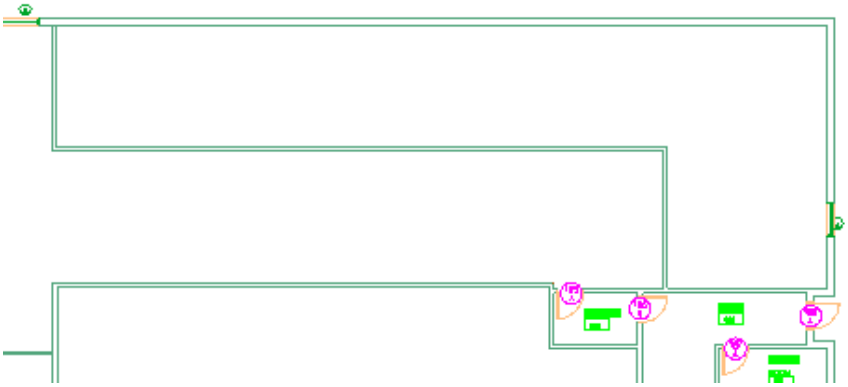
11 Right-click the line. Click Repeat Offset.

12 In the Command Line, enter 5" as the offset distance and Click Return.

13 Select Each of the new lines, offsetting the Vertical lines to the right and the horizontal line up.

14 Click the Fillet tool.

15 Join the new lines together as shown in the following diagram:



16 Click the Array tool. In the Array dialog box:

- **a** Check the Rectangular array button,
- **b** Enter 1 in the Rows box and 7 in the Columns box.
- **c** Enter 0" in the Row offset box and 11'-4" in the Column offset box.

d Click Select Objects Button.

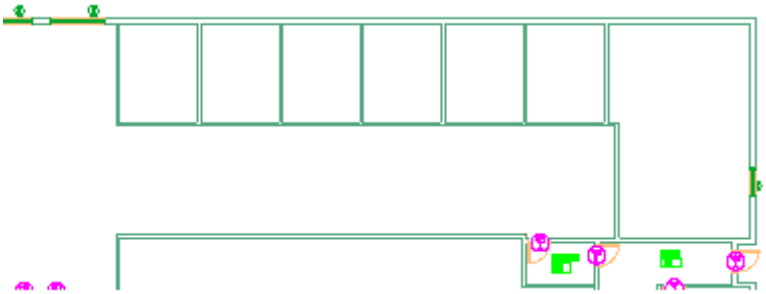
e Select the two walls in the screen Cap and press Return.

f Click OK

17 Click the Trim tool.

18 Select all of the perpendicular intersections of the new walls, and press Return.

19 Trim the excess lines to clean up the wall for each intersection.

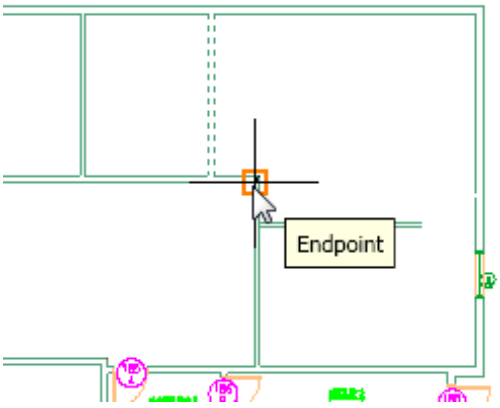


20 Click the Mirror Tool.

21 Select the Wall furthest to the Right, press Return.

22 Select the nearby Inner corner as the first point of Mirror line, then select the outer corner as the second point of the mirror line.

23 Right-click and type **No** to the erase source objects prompt.



24 Click the Extend Tool.

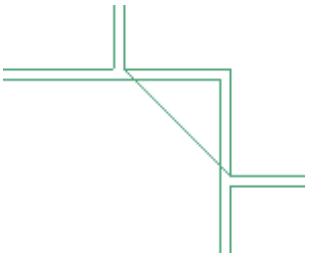
25 Select the inside of the East Wall, and press Return.

26 Select the two lines to extend them to the East wall.

27 Use the Trim Tool to clean up any Wall Intersections.

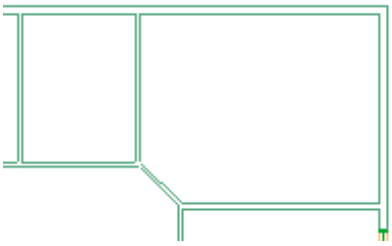
28 Click the Line tool.

29 Draw a 45 degree line as shown.



30 With the Offset command, offset the line 5" to the left.

31 Clean up the corner using the fillet and erase tools.



Next Lesson: Lesson 2: Adding Doors And Windows on page 7

Lesson 2: Adding Doors And Windows

In this part of the exercise, you will add dynamic door and window blocks to the plan.

1 On the Ribbon bar, click the Blocks and References Tab.

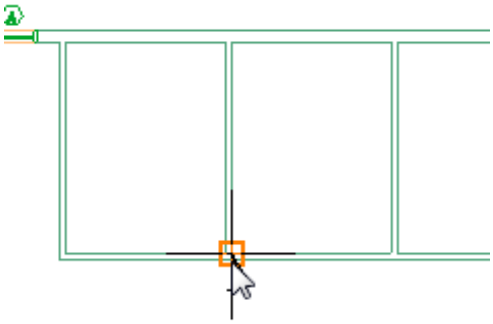
2 Click Blocks & References tab ➤ Block panel ➤ Insert.

3 In the block dialog box, select Name = Door - Imperial from the drop-down menu, and verify that you select the Specify On-Screen Insertion point.

4 Click OK.

5 Hold the shift key, right-click, and select the From tracking tool.

6 Click the intersection as shown:



7 Drag the cursor to the right and type 8" for the distance from that point.

8 Press the [Enter] key to accept that point as the insertion point of the block.

9 Click the door and open up the object properties. In the door block's properties dialog box:

   a Assign the door the layer A-Door.

   b Set Opening Angle symbol = open 90 degrees.

   c Set Door Size to 3'-0".

10 Click the mirror tool. Click the door, and press [Enter].

11 Hold the shift key and right-click.

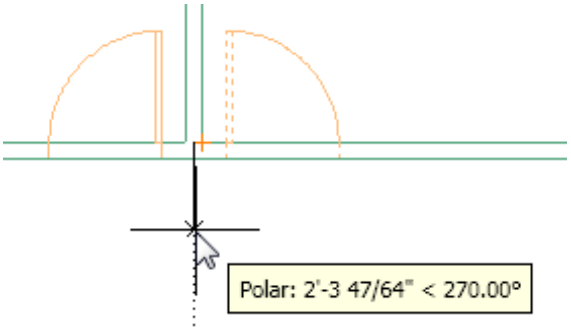
12 Click Midway between two points.

13 Click the left side of the vertical wall.

14 Click the right side of the vertical wall.

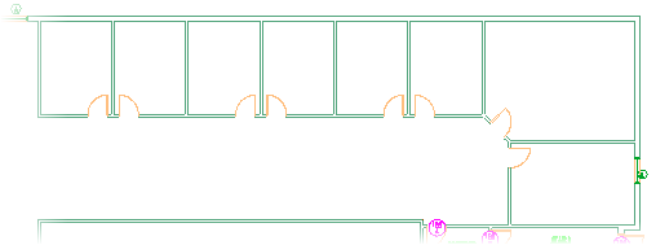
15 Drag the cursor down vertically and click to establish the second point of the mirror axis.

16 Right-click the point. Click No to leave the original in place.



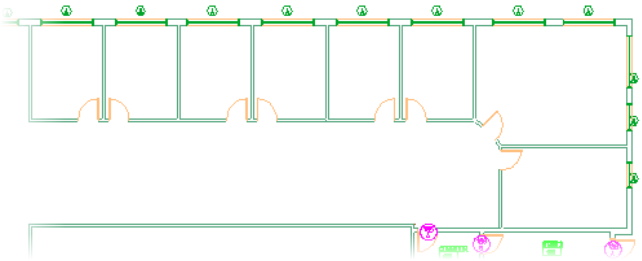
17 Copy the door and rotate as needed.

18 Use the trim and/or break tools to clean up the walls to the new door locations.



19 Repeat the preceding process to add the window block “Window - chadcara” to the location shown.

20 Change the properties of the first window you add to layer A-Glaz, Width = 8'-0", Wall thickness = 10". The small window on the west side has properties: Width = 4'-0", Wall Thickness = 10", WINDOW_TYPE = B.



21 Turn off A-Wall-Open.

22 Click the Trim Tool and select all of the Windows.

23 Trim out all of the excess wall lines within Window openings.

24 In your Layers, Turn on A-Wall-Open.

Next Lesson: Lesson 3: Adding Door And Room Tags on page 10

Lesson 3: Adding Door And Room Tags

In this part of the exercise, you will add door and room tags to the plan.

1 On the Ribbon click the Blocks and References.

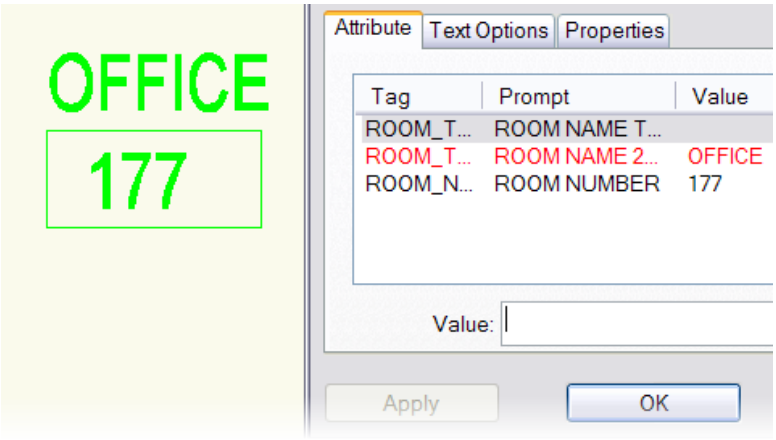
2 Click the Insert Tool and set the name to DOORBUG from the drop-down menu and click OK.

3 Place the tag anywhere on the plan, and assign it to the A-DOOR-IDEN layer.

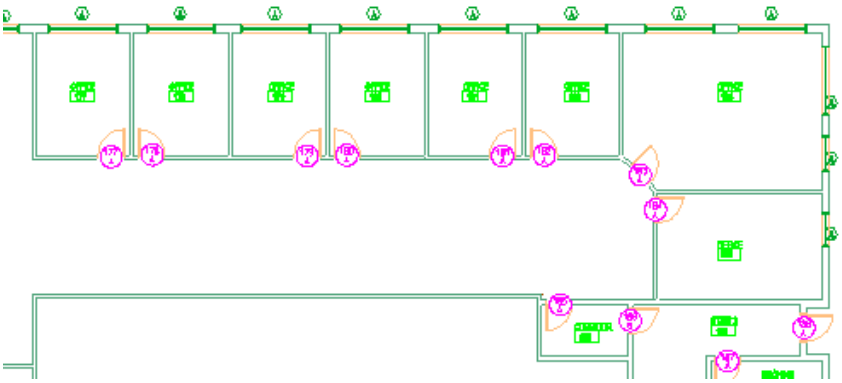
4 Repeat, adding in the block ROOMTAG and assigning it to the layer A-ROOM-IDEN.

5 Copy the Room Tag and Place a tag within all of the new rooms.

6 Double-click each of the room tags adding in a name and number.



7 Copy the door tags and modify each with the appropriate door number.



If you do a lot of this kind of work, we have some tools that would make this easier. *Click this link for more information.*