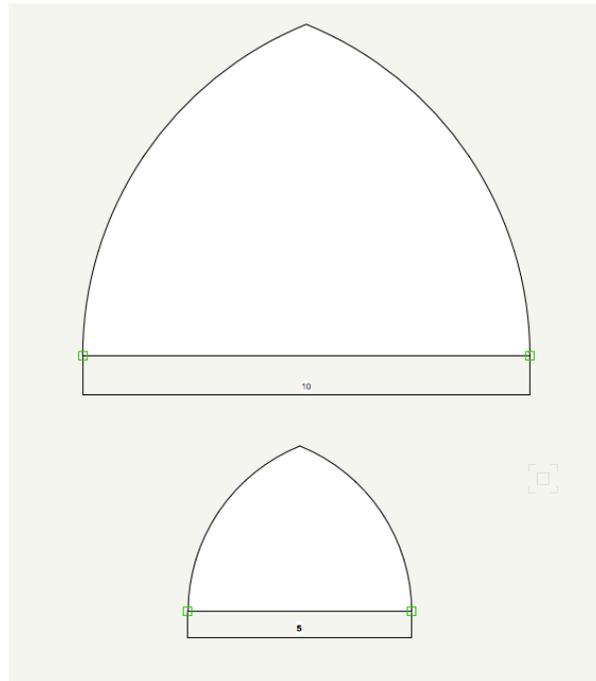


## How to Build a Vault: an Alternate Tutorial

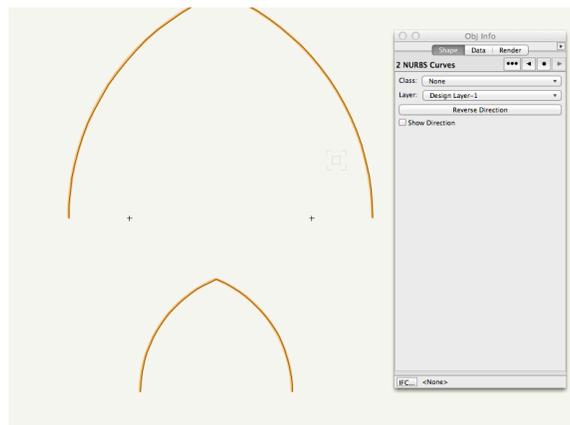
**Purpose:** The purpose of this tutorial is to provide an alternate set of steps to construct a vault. This tutorial is particularly useful for rectangular vaults or irregular vaults.

Step 1:



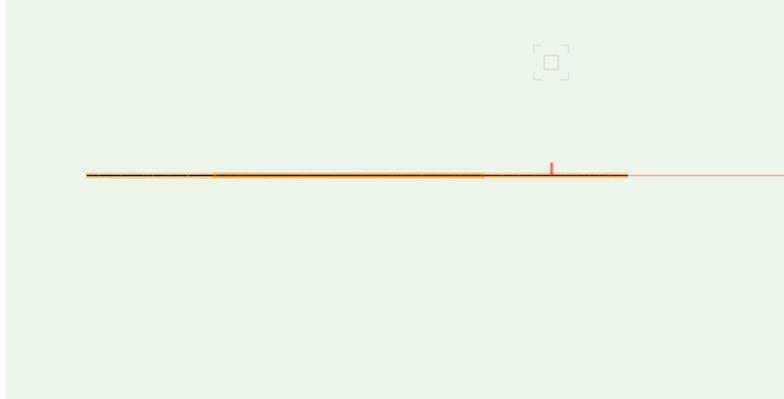
Begin the vault by drawing two arches. As this is a tutorial for a rectangular vault, our transverse arch and wall arch will be different sizes. This tutorial will use a 10 meter (diameter) quinto arch and a 5 meter quinto arch. However, your arches may be different (ex: quinto arch and tri arch, etc).

Step 2:



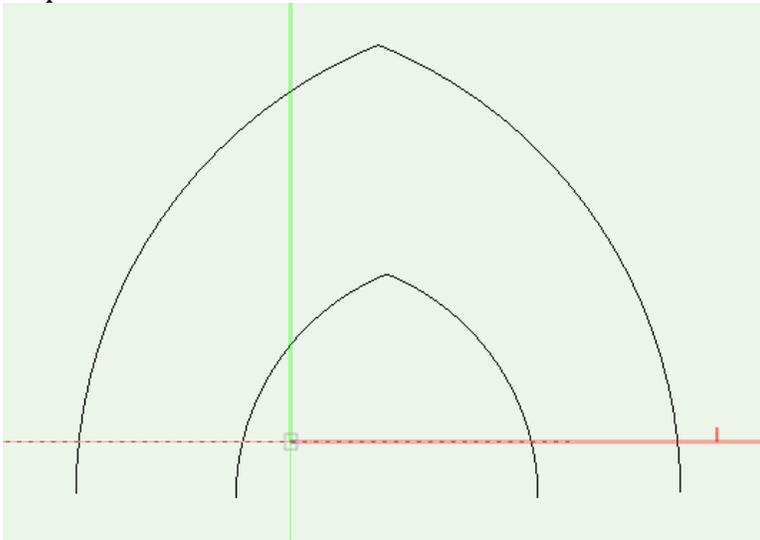
Make sure that your arches are NURBS.

Step 3:



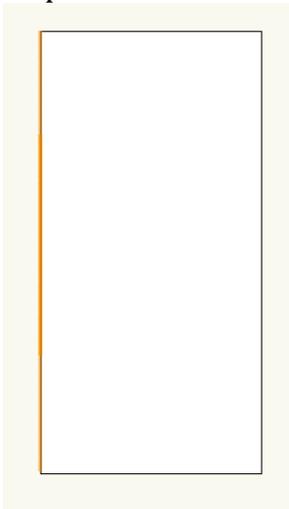
With both arches selected, switch to Right View.

Step 4:



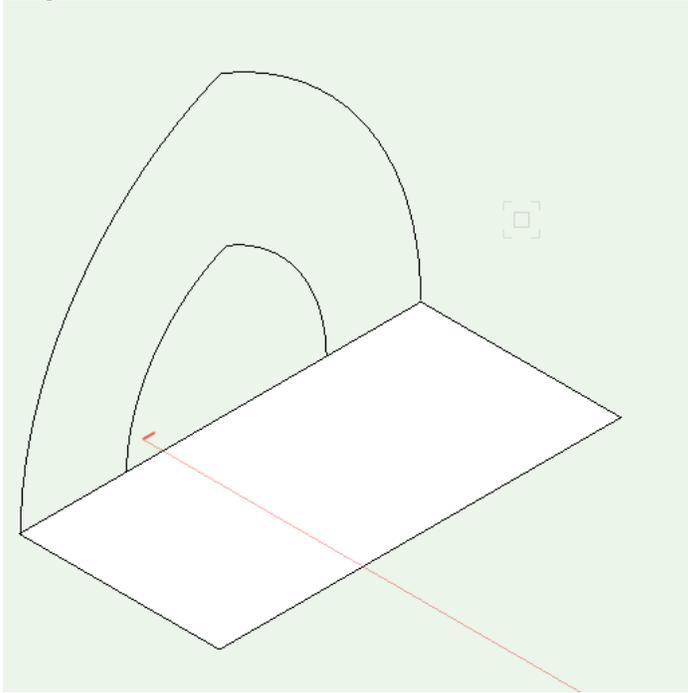
Using the rotate tool, rotate both arches 90 degrees. Go to the front view and rotate both arches another 90 degrees. The arches will now appear “right side up” in front view.

Step 5:



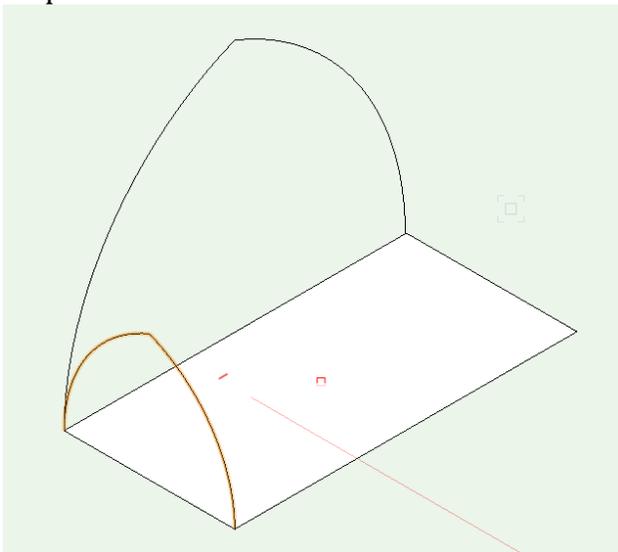
Go to top view. Draw a rectangle (10 meters x 5 meters) so that it touches the arch. This will represent the area of the vault.

Step 6:



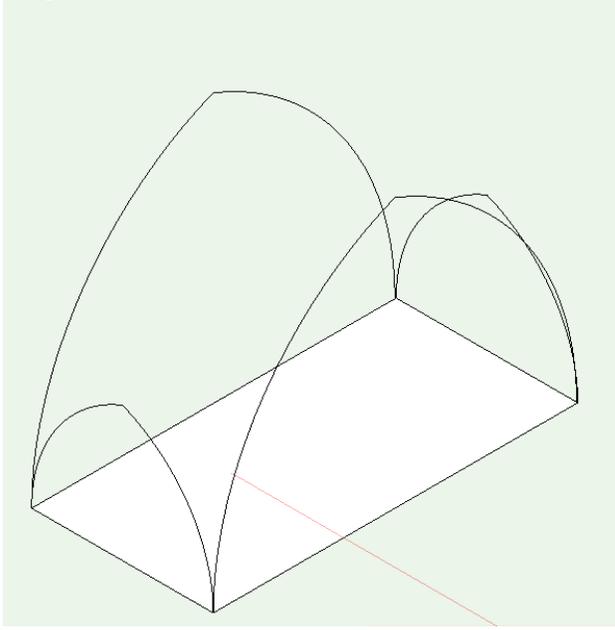
Go to right isometric view. If your objects do not look like this, move them around so that they resemble this arrangement.

Step 7:



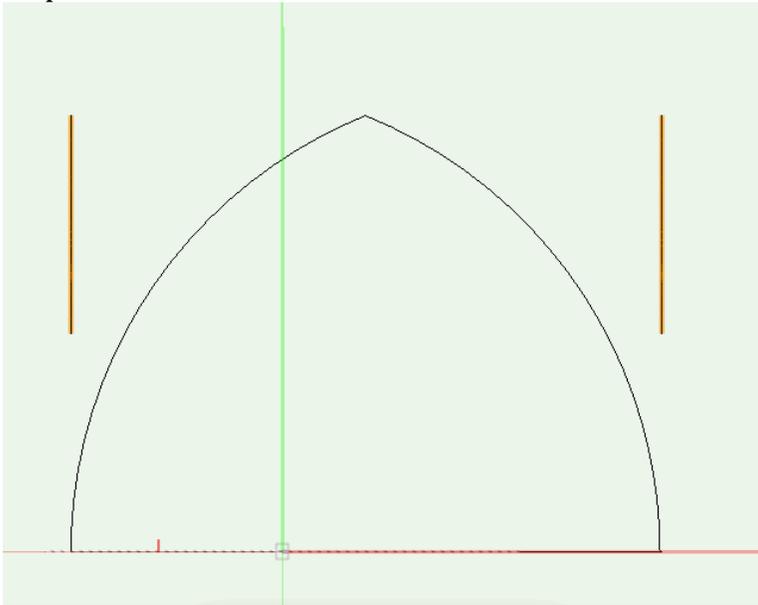
Rotate the smaller arch so that it is aligned with the shorter side of the rectangle. This may be easier to do in top view. When you switch back to right isometric, it will look like this.

Step 8:



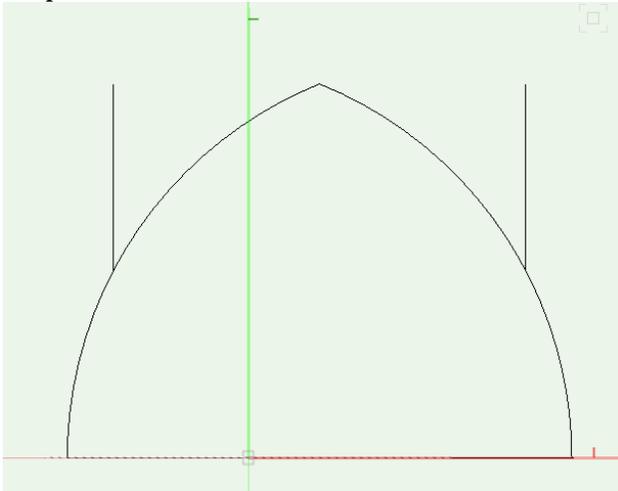
Select both arches and switch to top view. Select the mirror tool. Center the tool on the rectangle and mirror the two arches to the other side. You will now have an arch on each side of the rectangle.

Step 9:



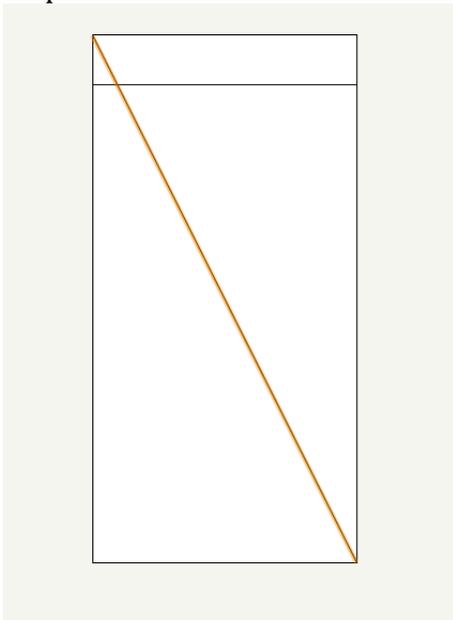
Switch to right or front view and move the “wall arches” up so that they are level with the points of the transverse arches.

Step 10:



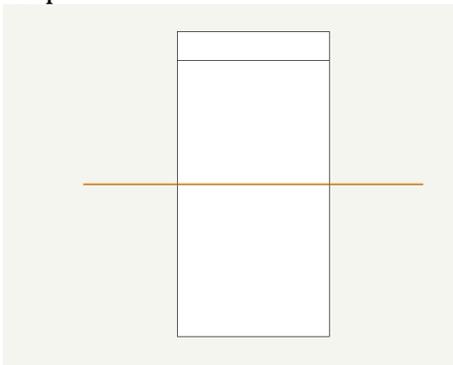
Nudge the wall arches so that they are flush with the arch.

Step 11:



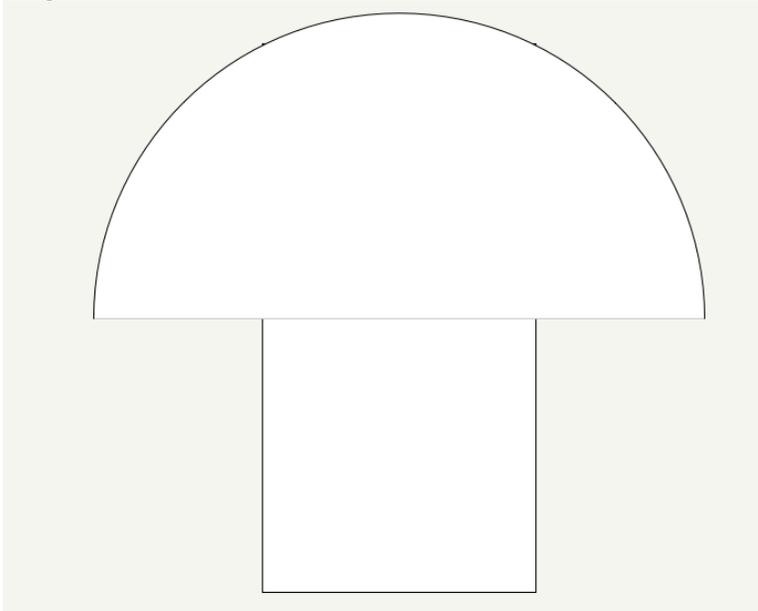
Go to top view and using the line tool, draw a diagonal line across the rectangle.

Step 12:



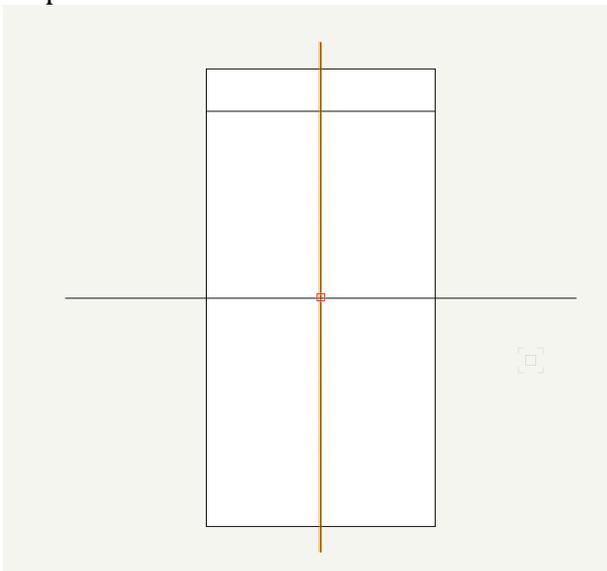
Rotate that line so that it is horizontal. This line represents the diameter of your diagonal vault.

Step 13:



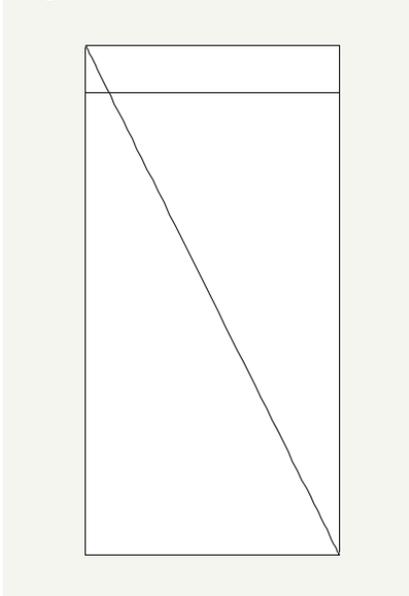
Using the circle tool, draw a circle with the same diameter as the line. (in this case 11.18 meters) Cut the circle in half.

Step 14:



Rotate the half-circle in the right and front views so that it appears as a line in the top view.

Step 15:



Rotate the half-circle so that it sits diagonally within the rectangle .

\*Refer pages 15-19 in the Vault Tutorial (file name: Basic Vault Tutorial.pdf) for instructions on extruding molding profiles along rib paths.