AIM Lid-Driven Cavity - Results

Author(s): Sebastian Vecchi, ANSYS Inc.

Results

Press the **Results** button in the Workflow to extract information from the simulation. In order to find information that can be readily used, first press **Evaluate Results**. AIM will automatically calculate the solution and evaluate the results. Once the evaluation is complete, AIM will automatically output a velocity vector field in the **Results** section under **Objects**. The arrows in the velocity vector field are initially too small to see.

Select the velocity Vector to edit its settings. Change **Symbol distribution** to **Based on mesh**, set the **Symbol length** to **Constant** and press **Evaluate**. If desired, change the value **At every Nth item** to more than 1 and change the **Symbol sizing** in the **Appearance** section to alter how big the arrows are. Press the play button in the model window to see how these velocity vectors develop over time. The image below is created by creating a plane which bisects the flow and is set to be the location for our velocity vectors. In order to create a plane select the **Add plane** button in the top right of the model window (shown below) and use the arrows to drag it to the middle of the box. Travel back to the velocity vector and change the **location** to the newly created plane.

To plot the pressure change, a contour on the mid-plane of the flow volume will most accurately represent a pressure contour of the flow. Select **Contour** in the **Add** menu, choose the newly created plane to map the contour onto, and assign the **Variable** to be **Total Pressure**.

The same thing can be done to plot the velocity change as a contour. Repeat the steps above to create the contour, but make the variable **Velocity Magnitude** instead of **Total Pressure**. In the **Appearance** section change the **Coloring** to **Banded** and the **Number of colors** to 20.

Go to Step 6: Validation

Go to all ANSYS AIM Learning Modules