AIM Backwards Facing Step - Pre-Analysis

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Pre-Analysis & Start Up

Governing Equation

The incompressible Navier-Stokes momentum and mass continuity equations are used as the governing equations for this flow. The modified Navier-Stokes and mass continuity equations are as follows, respectively.

$$\frac{\delta u}{\delta t} + (u \cdot \nabla)u = -\frac{1}{\rho}\nabla\rho + \nu\Delta u$$

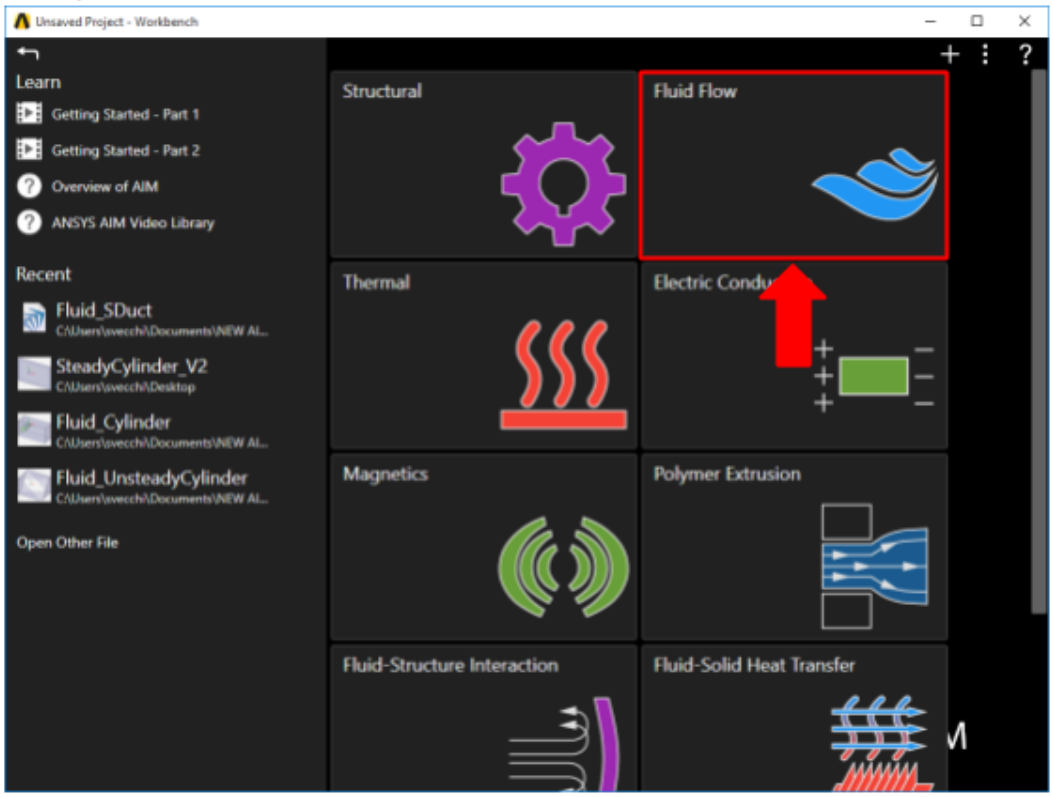
$$\nabla \cdot u = 0$$

A few words on the formatting on the following instructions:

1. Notes that require you to perform an action are colored in blue
2. General information notes are colored in black, but do not require any action
3. Words that are **bolded** are labels for items found in ANSYS AIM
4. Most important notes are colored in red

Start-Up

We are now ready to begin simulating in ANSYS AIM. Open ANSYS AIM by going to **Start** > **All Apps** > **ANSYS 18.1** > **ANSYS AIM 18.1**. Once you are at the starting page of AIM, select the **Fluid Flow** template in the top as shown below.



You will be prompted by the **Fluid Flow** Template to either **Define new geometry, Import geometry file**, or **Connect to active CAD session**. Select **Import geometry file** and press **Next**.

Go to Step 2: Geometry

Go to all ANSYS AIM Learning Modules