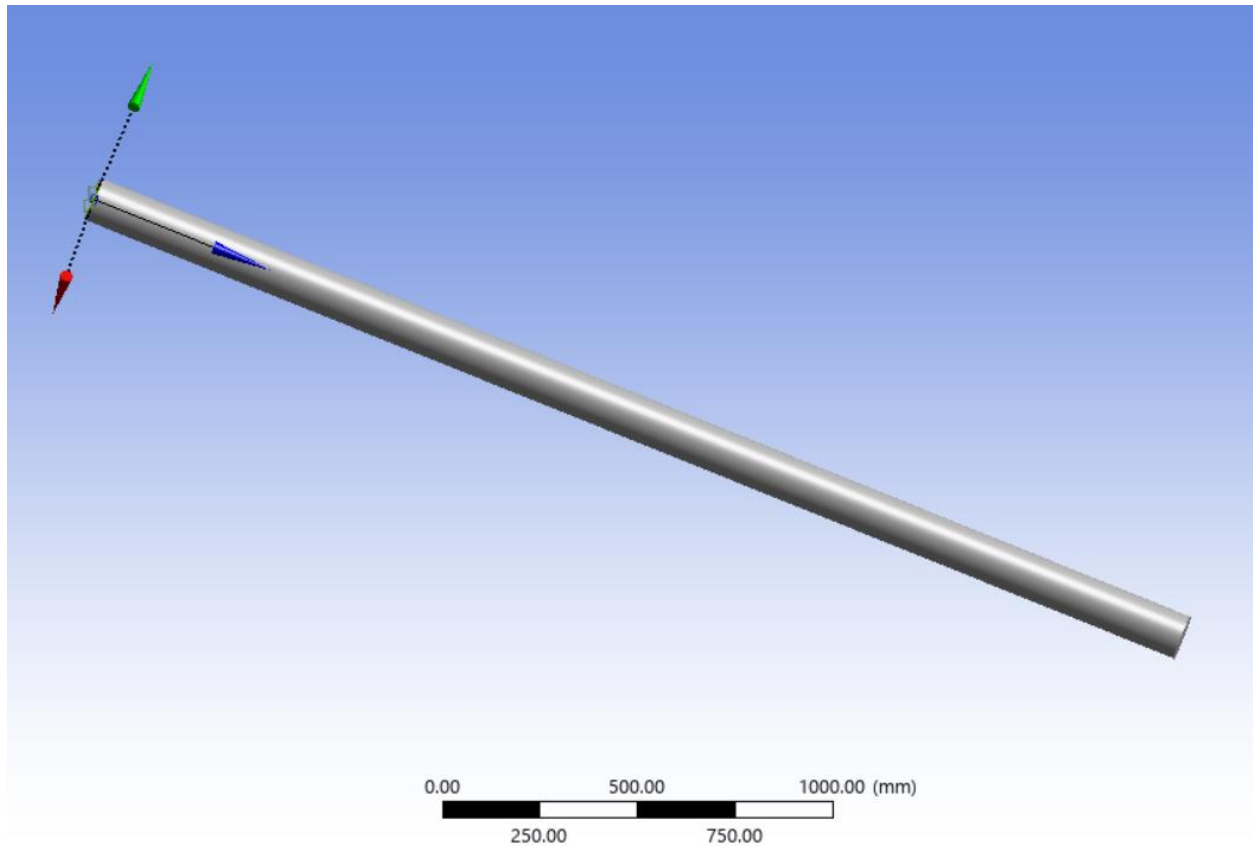


Project 17: ANSYS FLUENT: Calculation of pressure inside a water pipe

Problem Statement: Calculate the pressure inside a steel pipe with water flowing inside ($v=2.5\text{m/s}$).

Geometry:



Material Properties:

Name	Material Type	Order Materials by
water-liquid	fluid	<input checked="" type="radio"/> Name
Chemical Formula	Fluent Fluid Materials	<input type="radio"/> Chemical Formula
h2o< >	water-liquid (h2o< >)	Fluent Database...
	Mixture	GRANTA MDS Database...
	none	User-Defined Database...

Properties

Density [kg/m ³]	constant	Edit...
	998.2	
Viscosity [kg/(m s)]	constant	Edit...
	0.001003	

Name	Material Type	Order Materials by
steel	solid	<input checked="" type="radio"/> Name
Chemical Formula	Fluent Solid Materials	<input type="radio"/> Chemical Formula
	steel	Fluent Database...
	Mixture	GRANTA MDS Database...
	none	User-Defined Database...

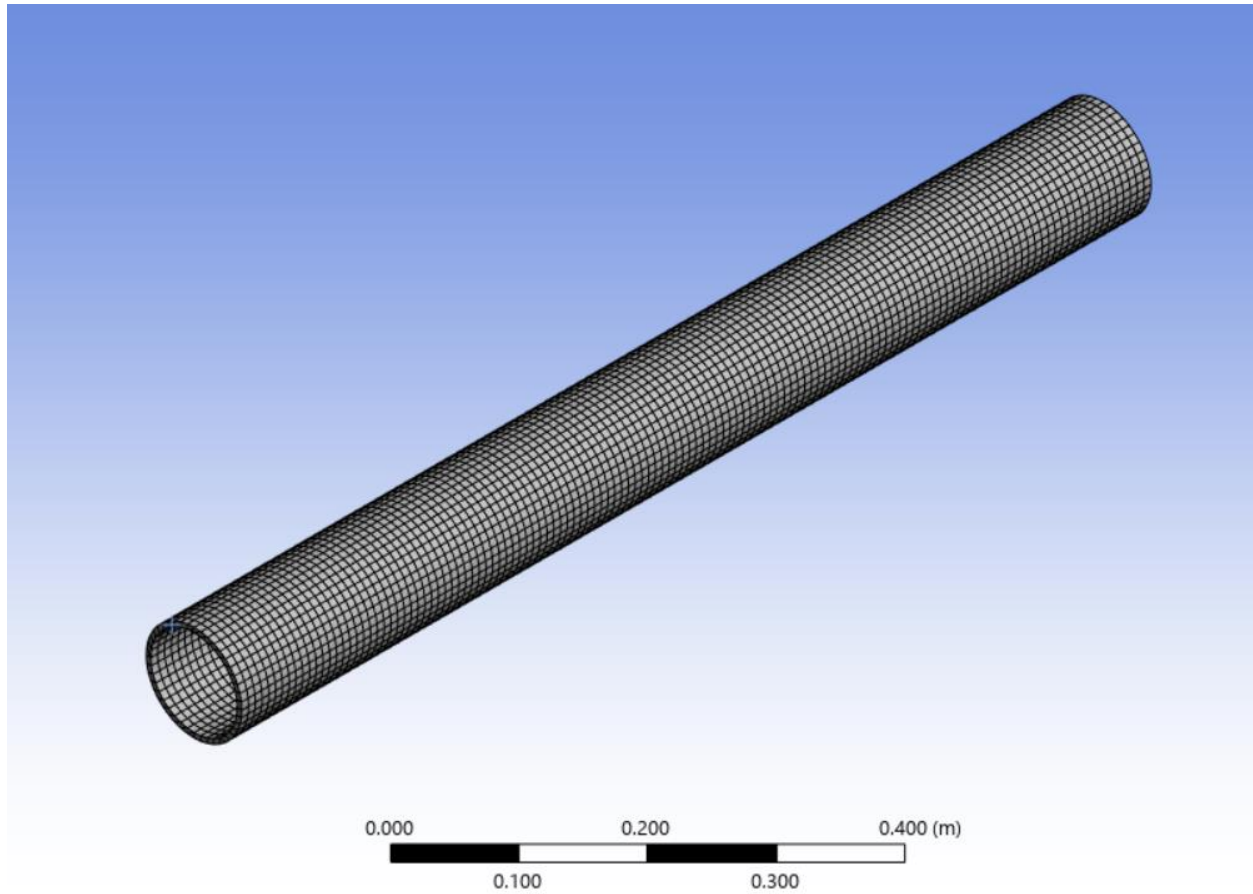
Properties

Density [kg/m ³]	constant	Edit...
	8030	

Boundary Conditions:

Inlet: $v=2.5\text{m/s}$. Outlet: $p=0\text{ Pa}$.

Mesh:



Results: Pressure Contour inside the pipe.

