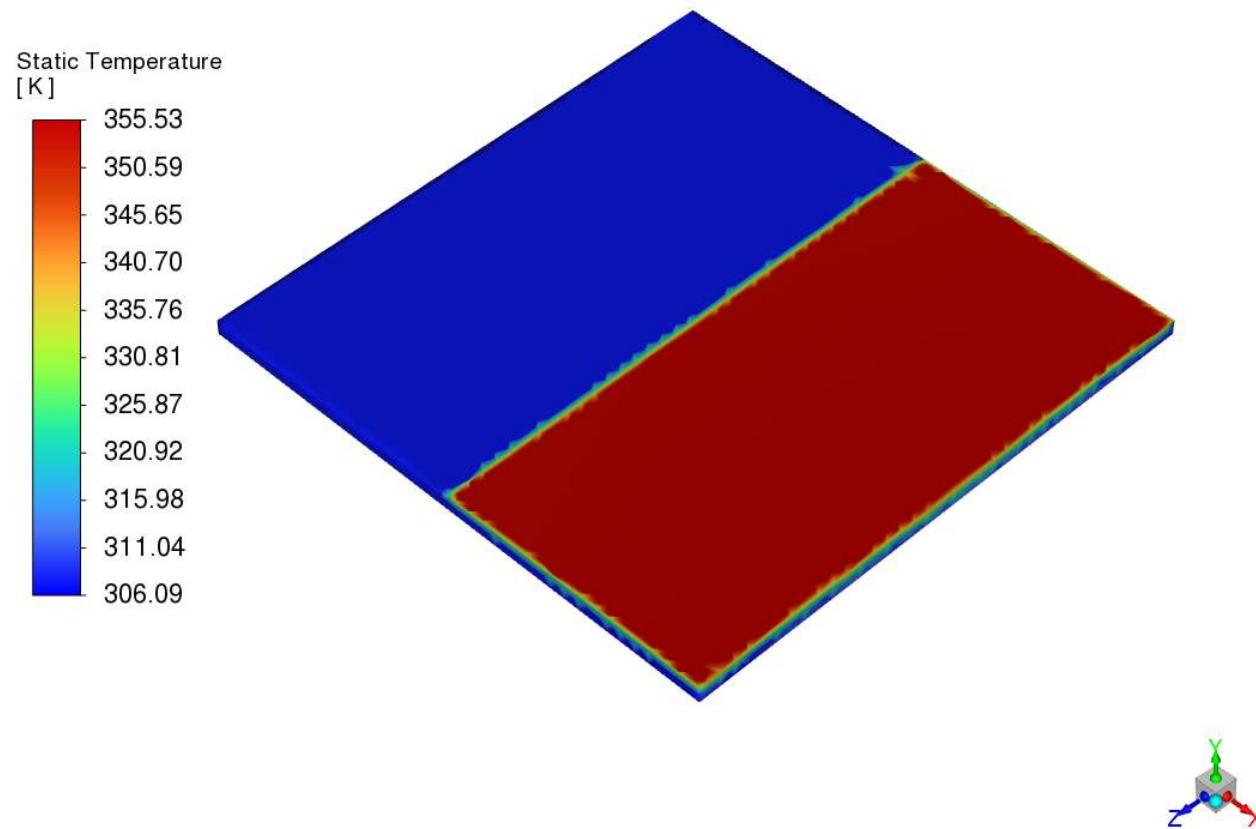
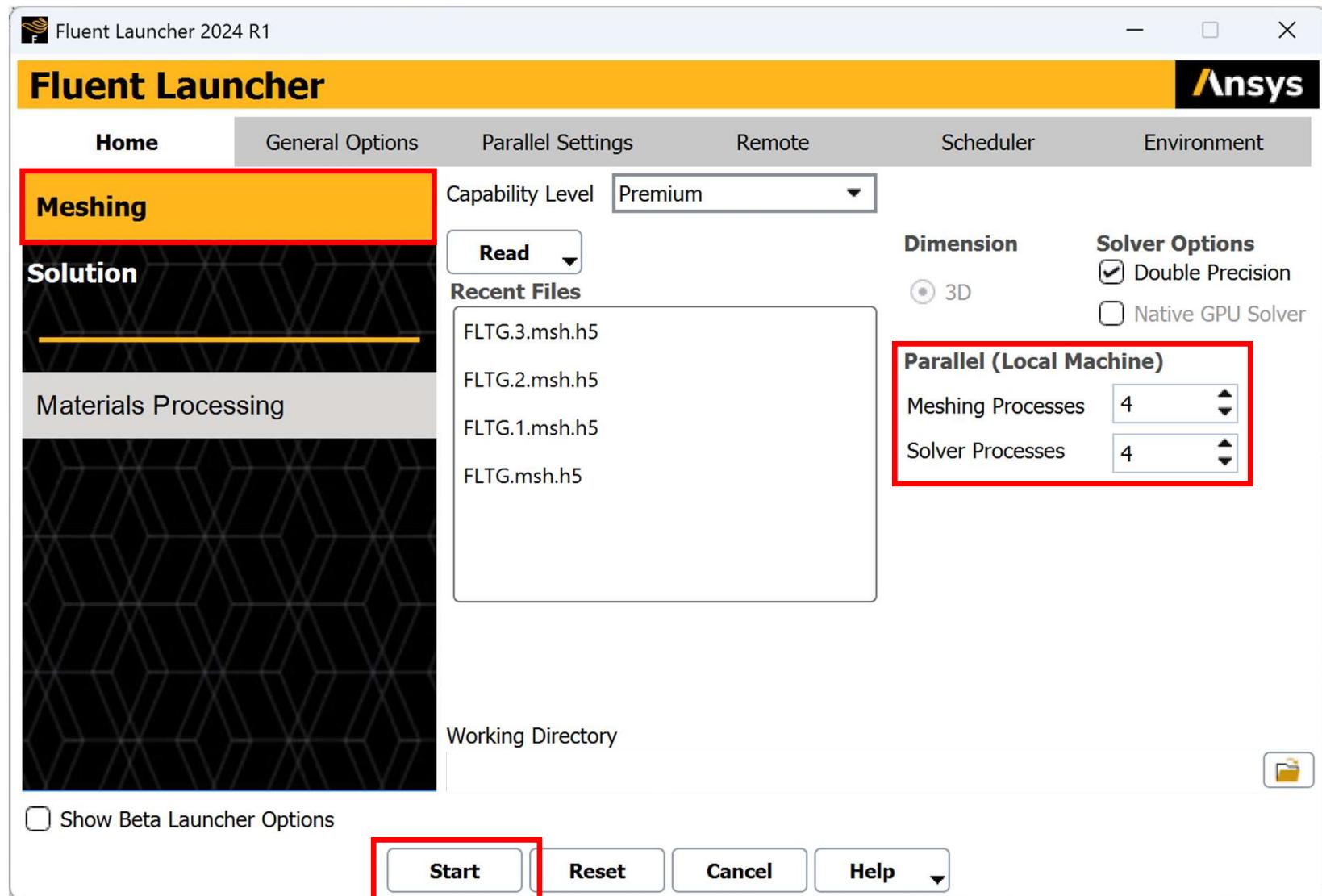


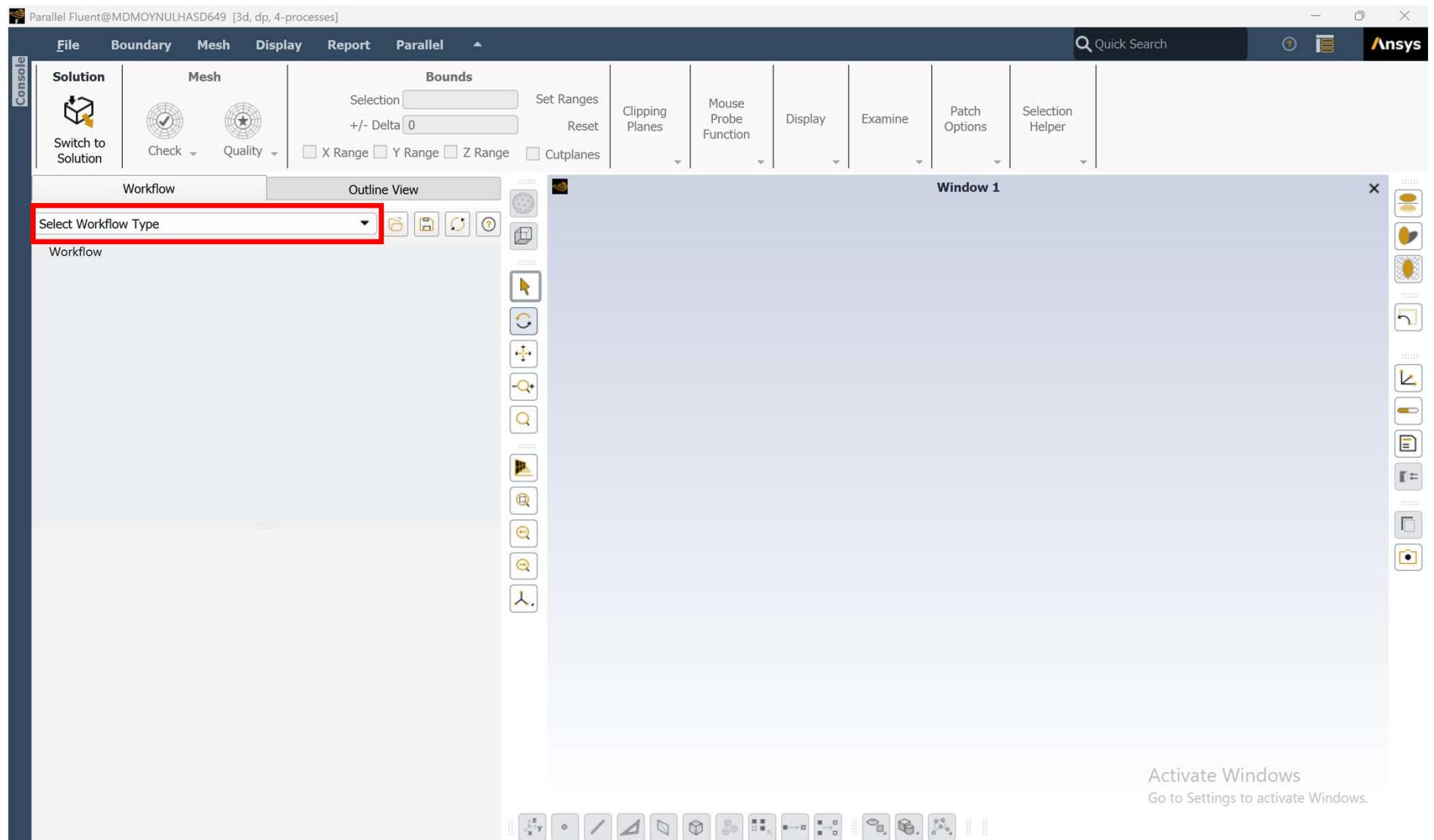
No Heat Sink

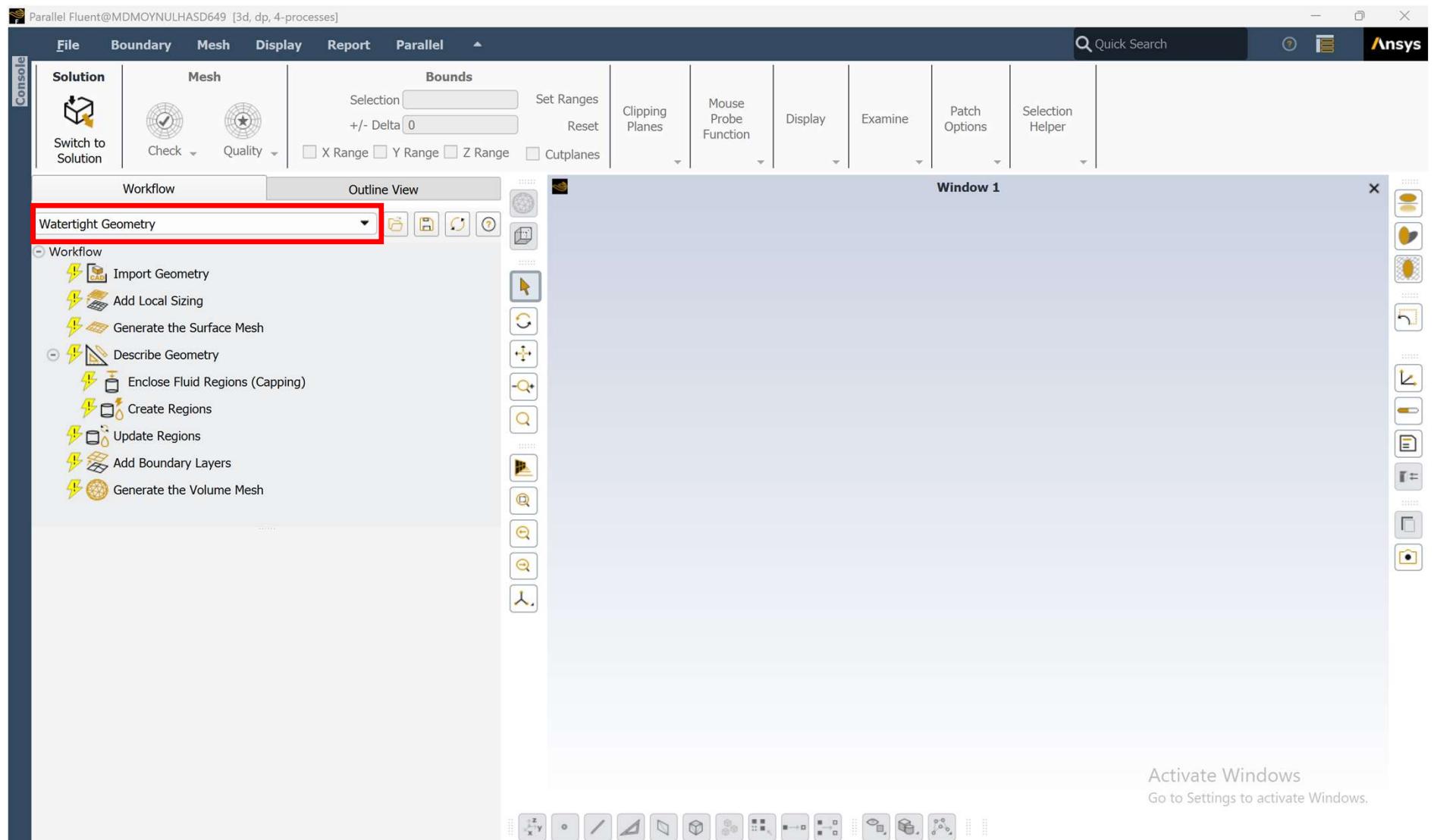
Figure 1. Base plate temperature without heat sink.

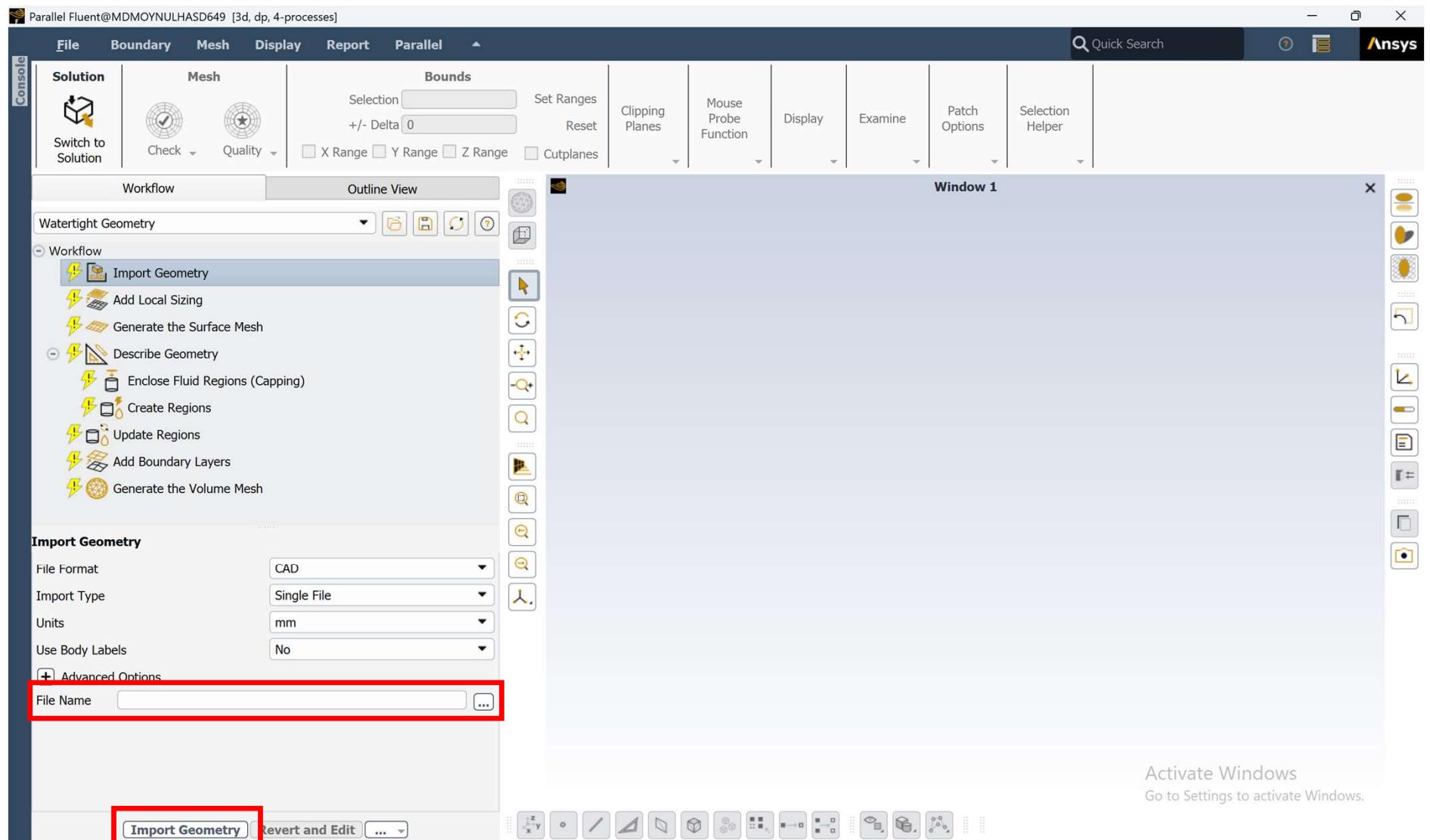


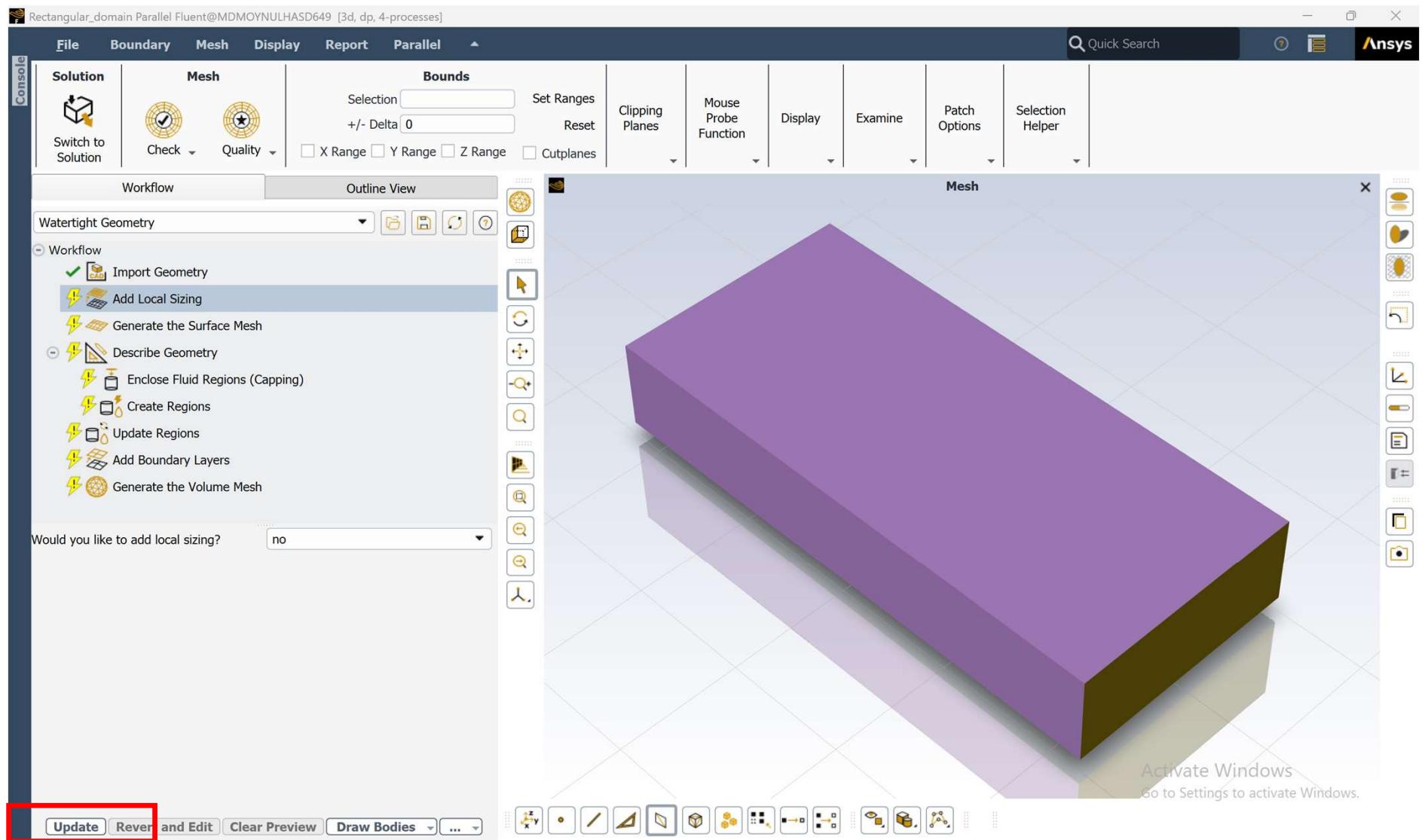
Rectangular Heat Sink

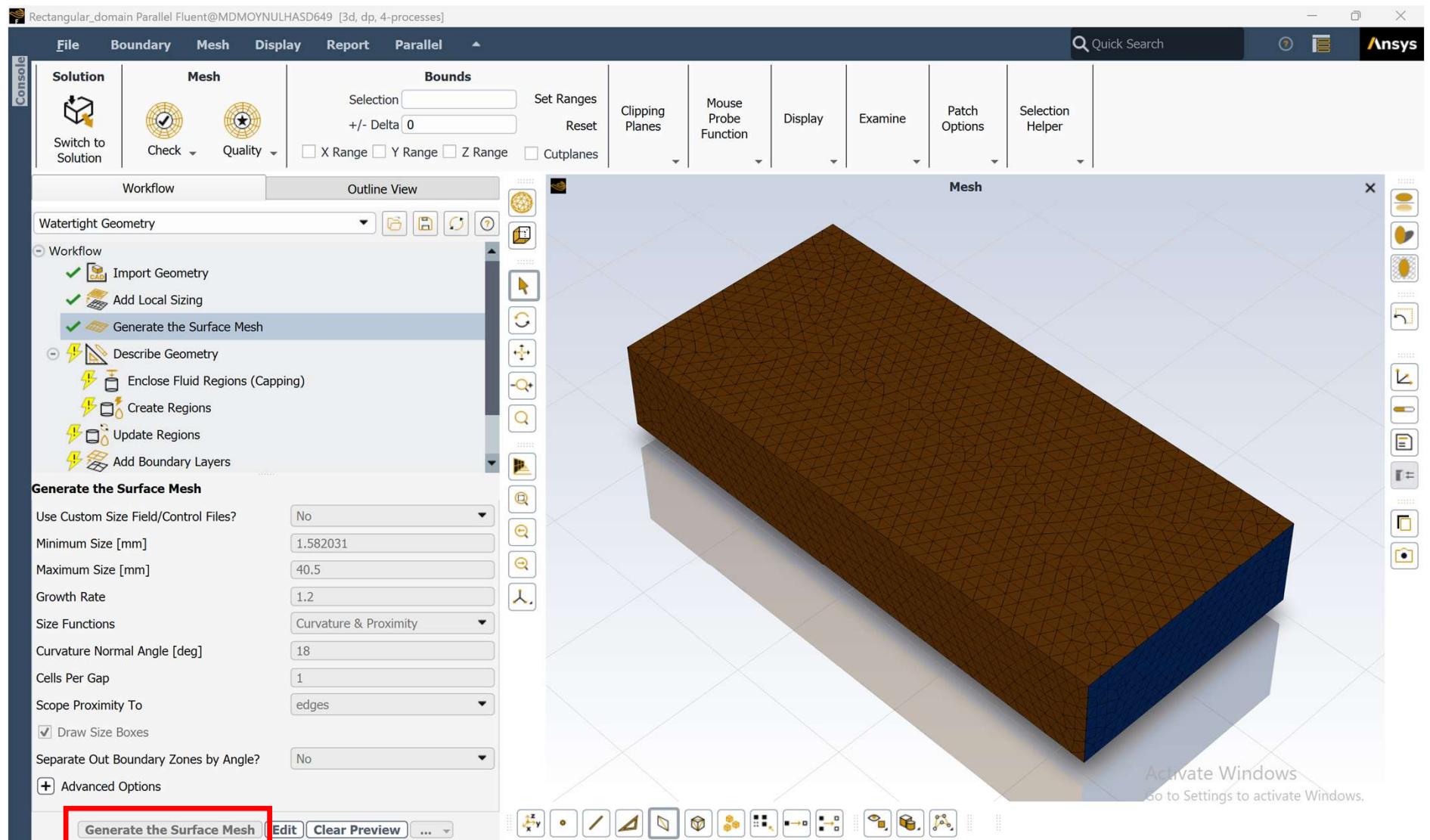


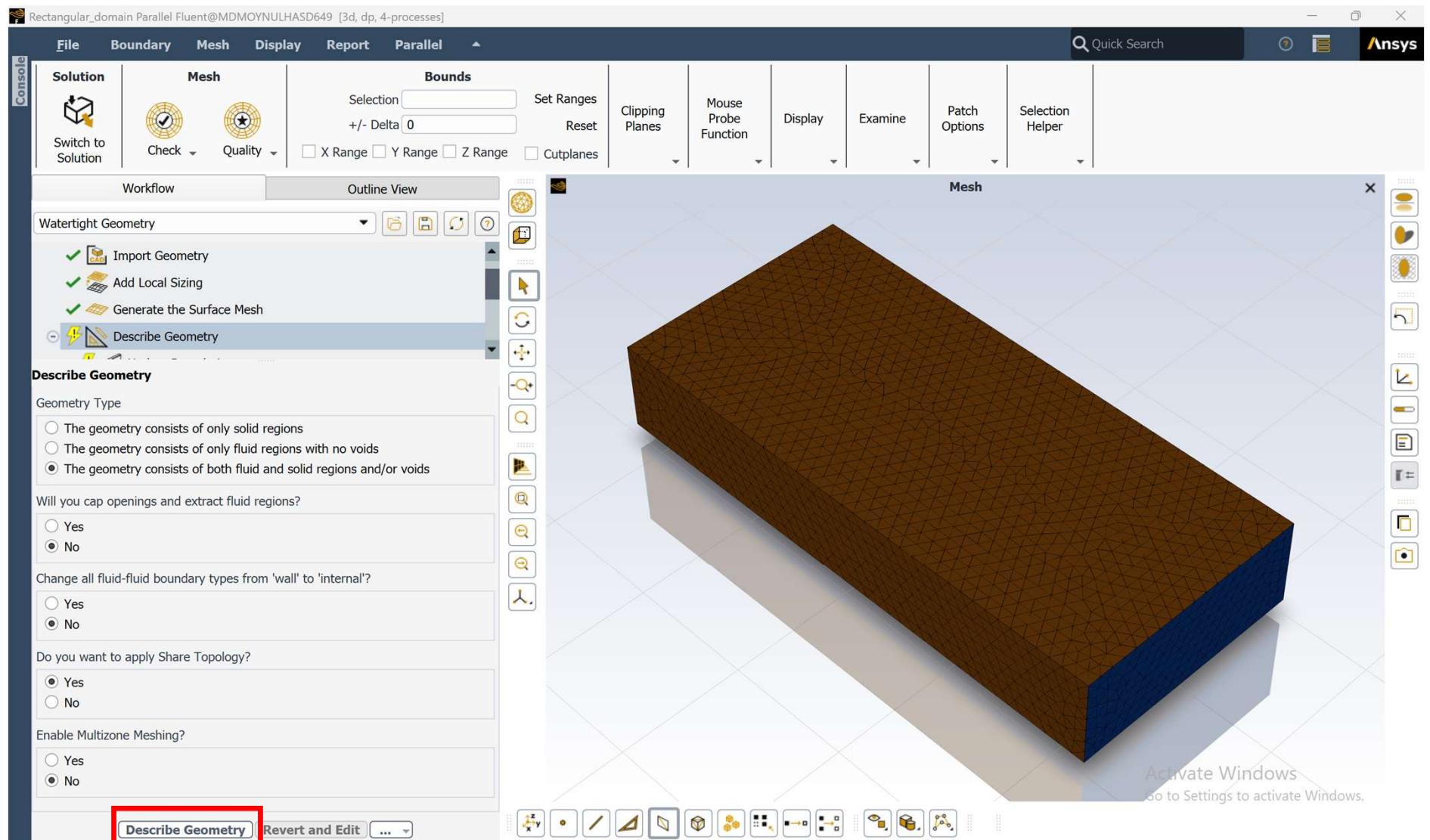


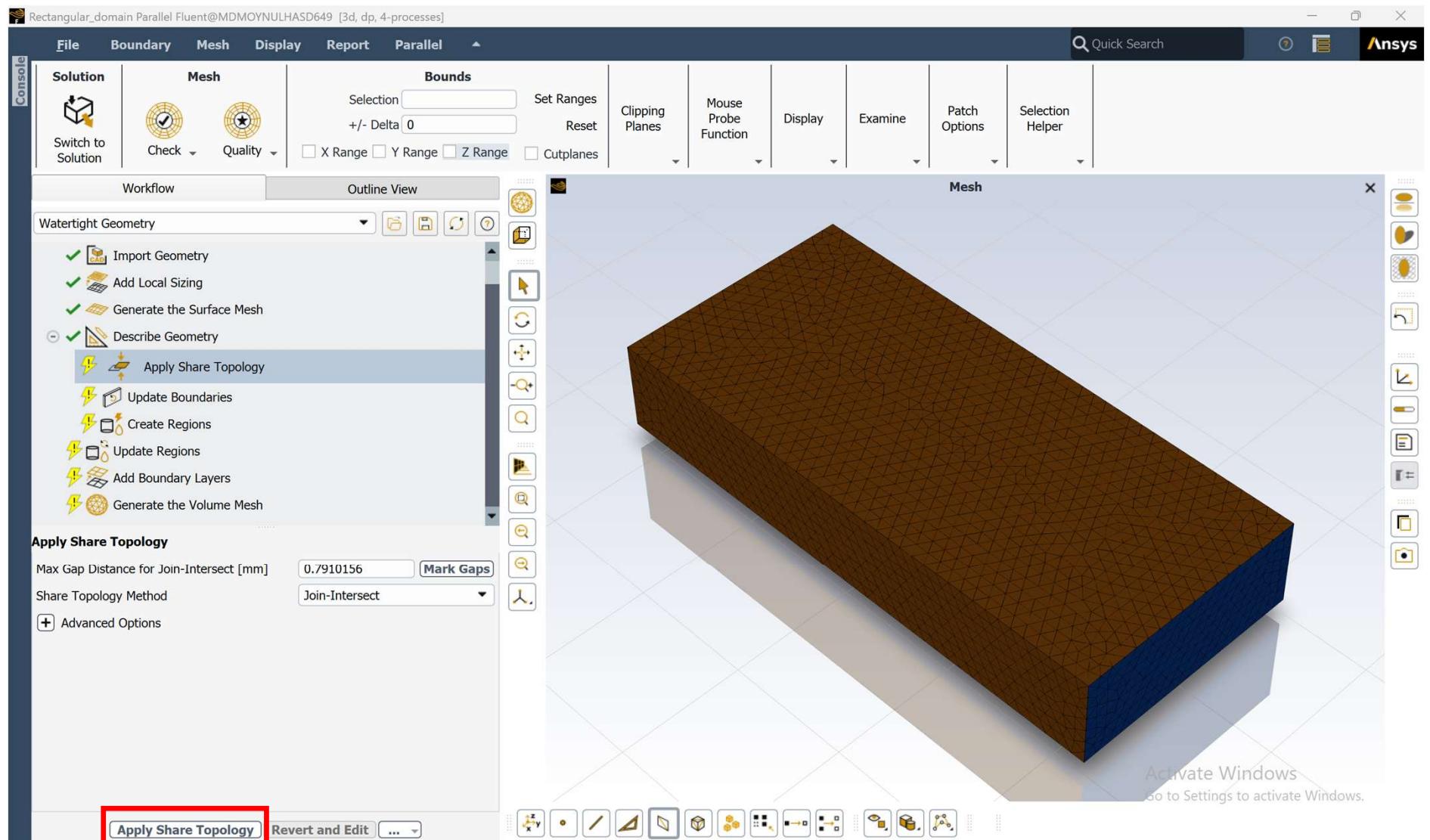


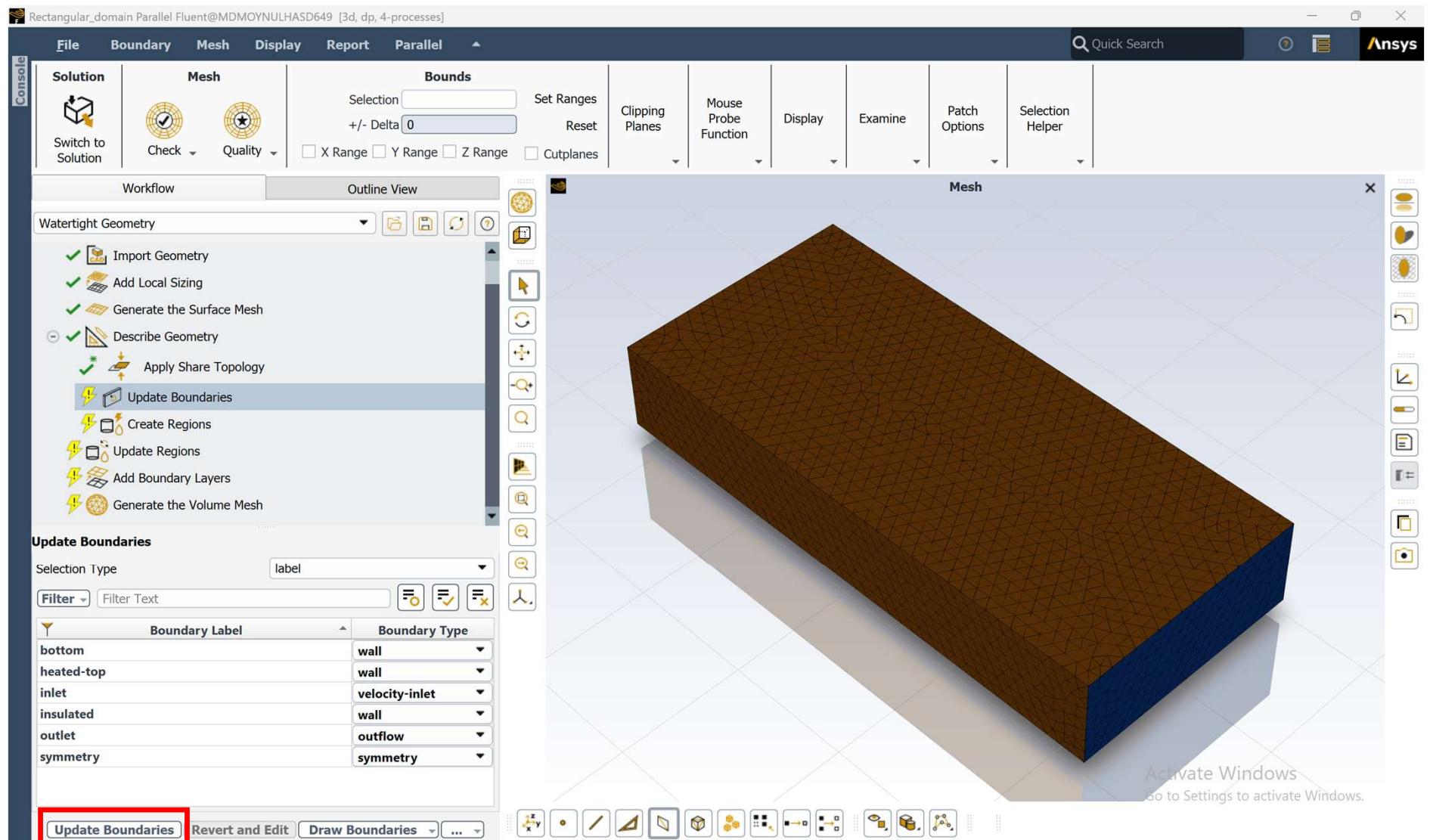


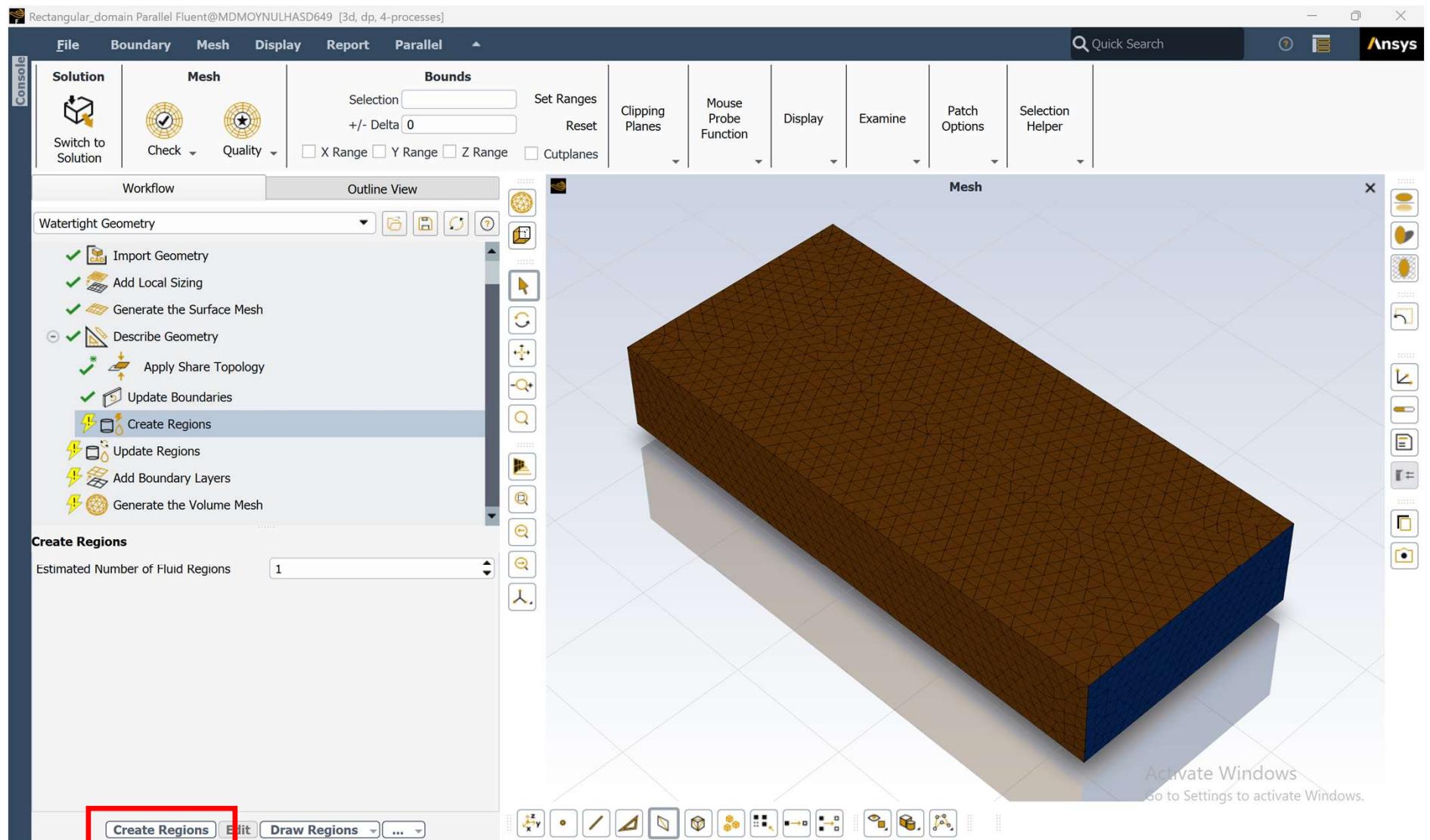


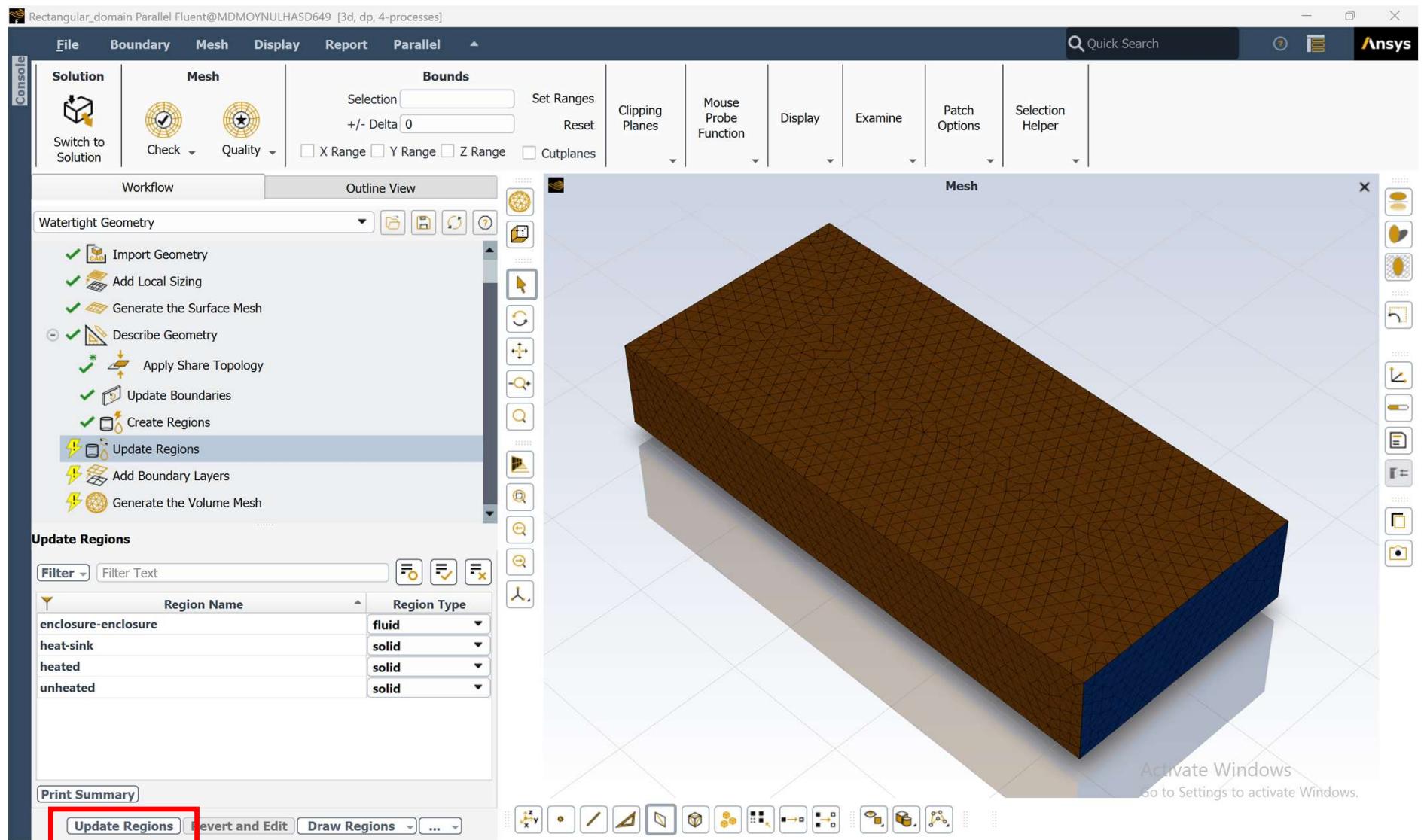


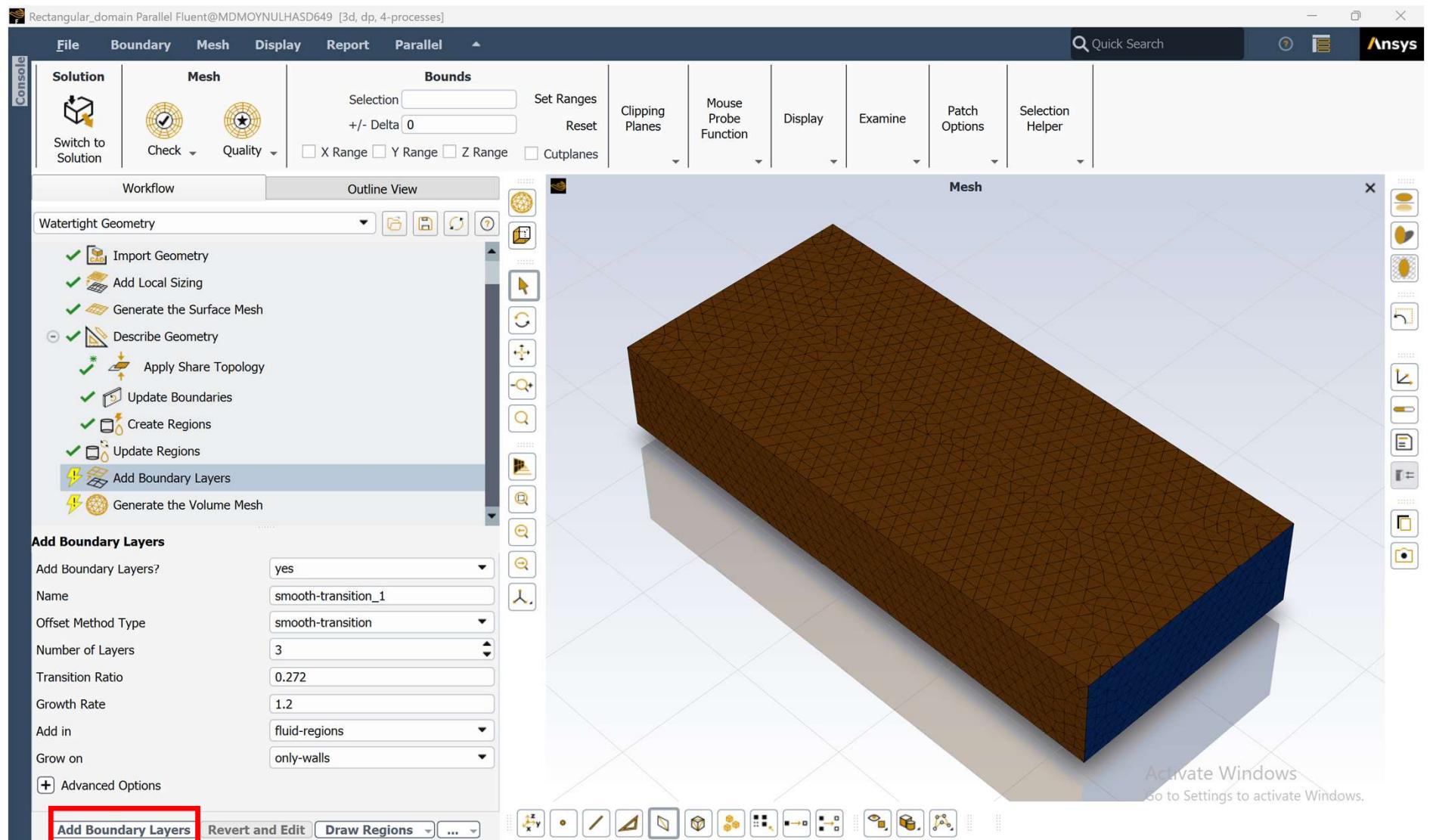


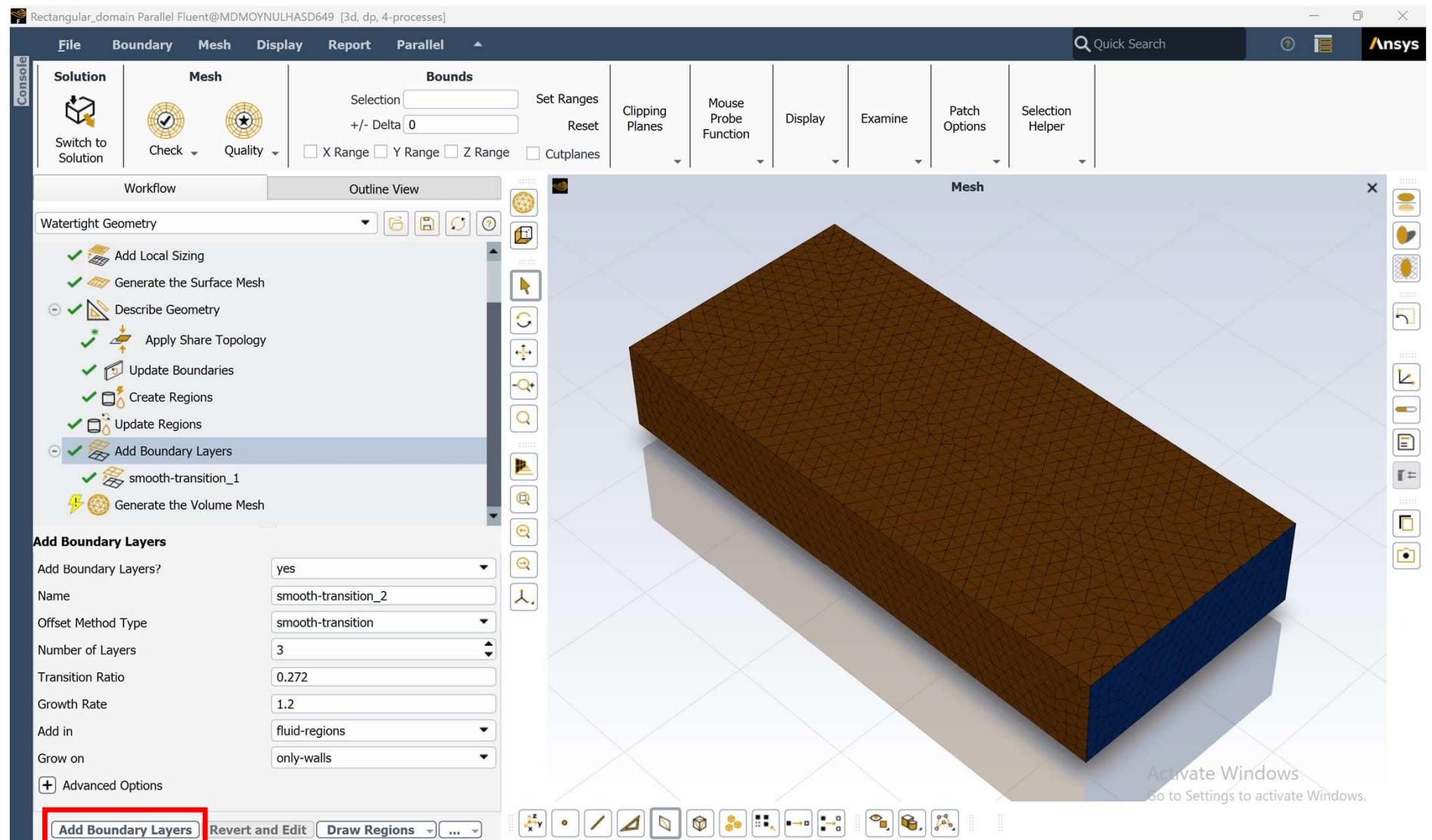


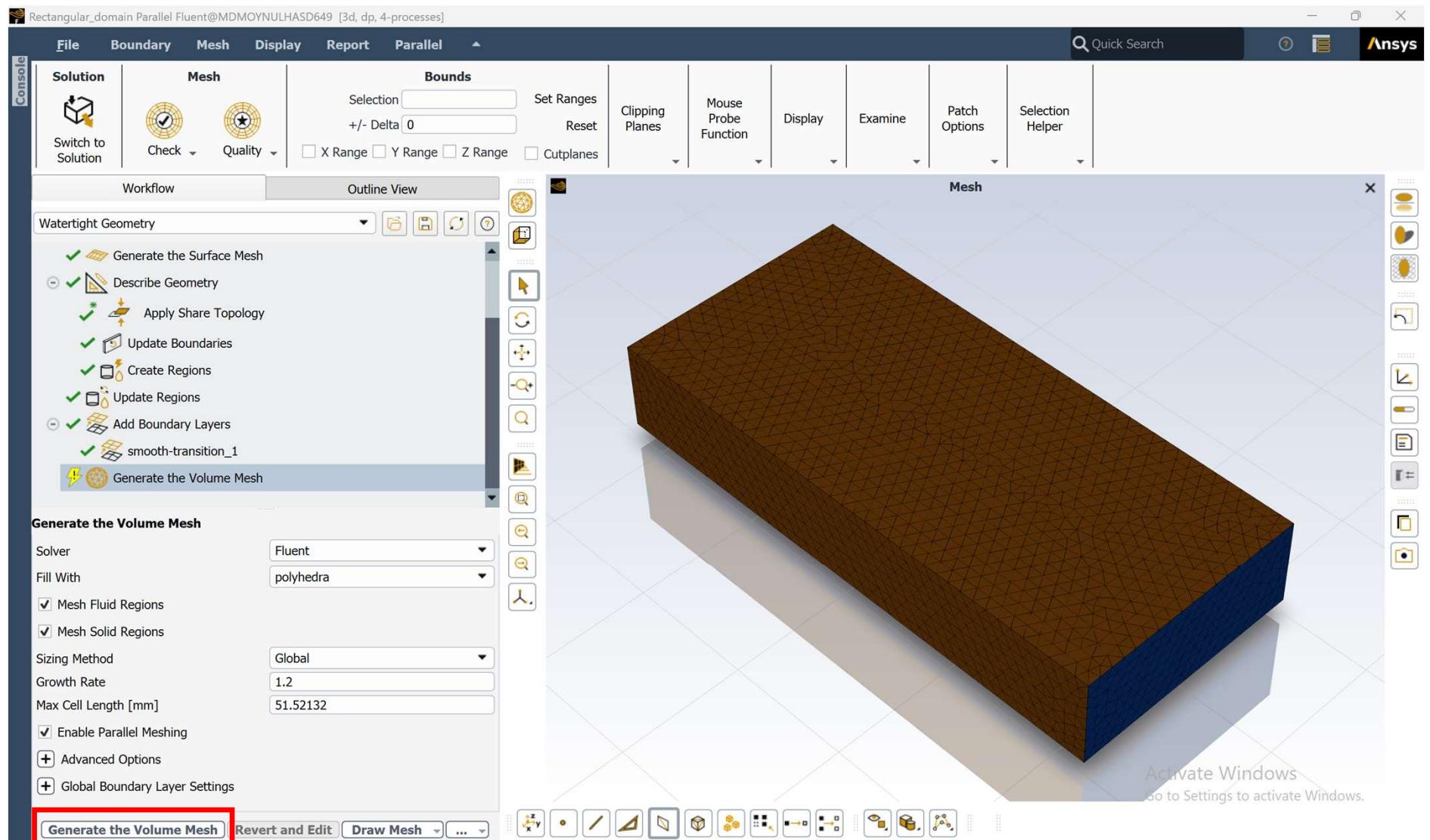


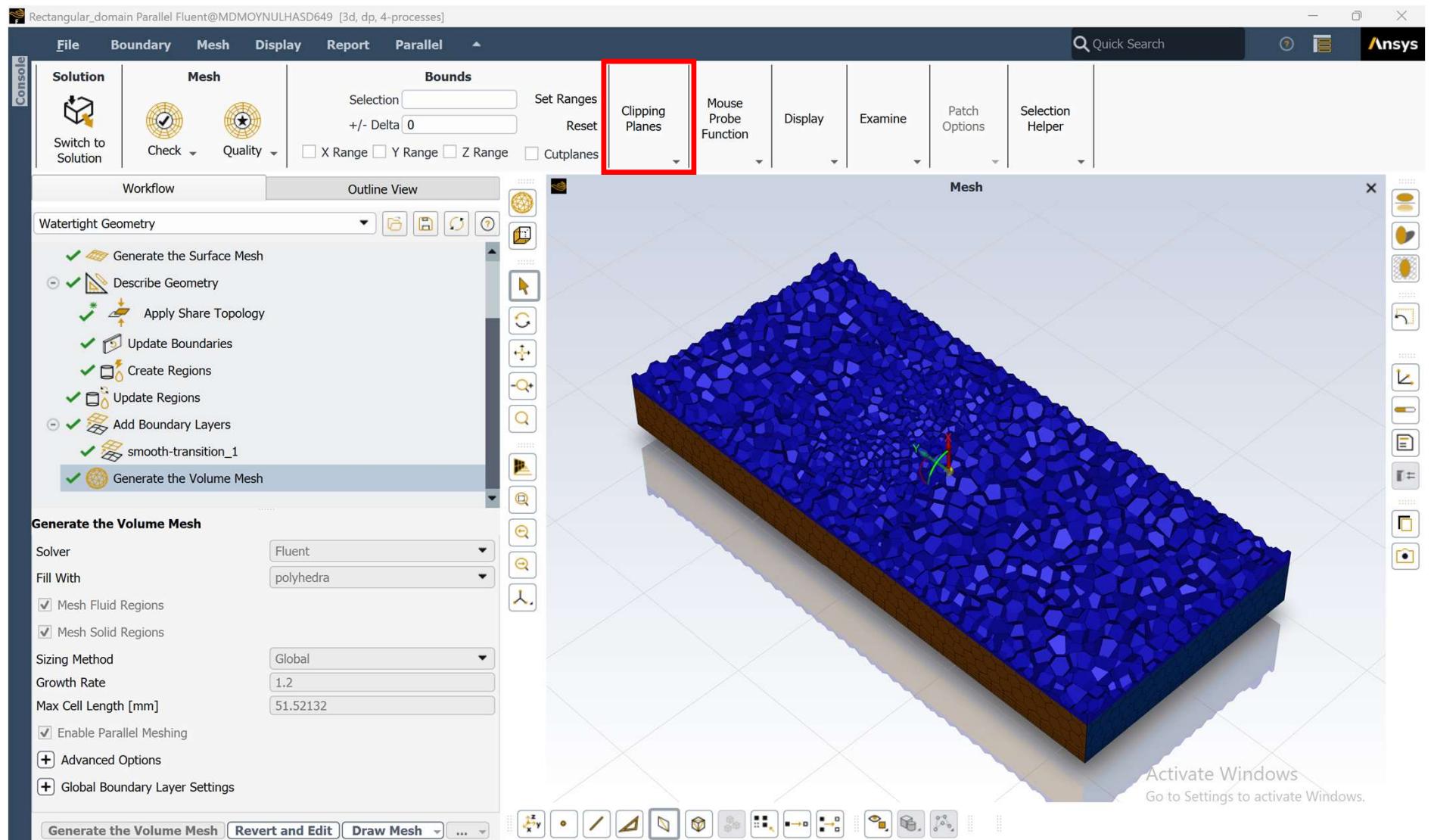


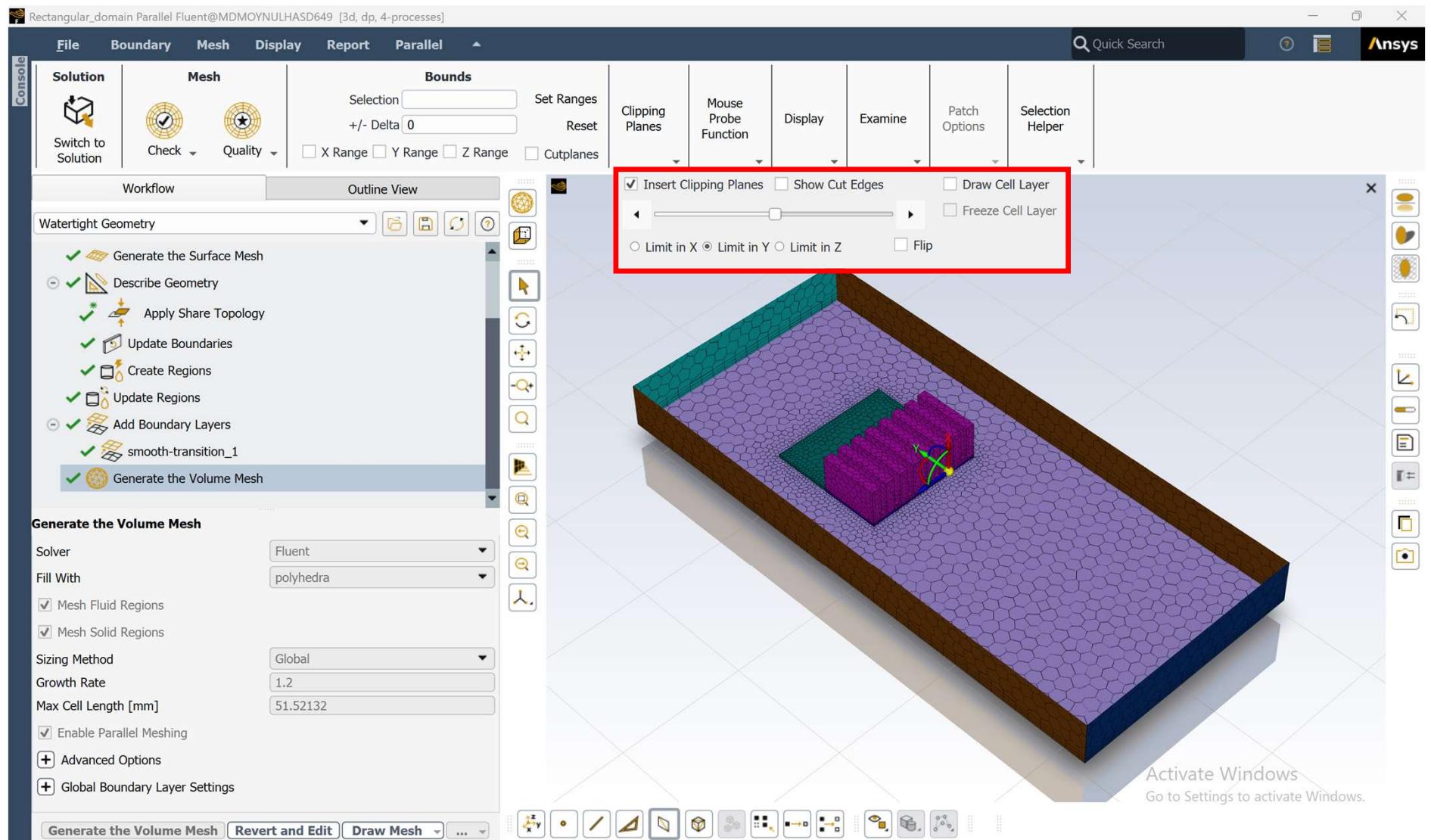


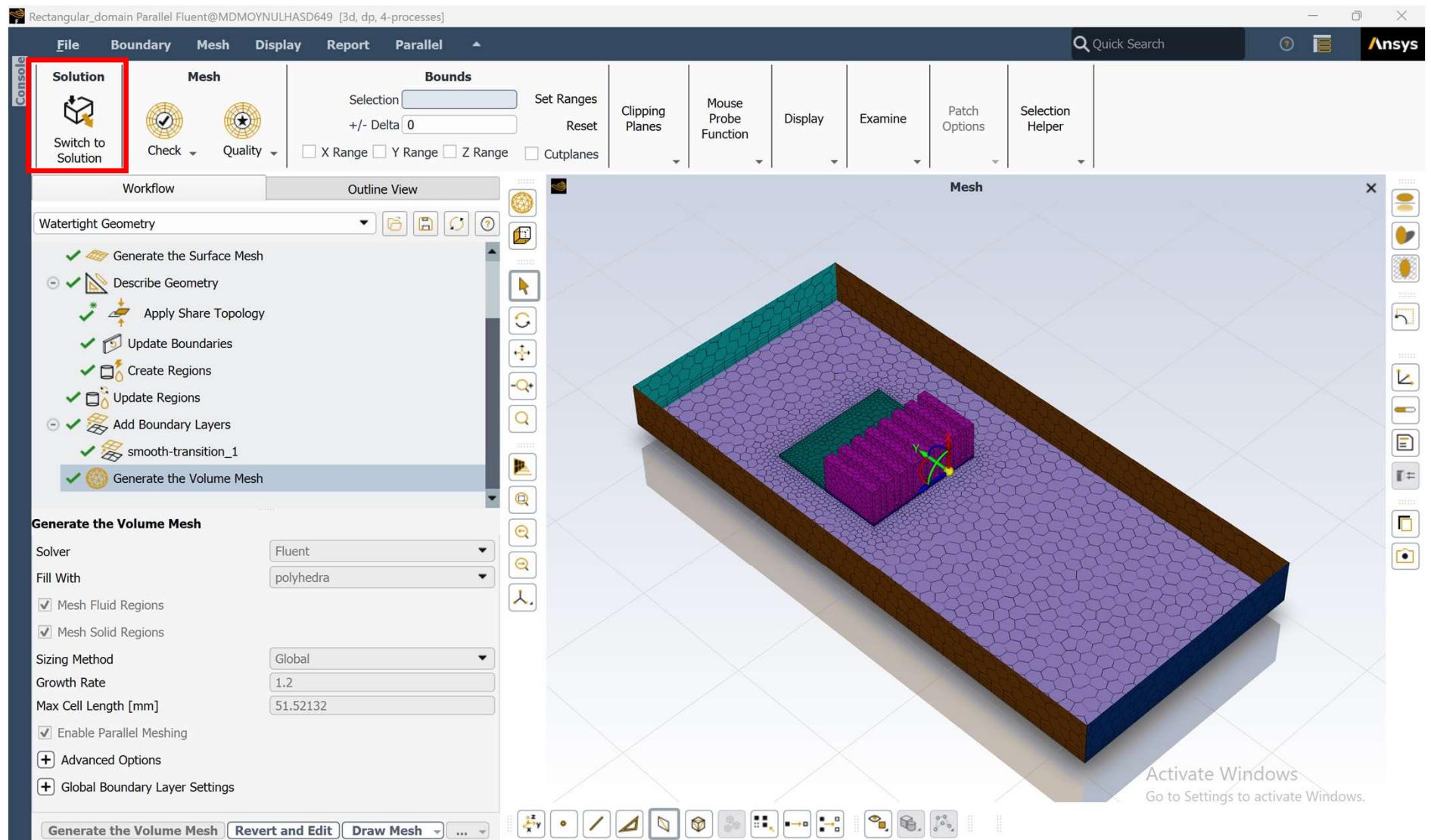


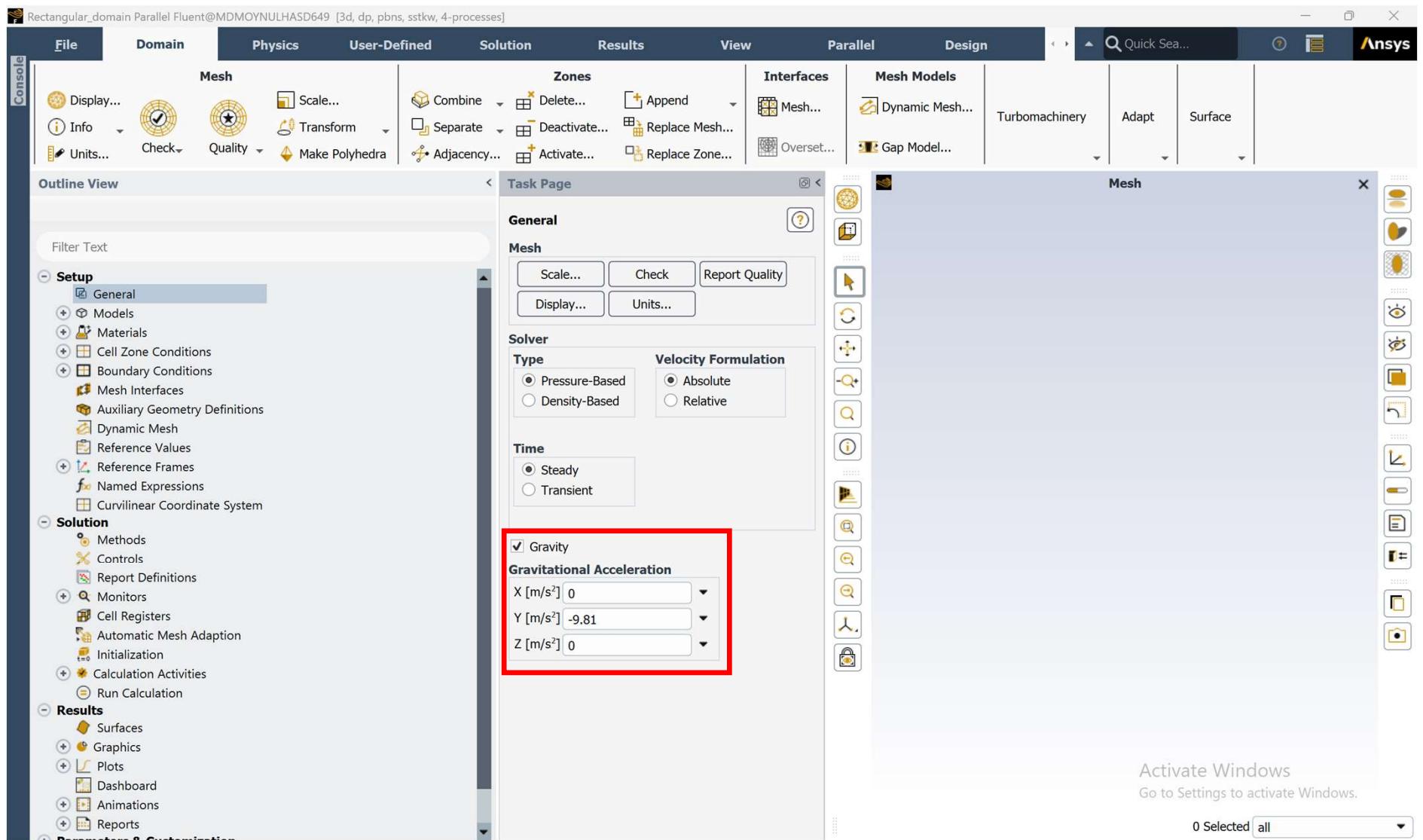


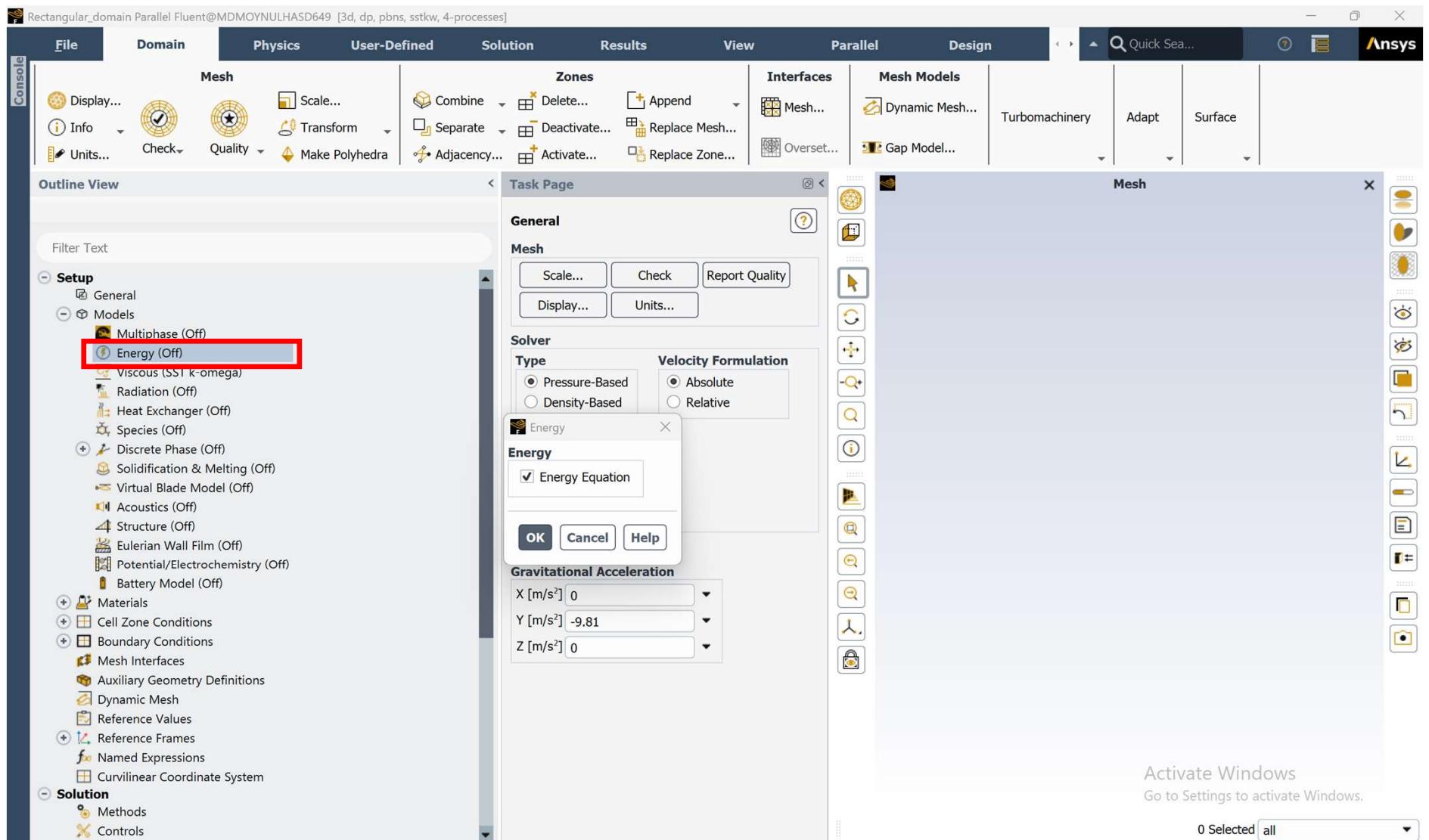


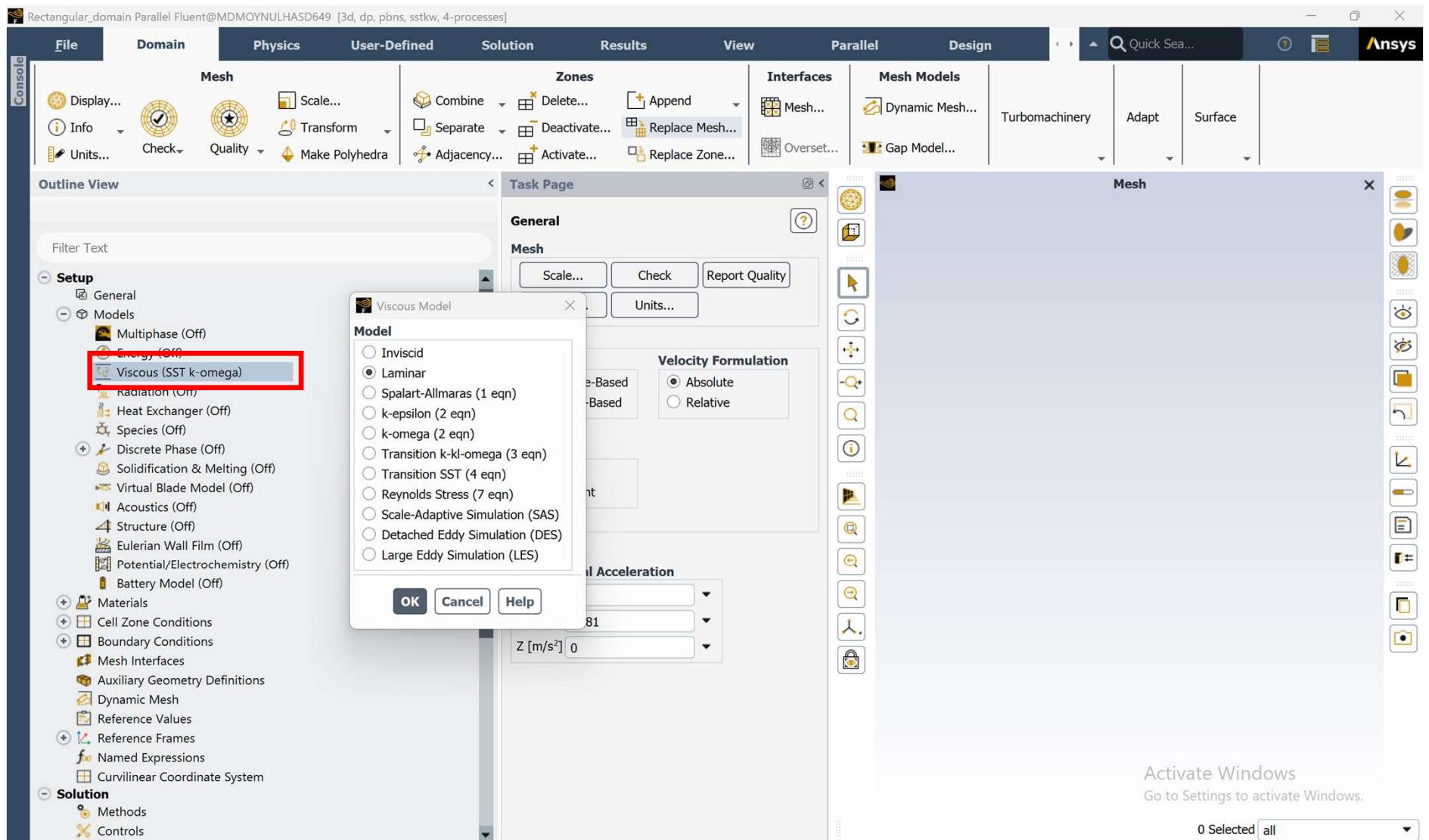


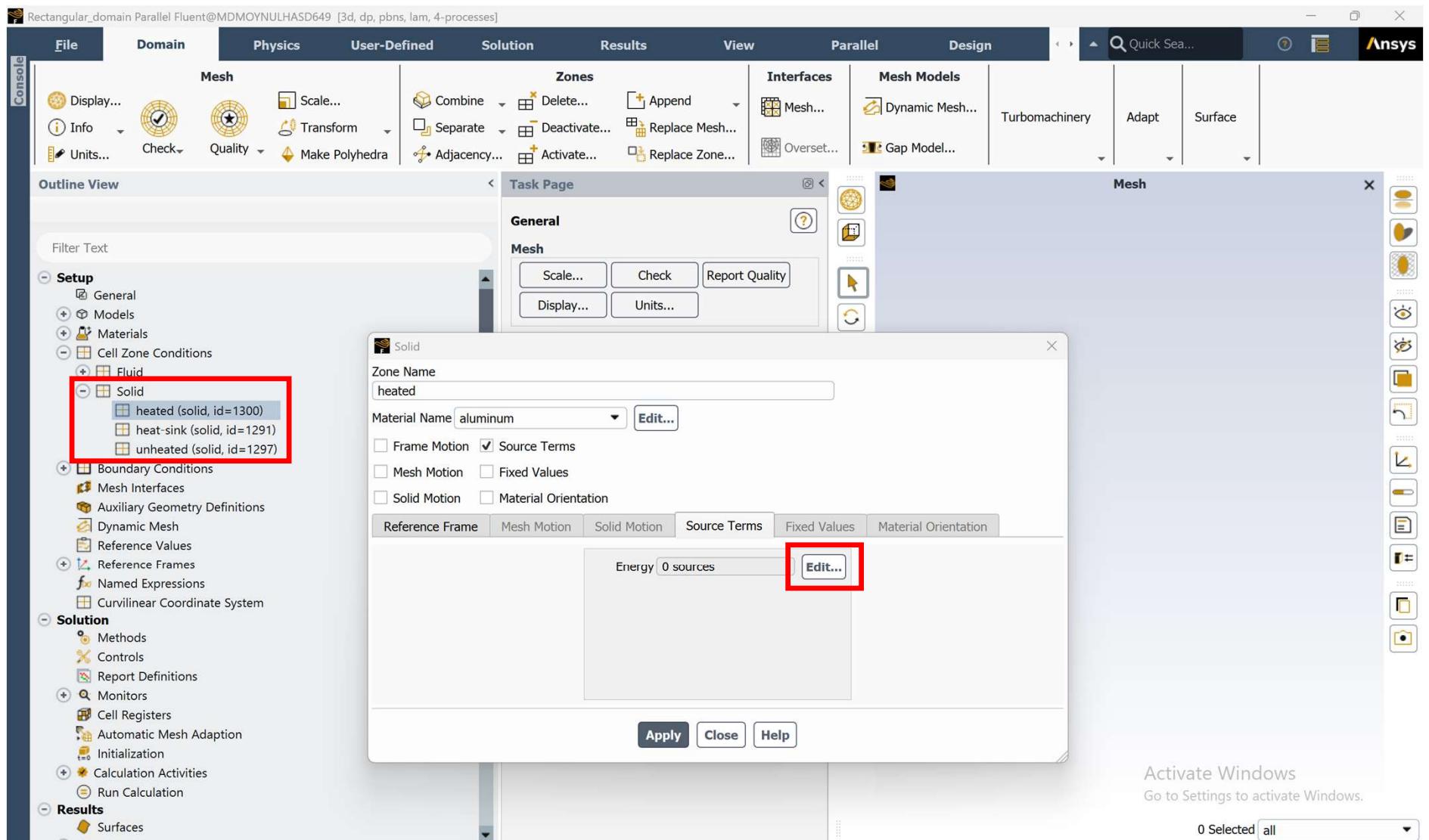


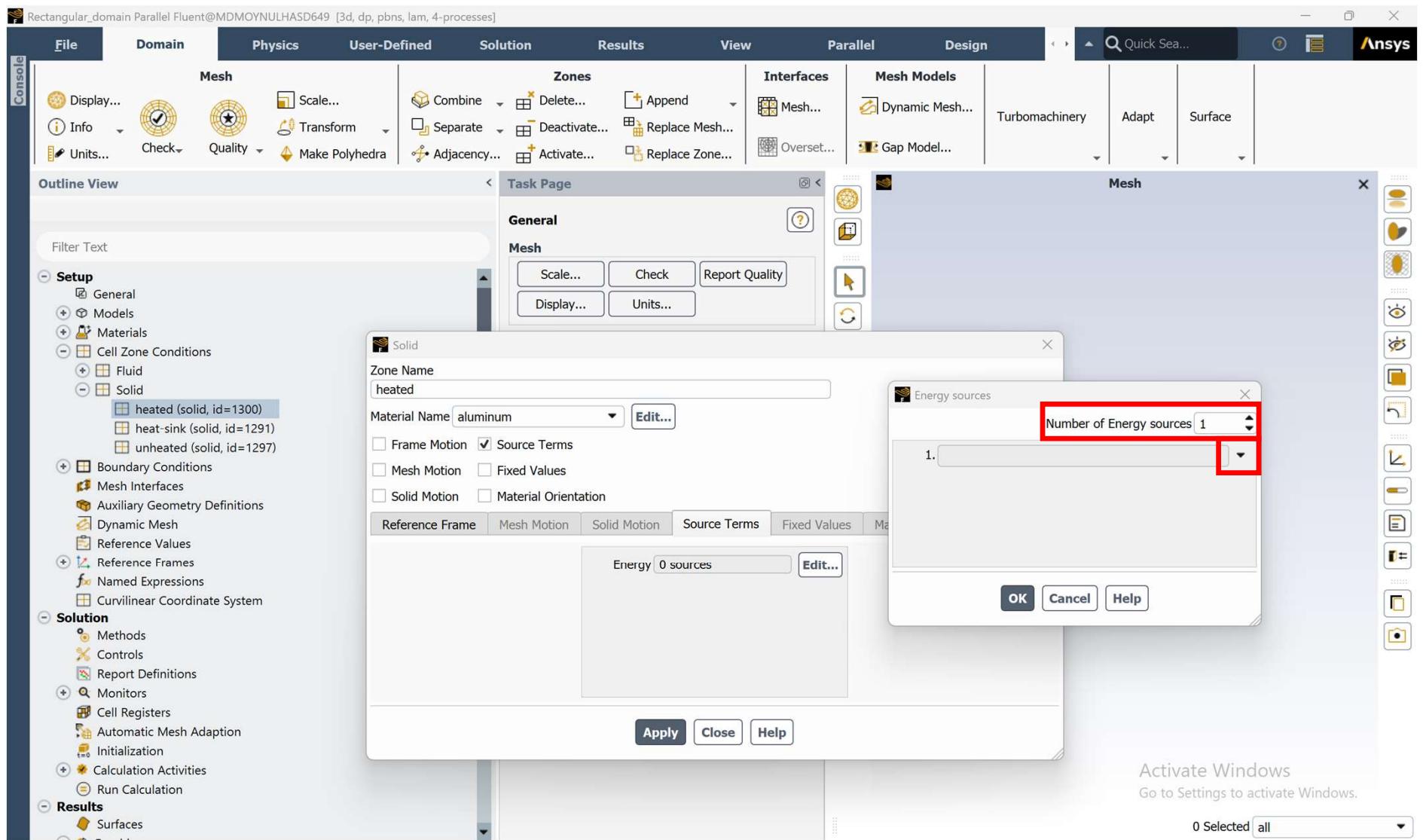


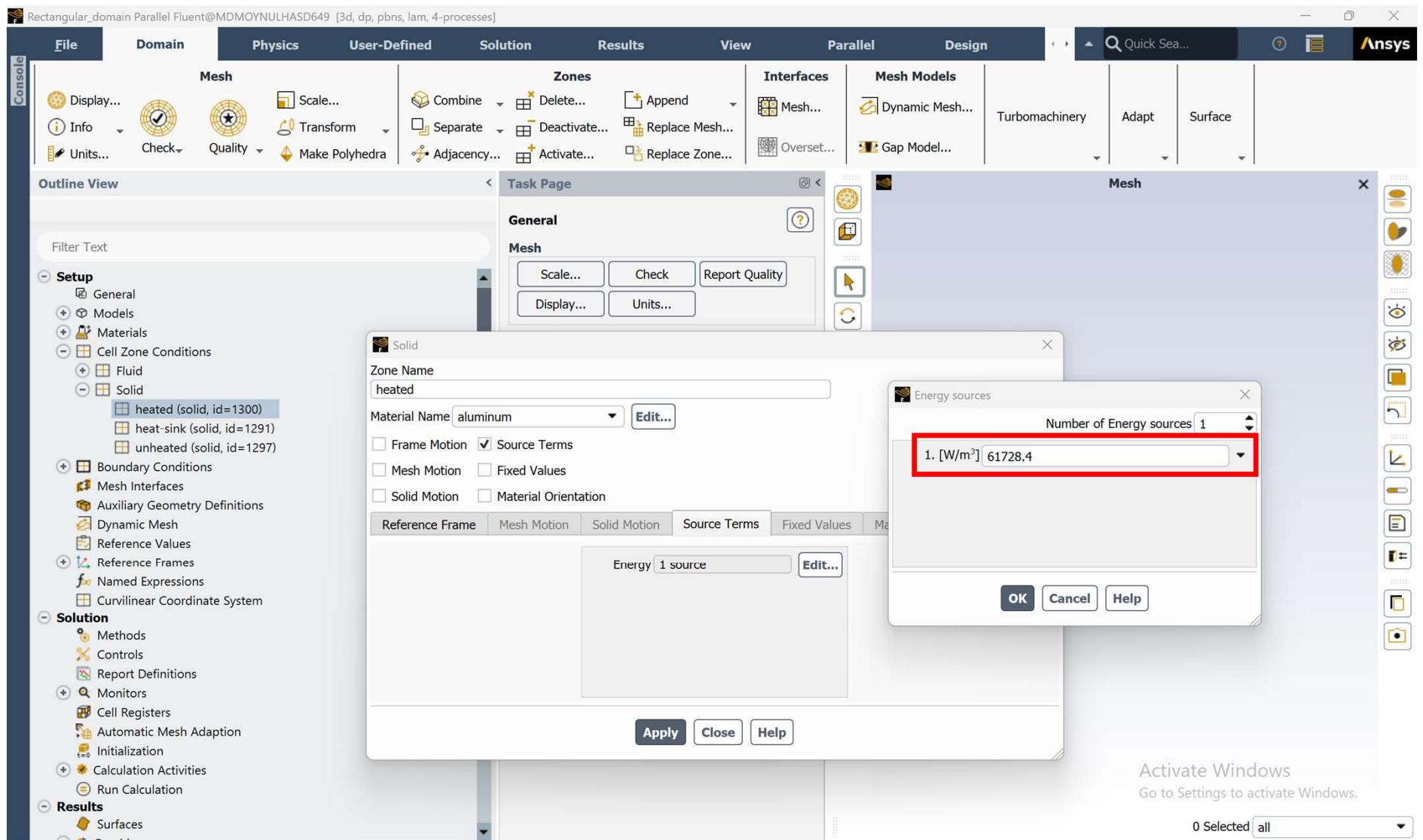


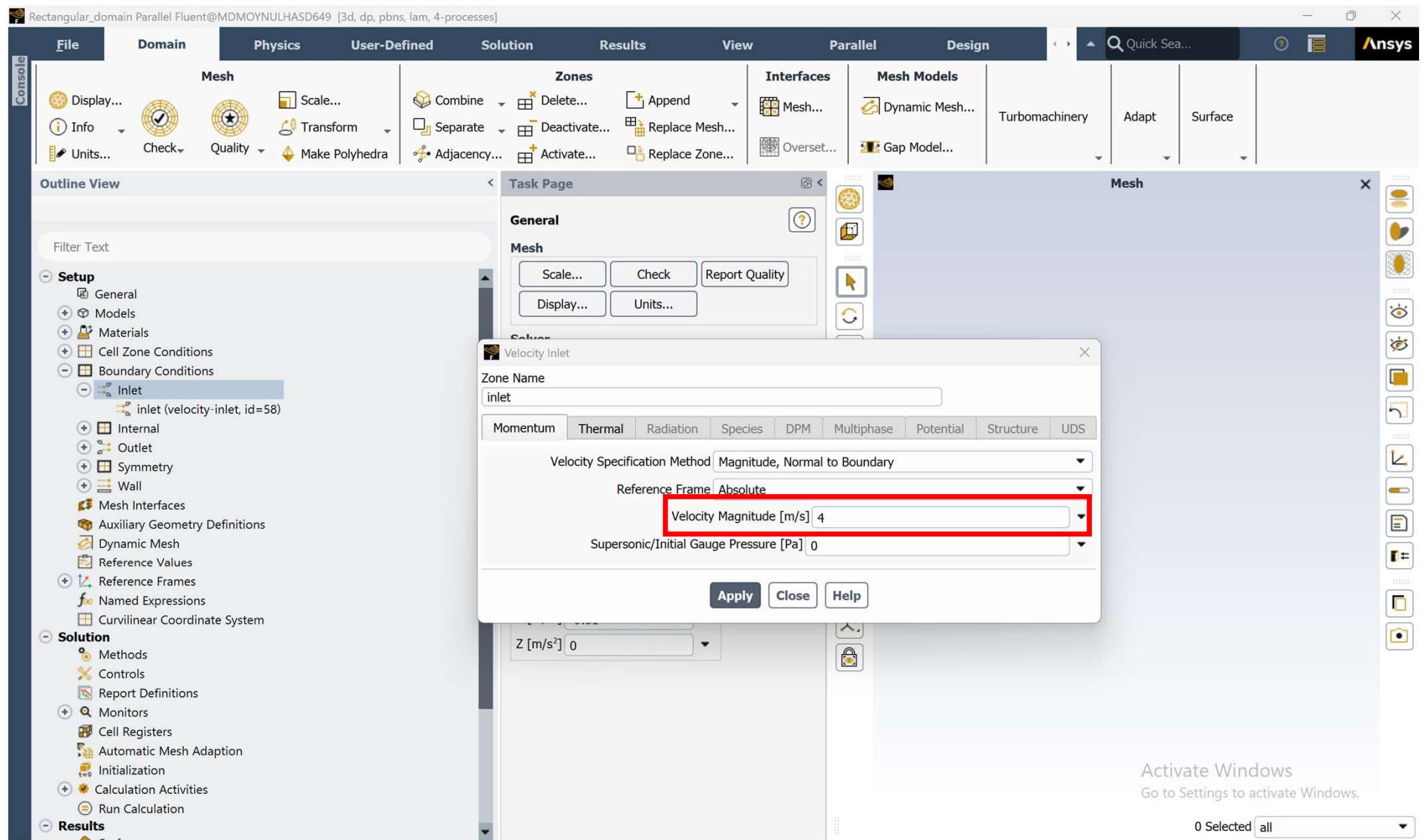


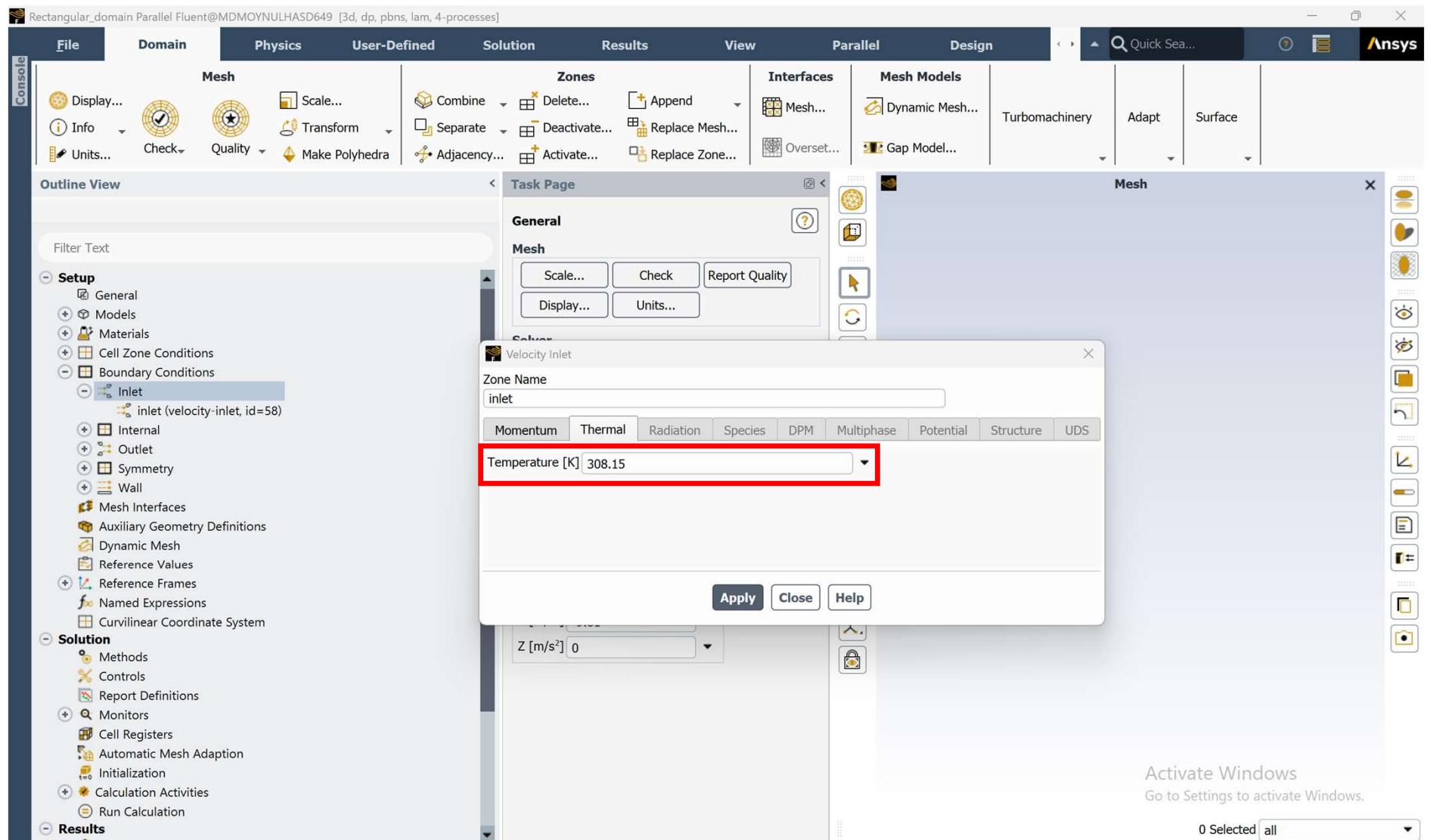


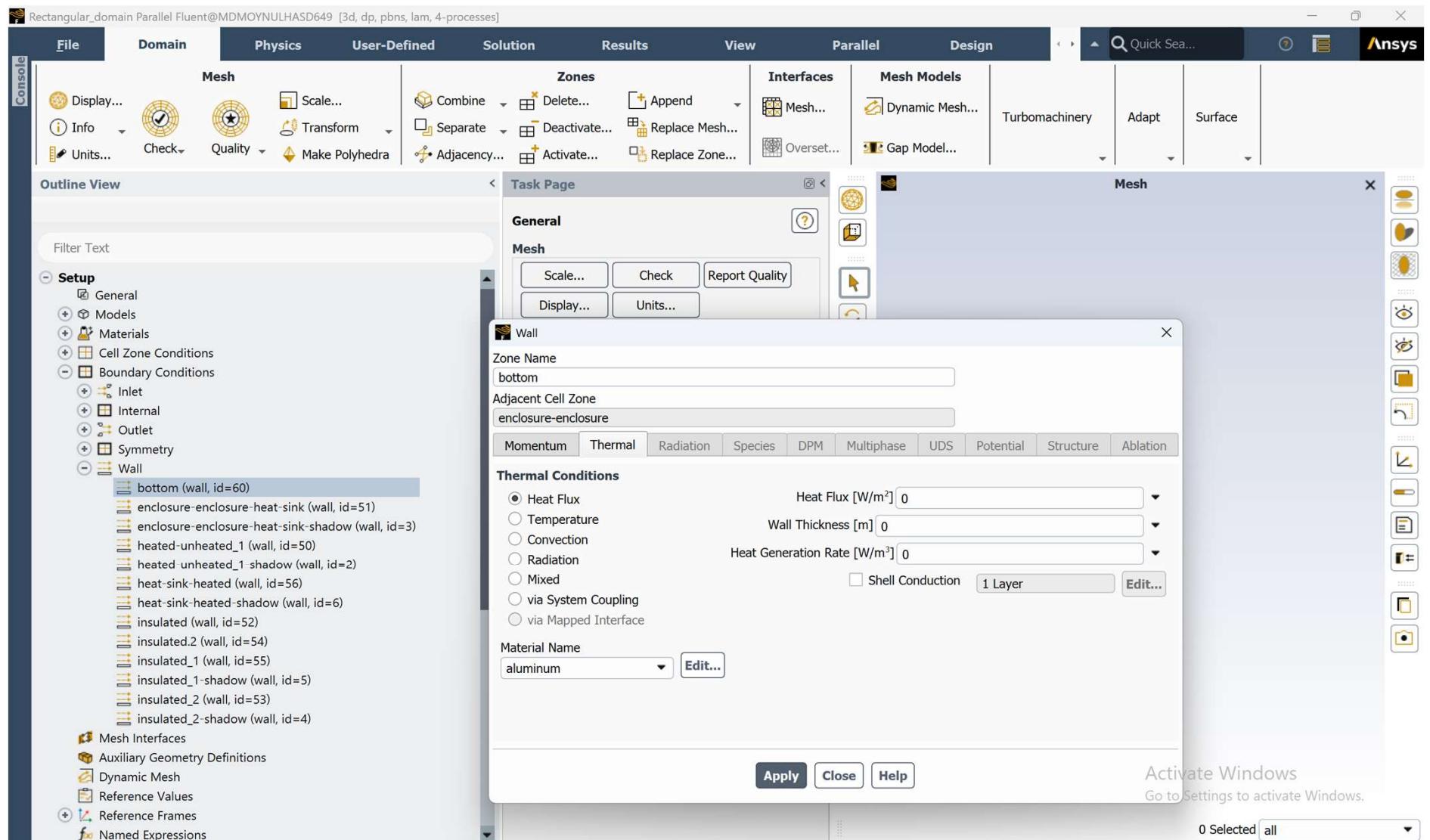


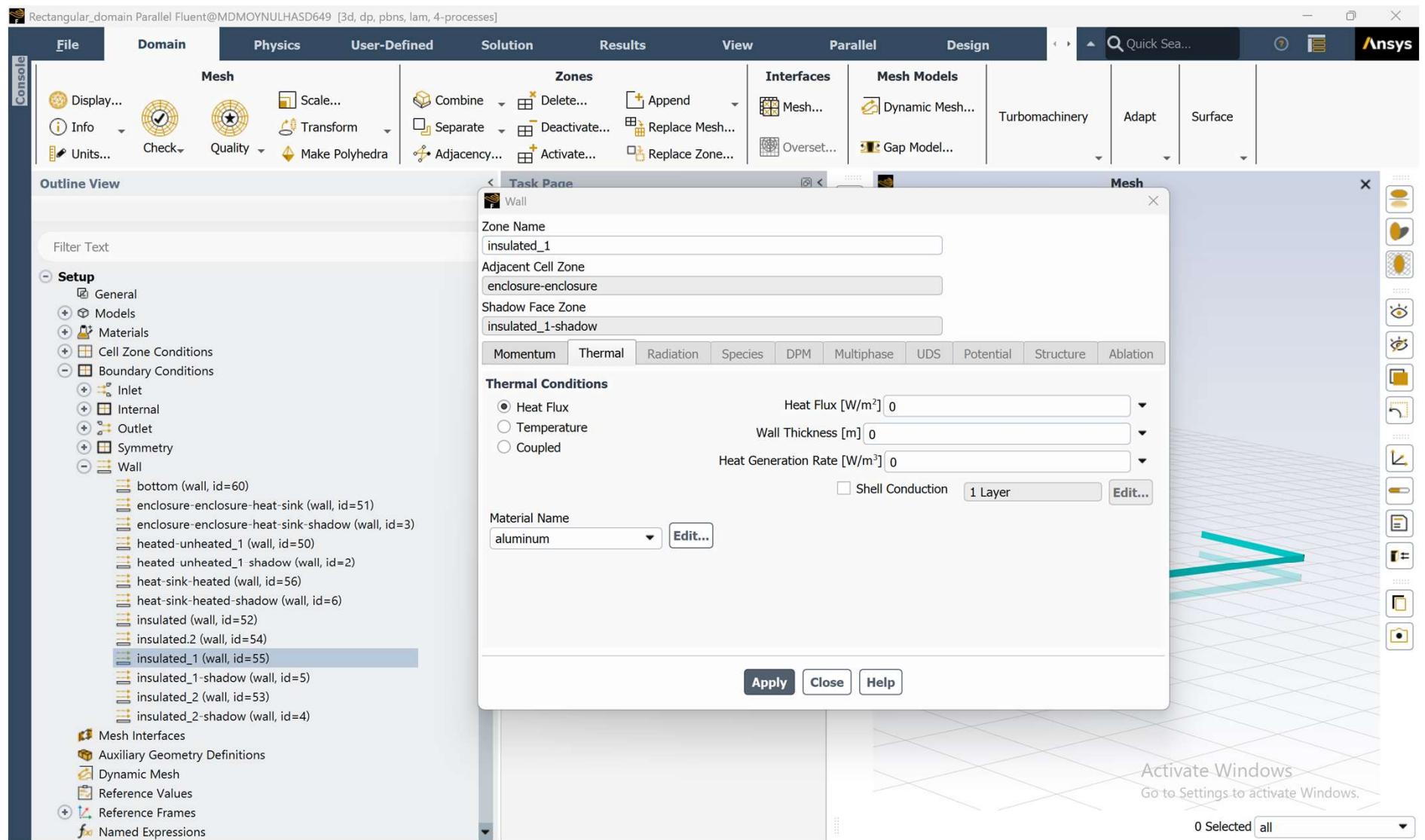


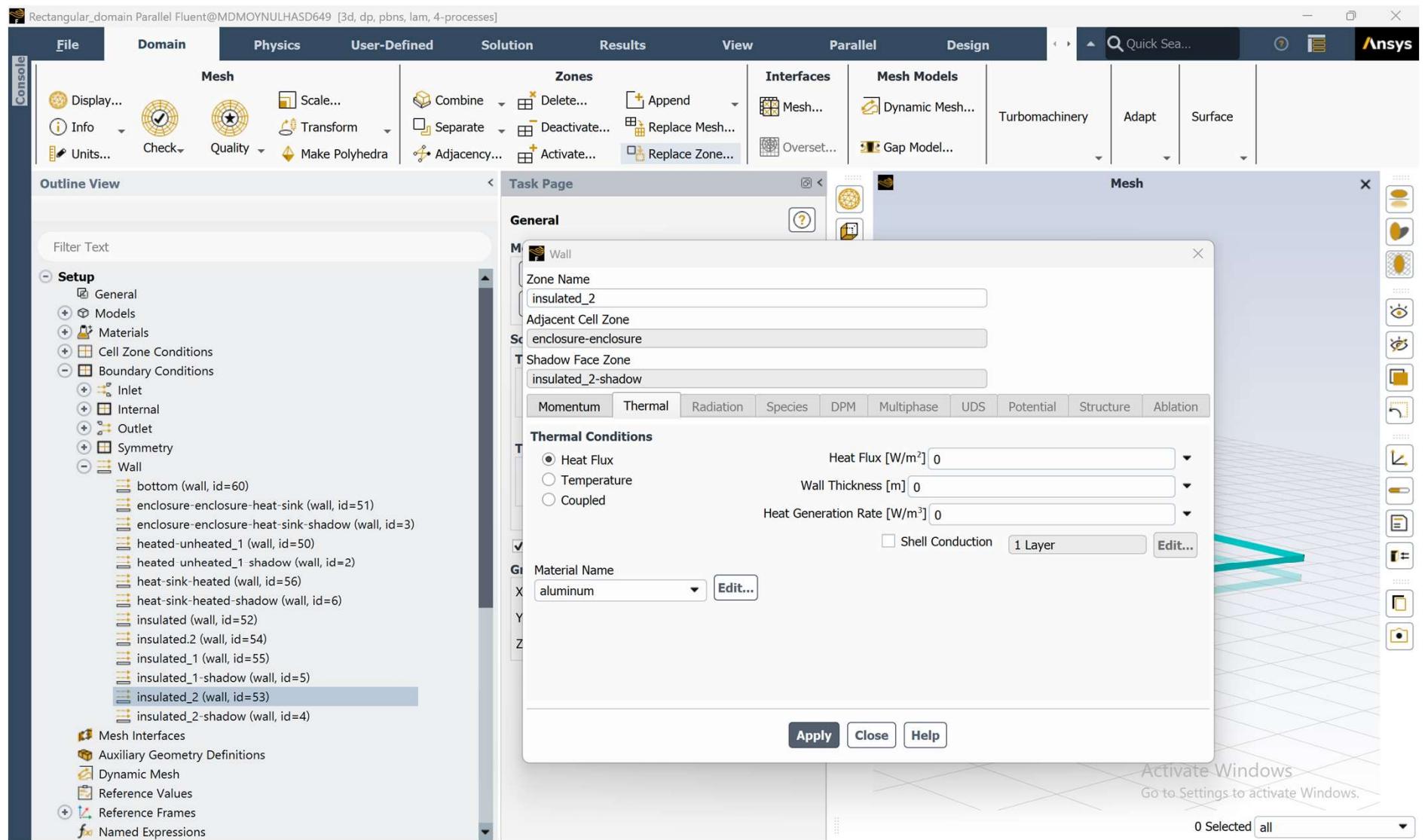


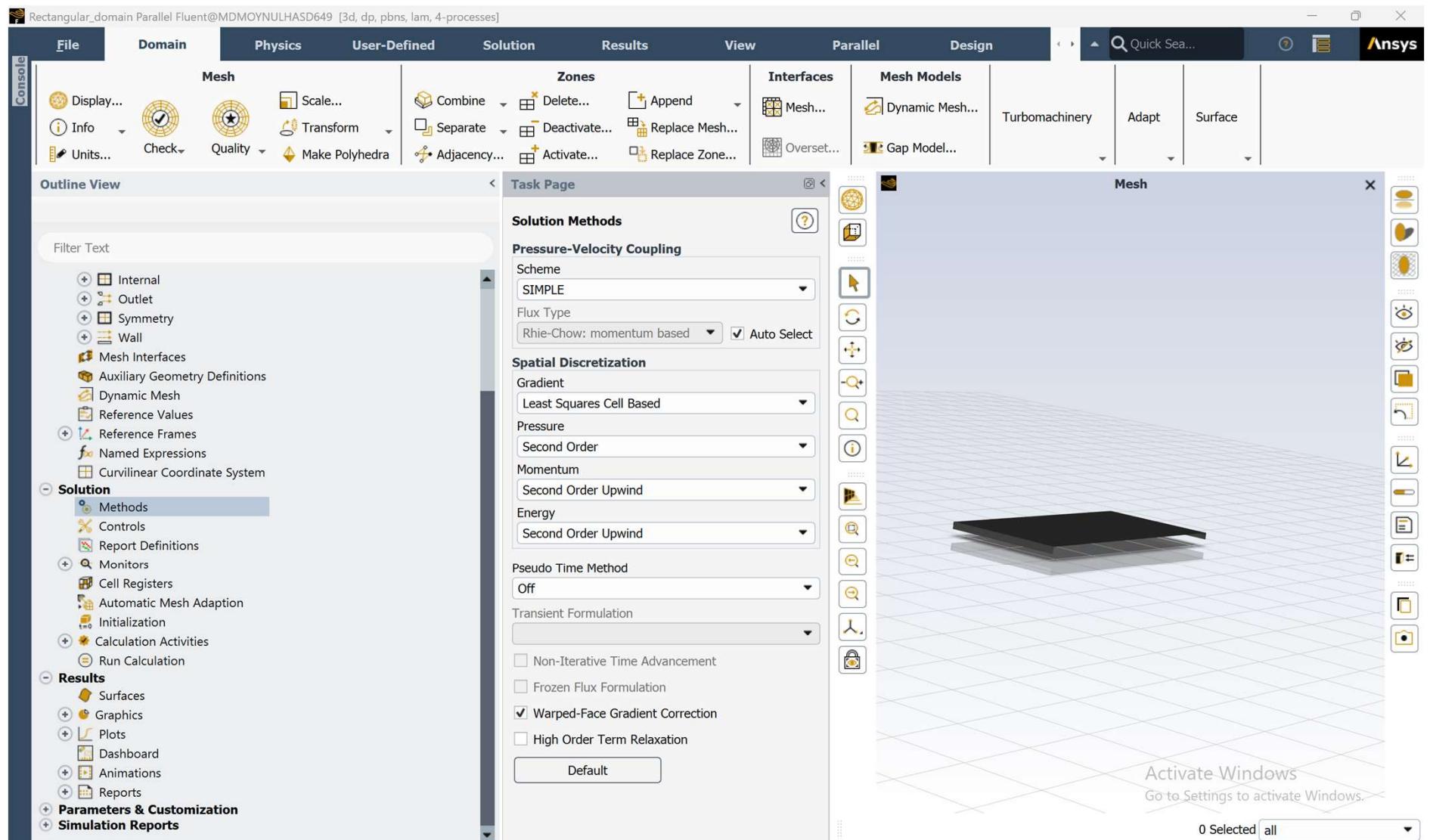


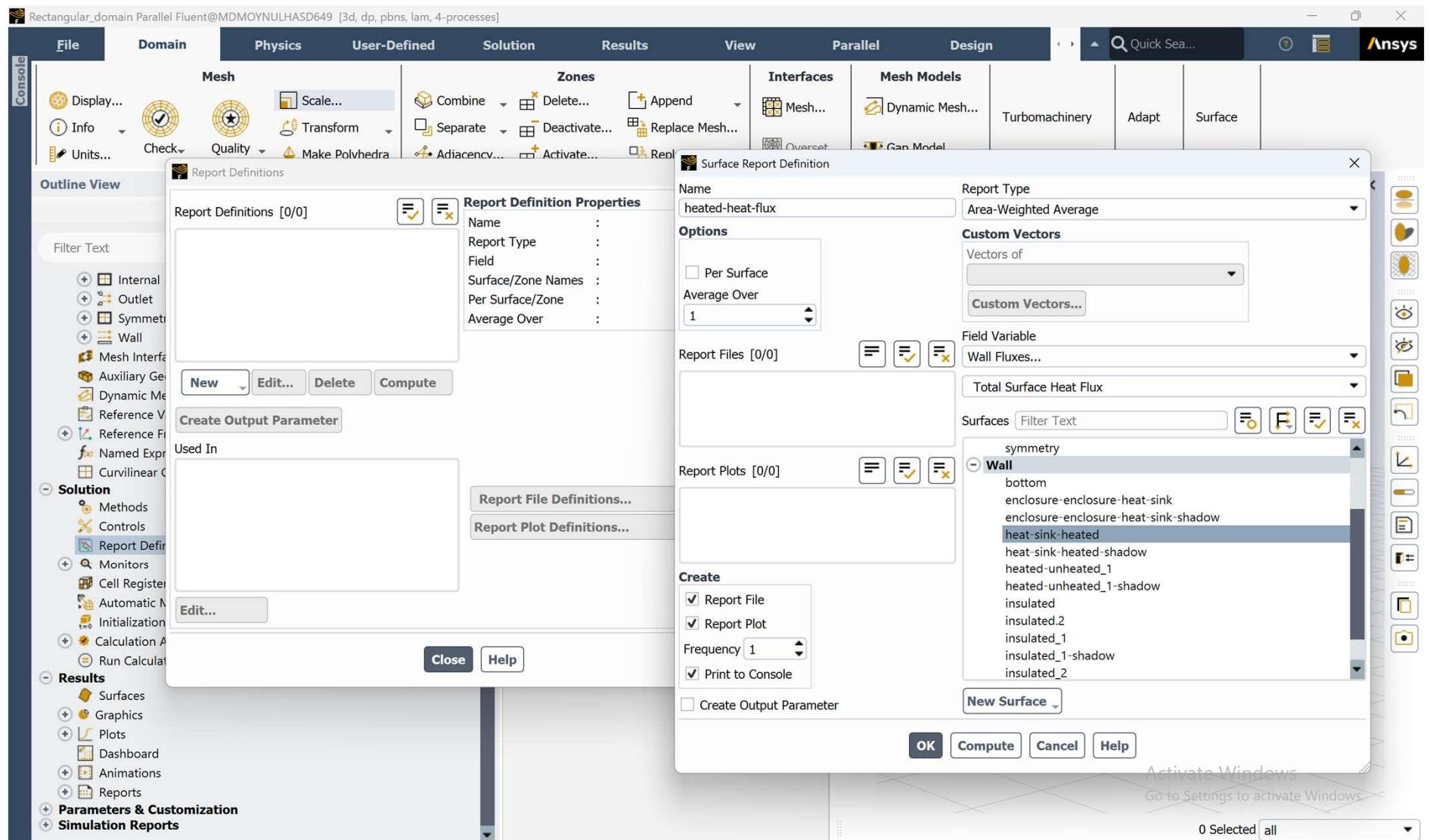


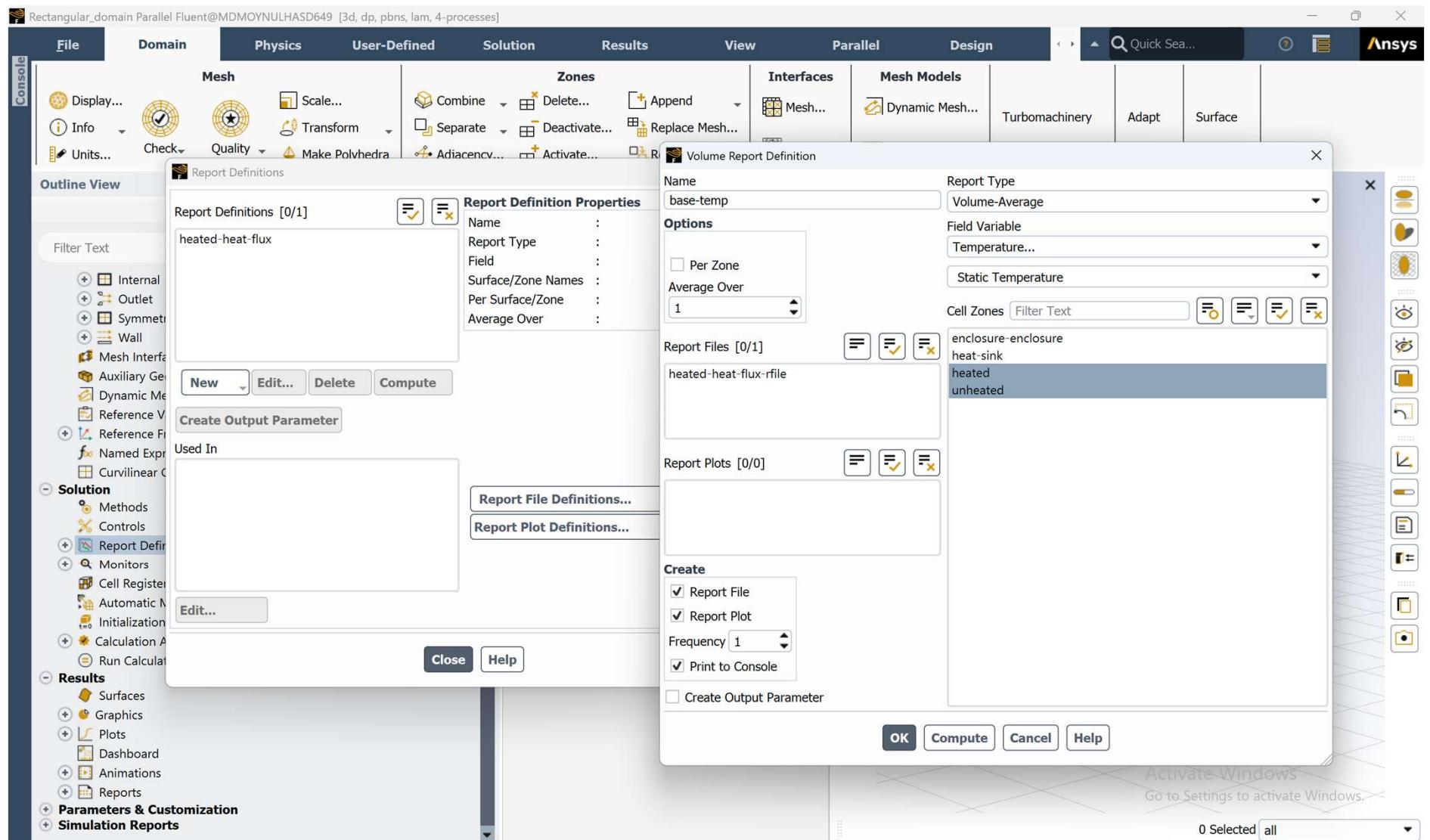


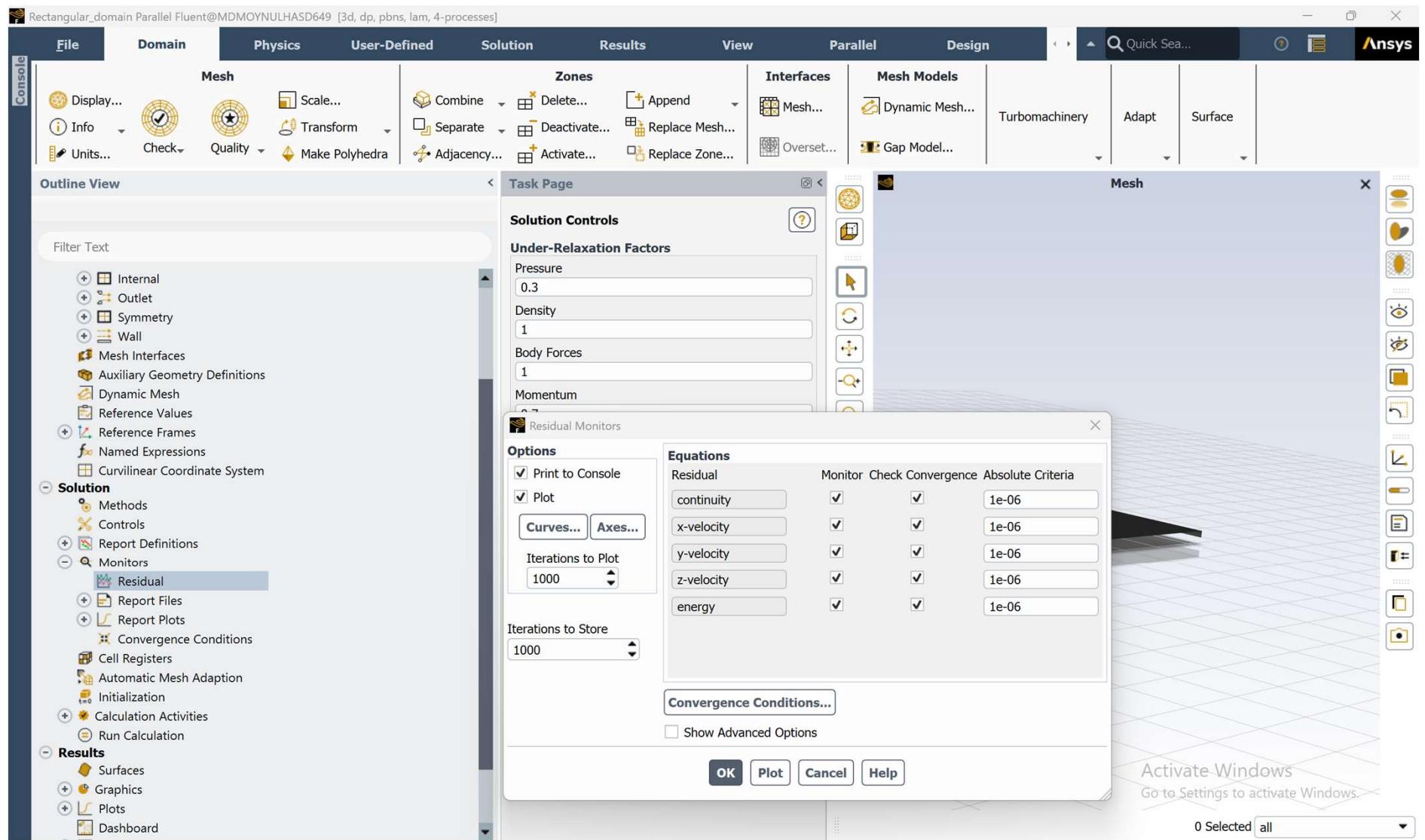


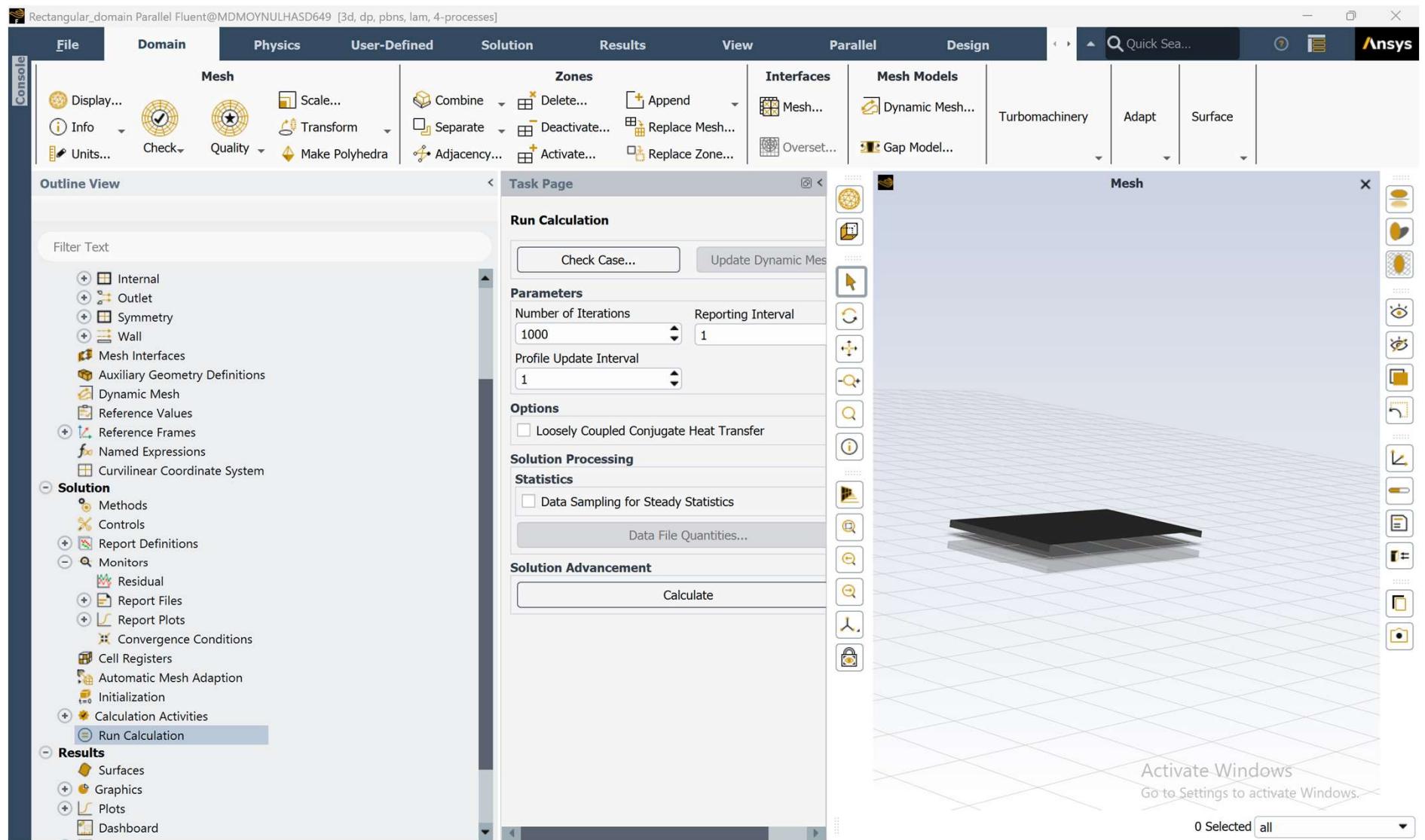


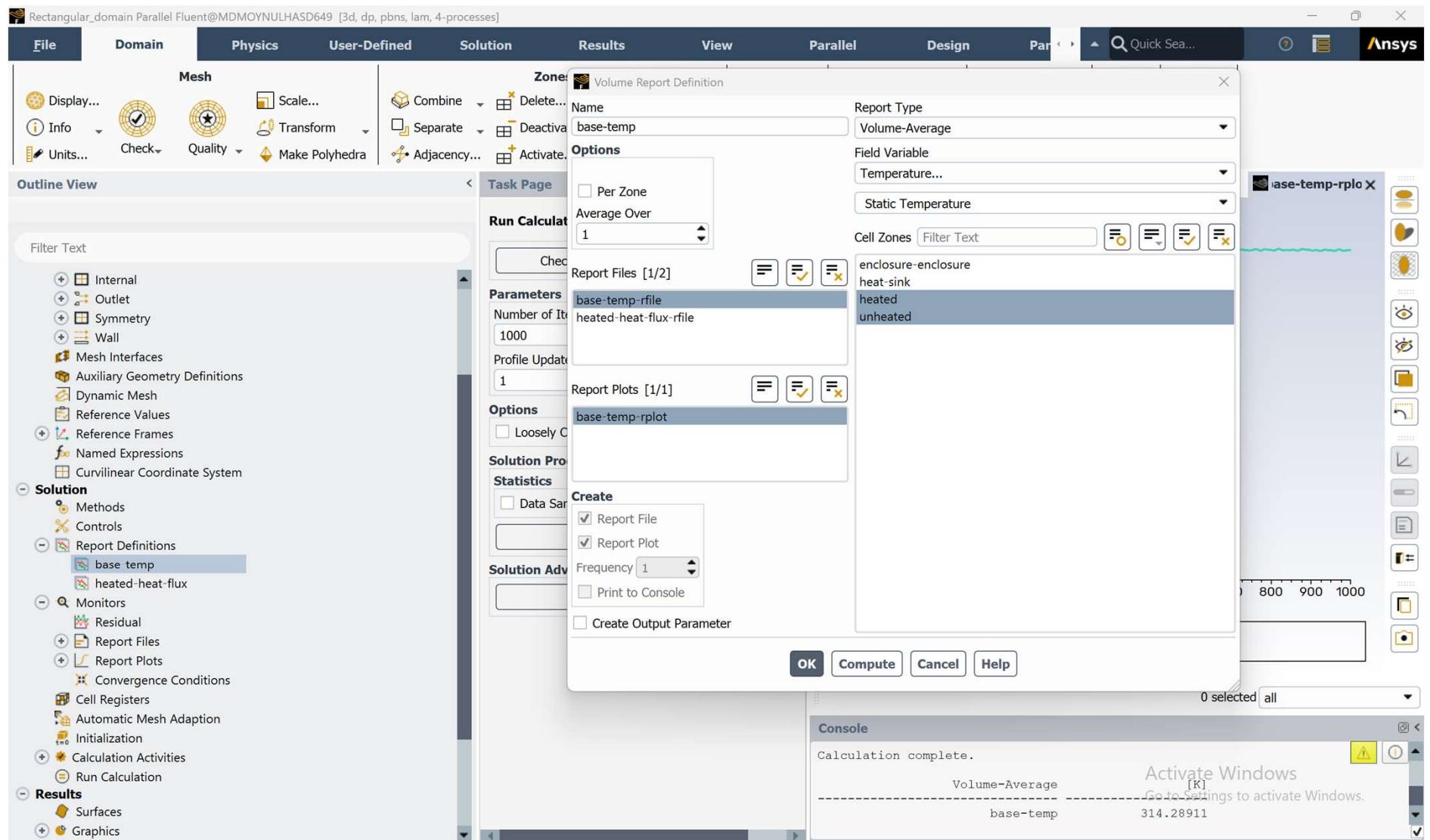


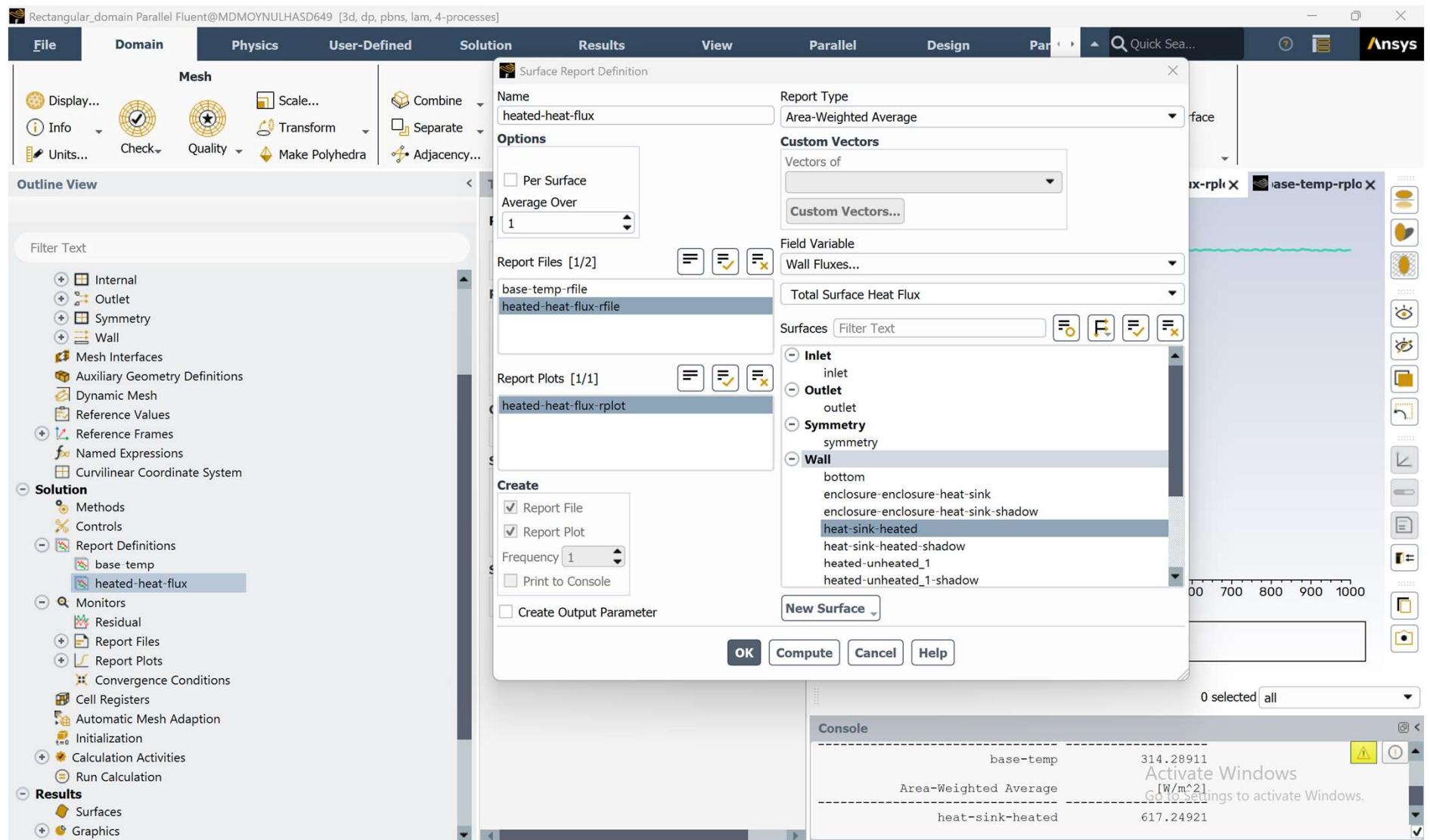












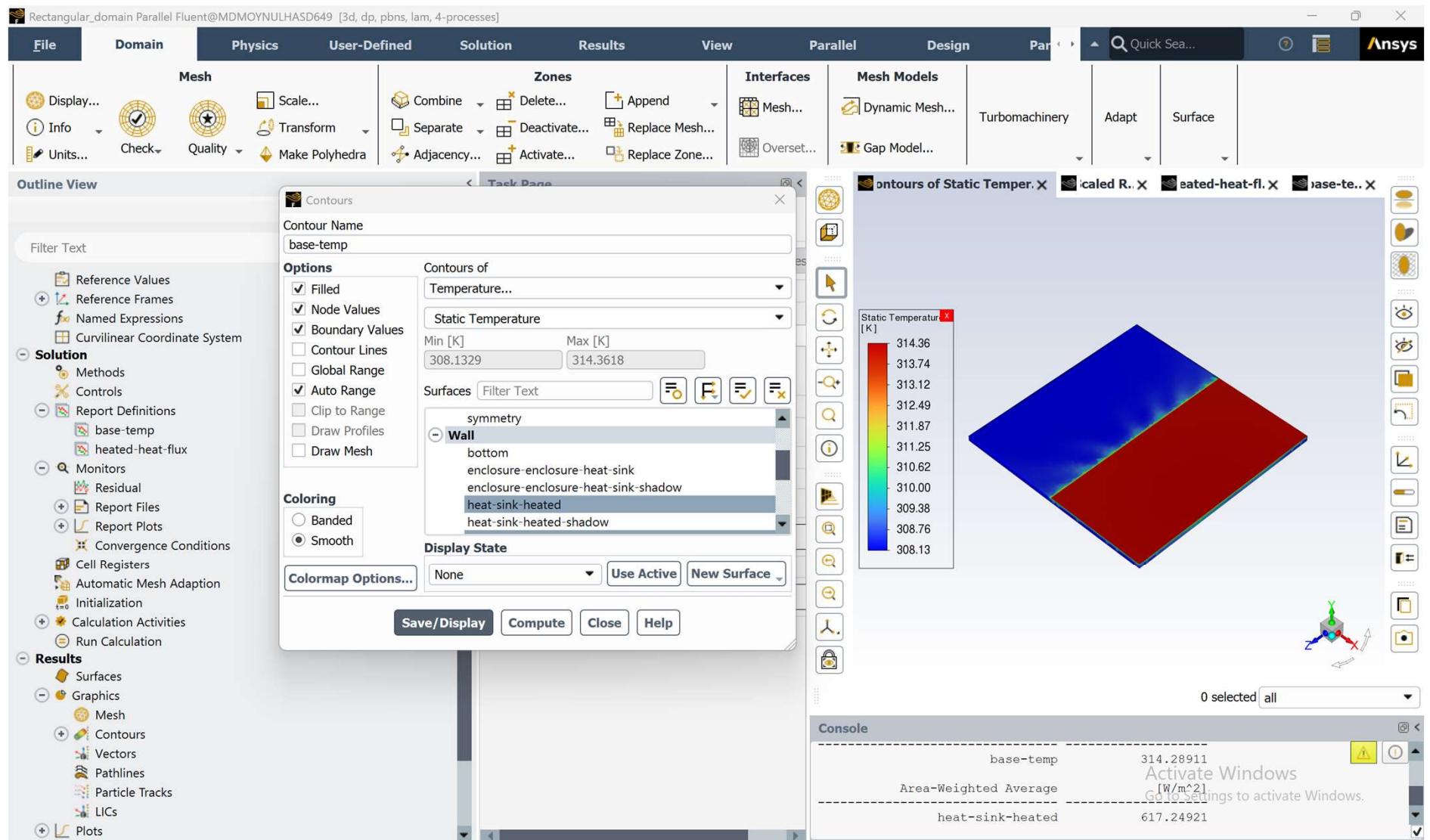
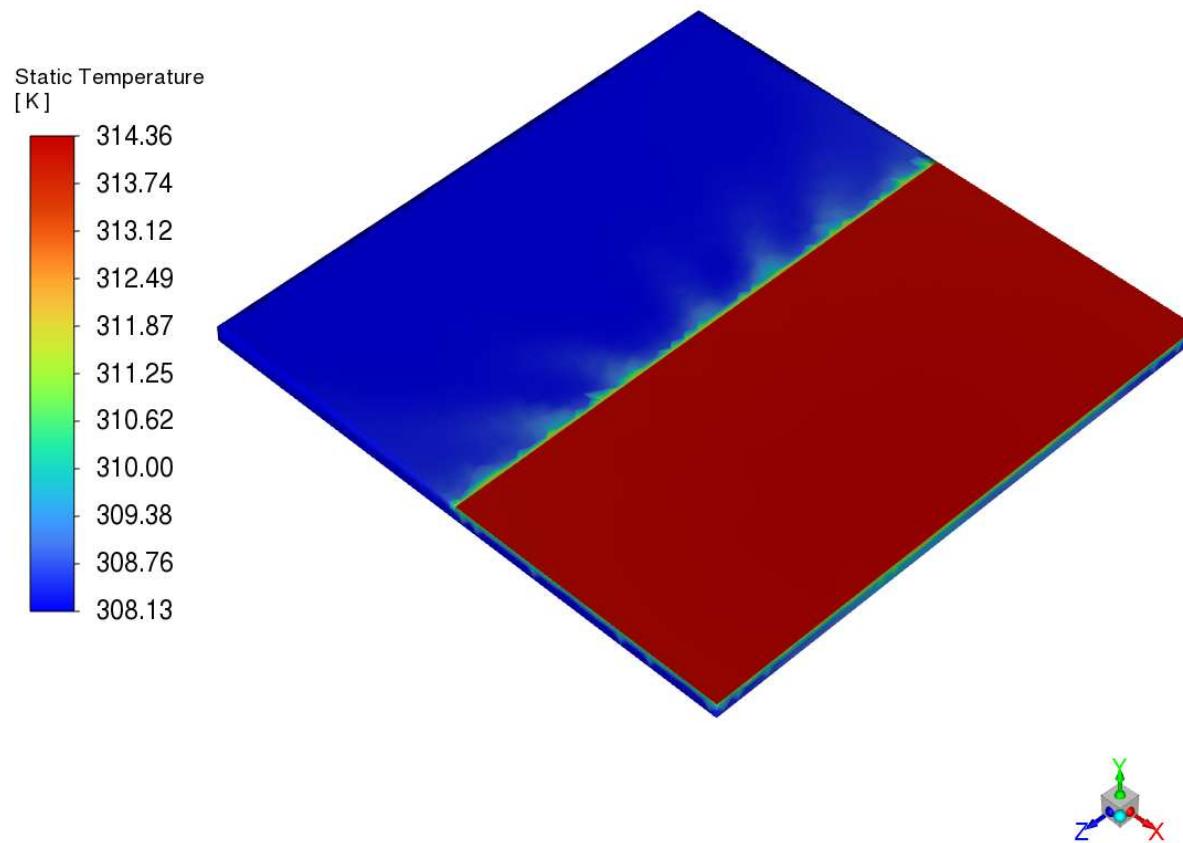


Figure 2. Base plate temperature with rectangular heat sink.



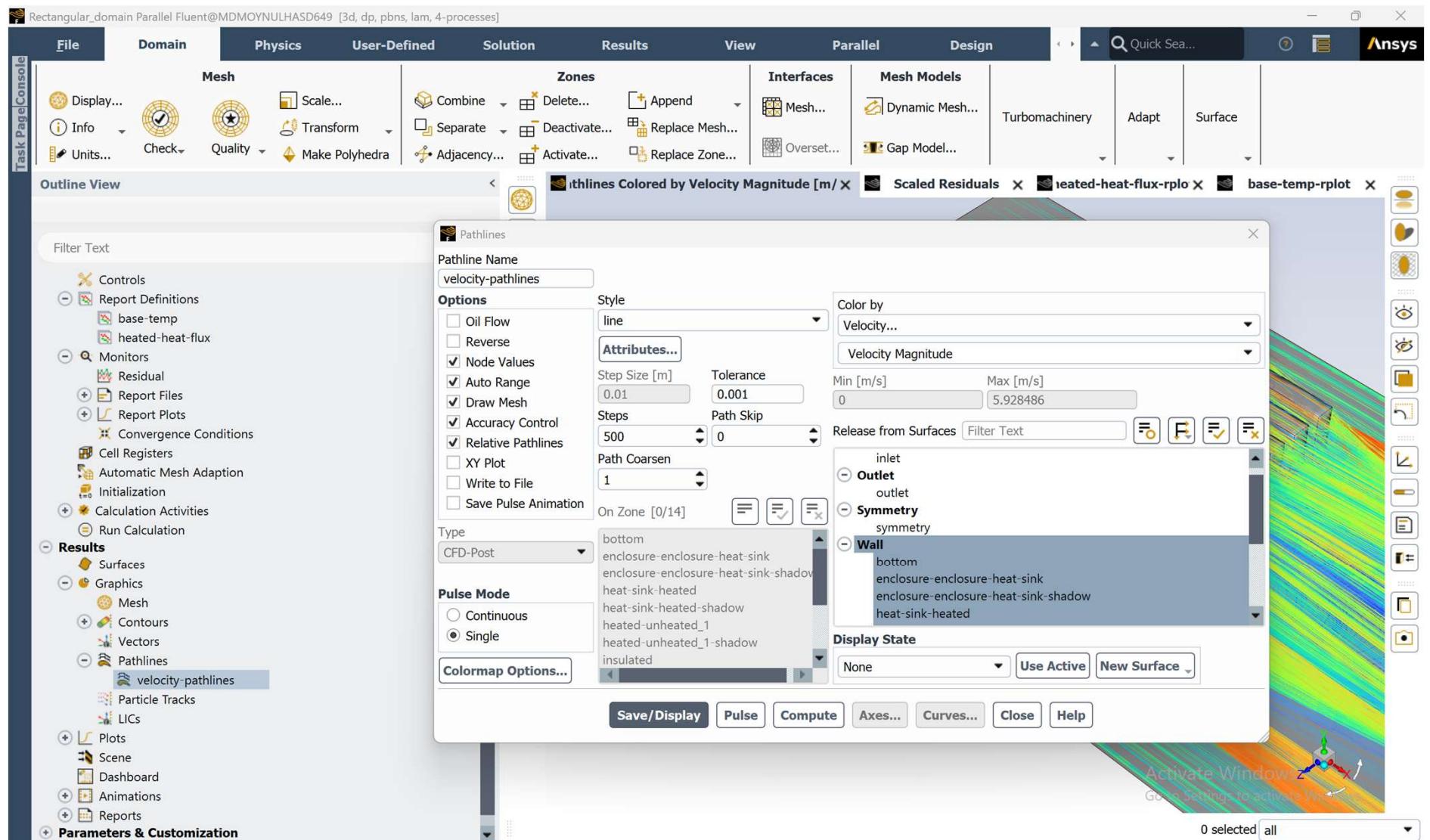
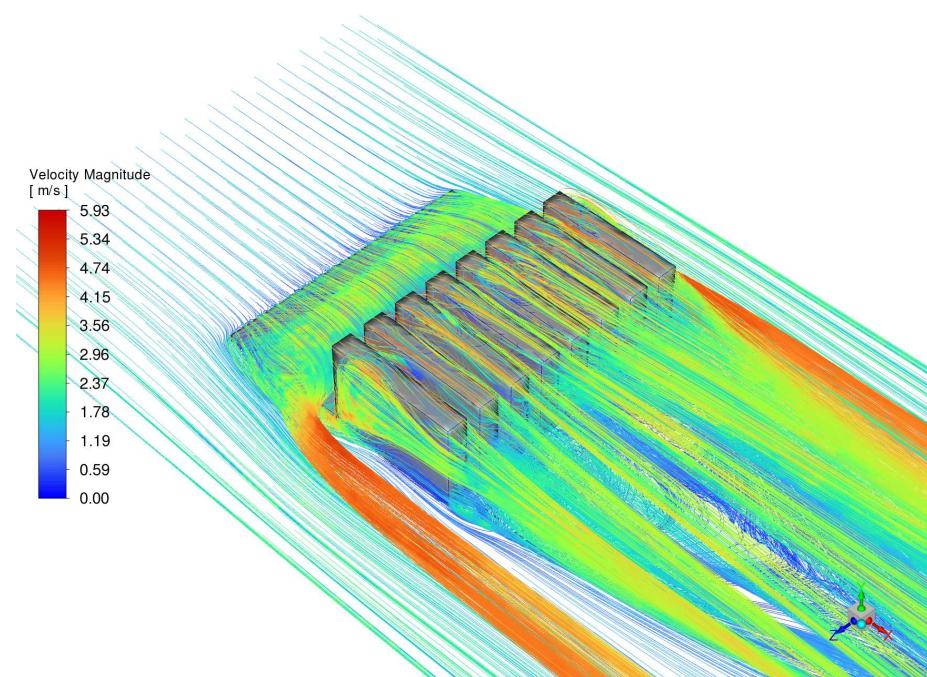


Figure 3. Velocity path lines with rectangular heat sink.



Triangular Heat Sink

Figure 4. Base plate temperature with triangular heat sink.

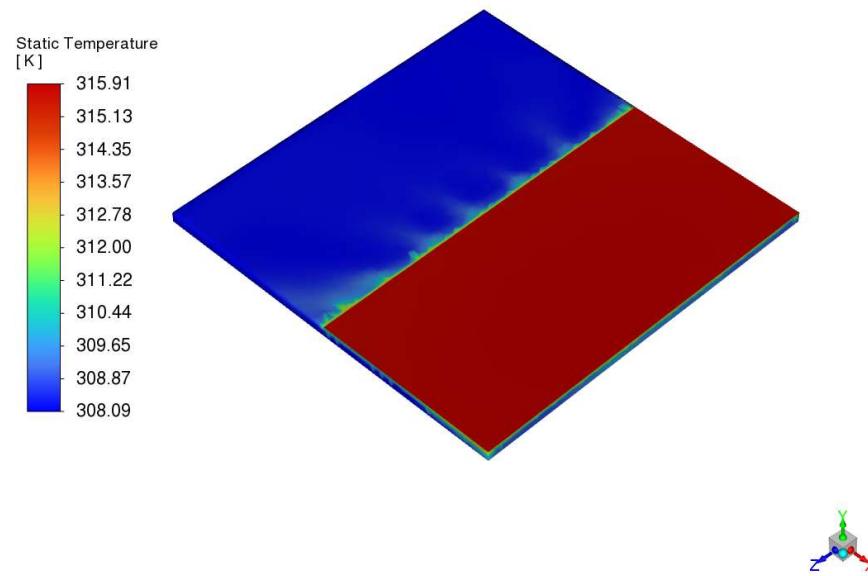
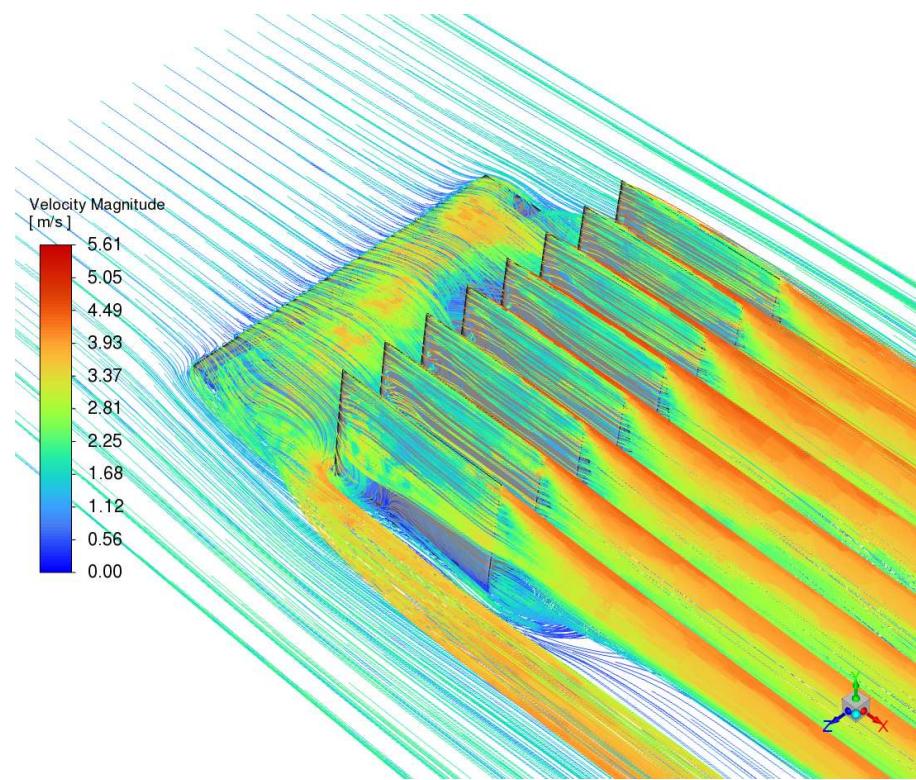


Figure 5. Velocity path lines with triangular heat sink.



Analysis

	No Heat Sink		Rectangular Heat Sink		Triangular Heat Sink	
Avg. Base Temp. [°C]	1D hand calculation	CFD	~41	50% lower compared to no heat sink	~43	~48% lower compared to no heat sink
	78.78	~82				
Total Volume [cm ³]	--		4608		2628	~43% less material use compared to rectangular

Question: If the base temperature must remain below **45 °C** for proper operation, which heat sink design would you select from an engineering perspective, and why?