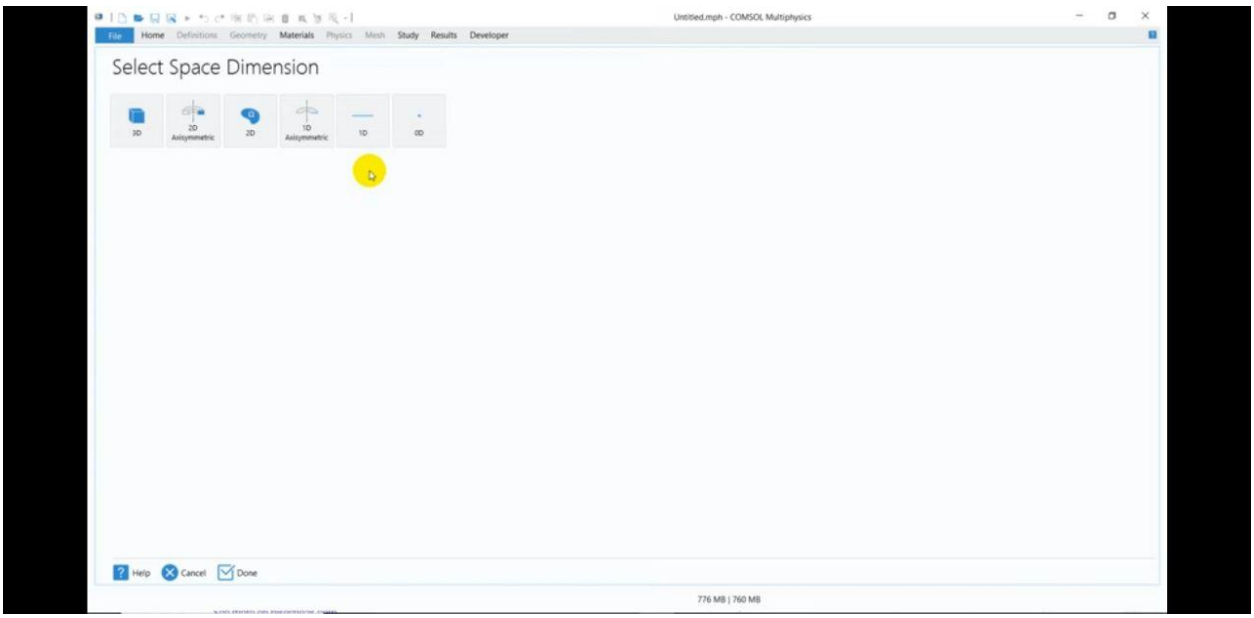
Computing the time dependent temperature through one dimensional geometry:

Start by choosing 1-D selection



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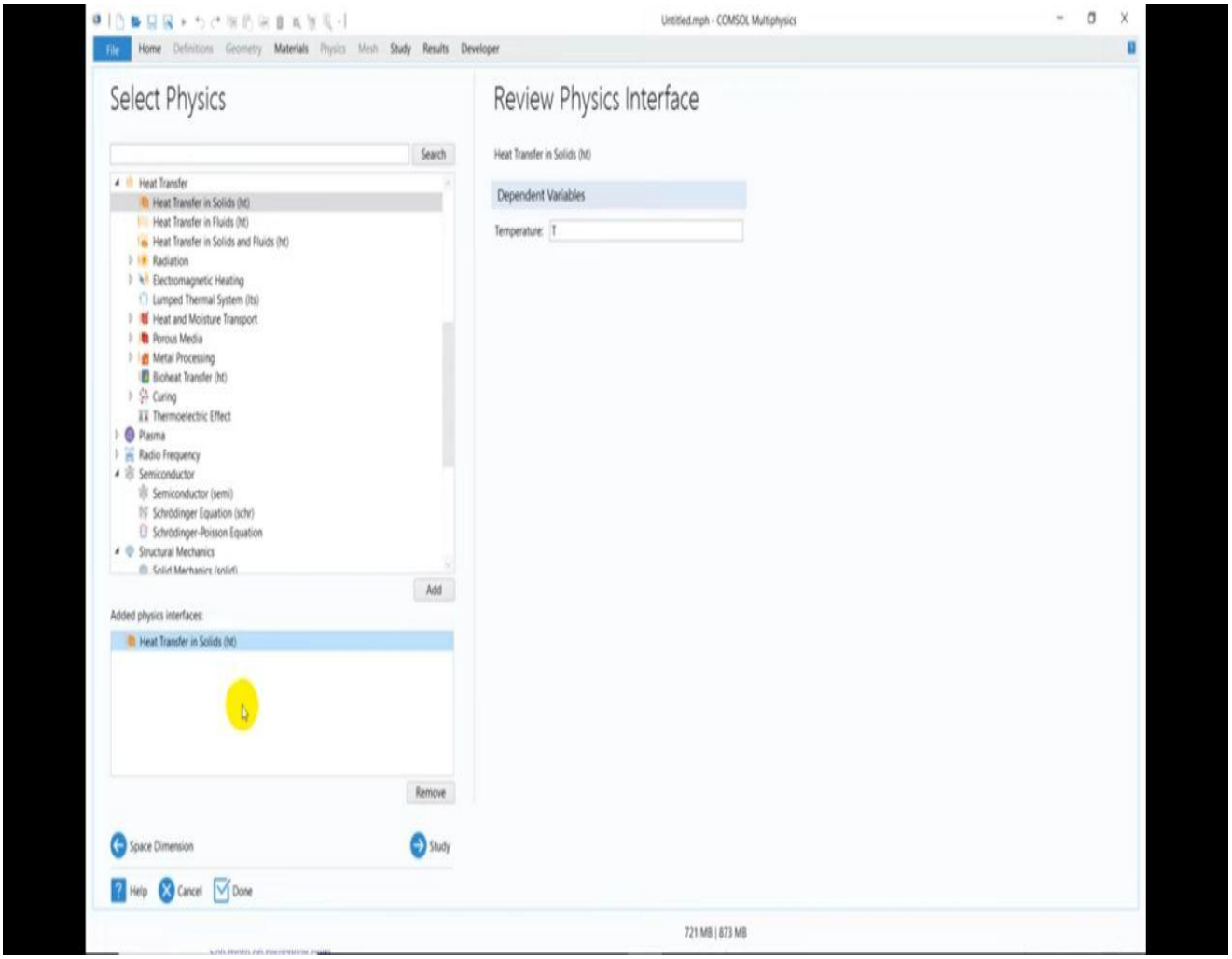
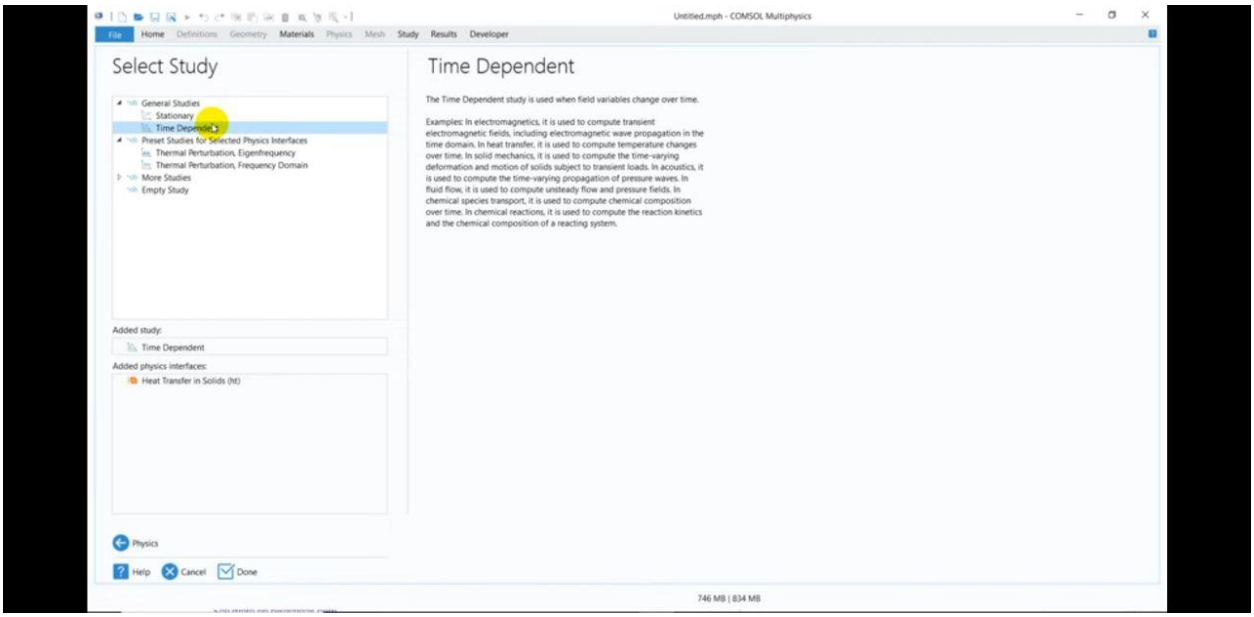
We choose the physics that we want to study, here we want to study heat transfer in solids as shown in figure below:

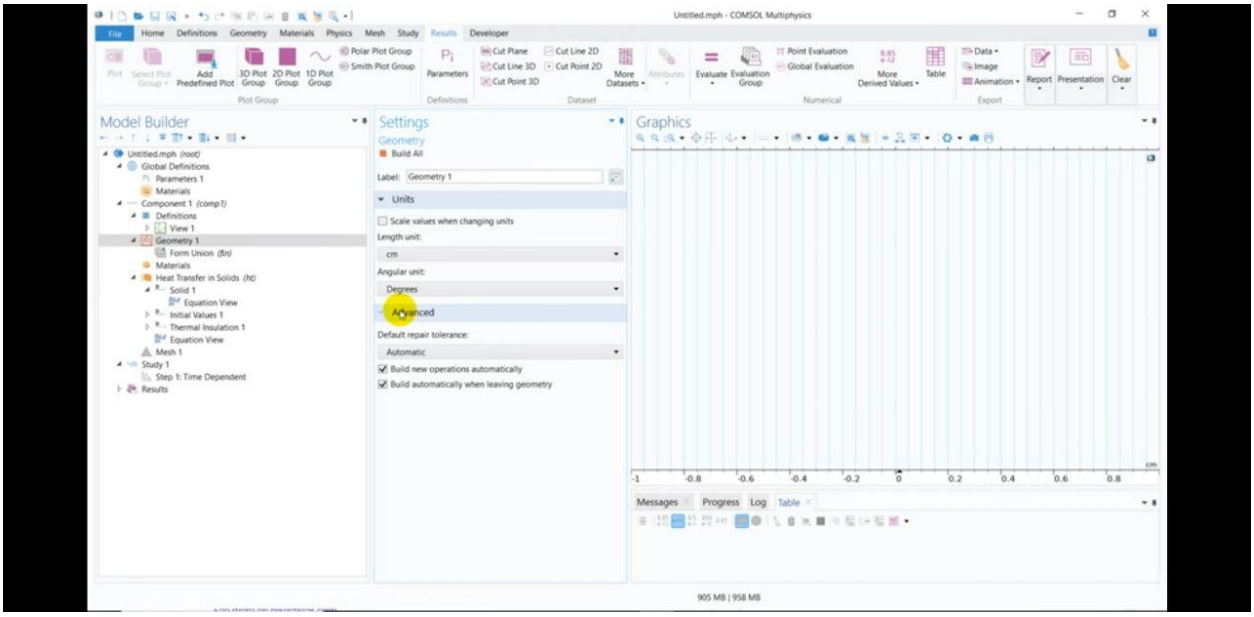


That means we are going to need thermal boundary conditions.

Now we specify the time dependent option which means the type of the temperature that is going to be studied is transient:



Now we specify the units of the geometry. Here we are choosing centimeters:



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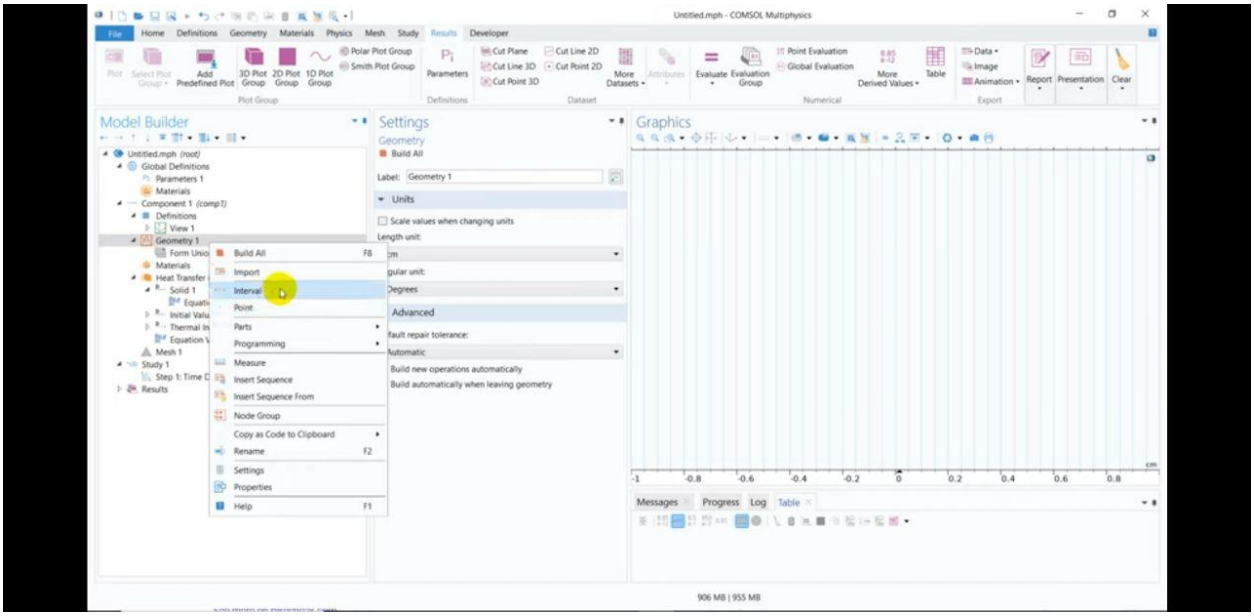
Click on the geometry list and choose (Interval) as shown below:



Insert the dimension of the interval 10 Cm as shown:

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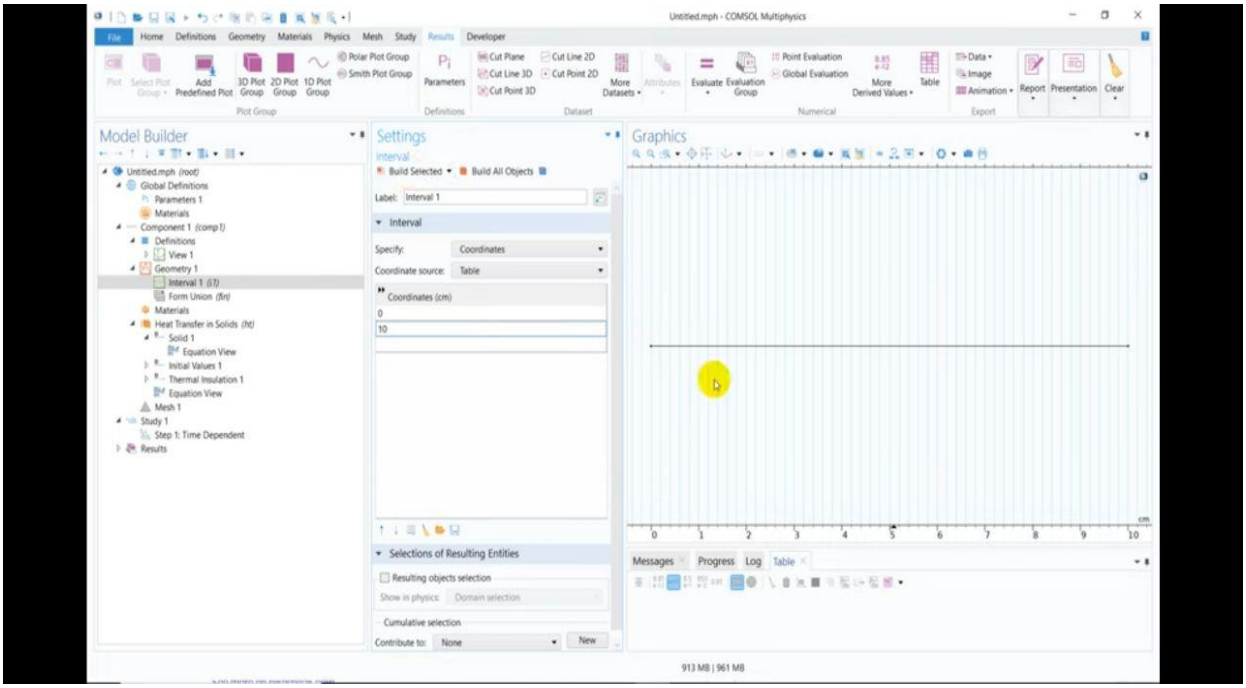
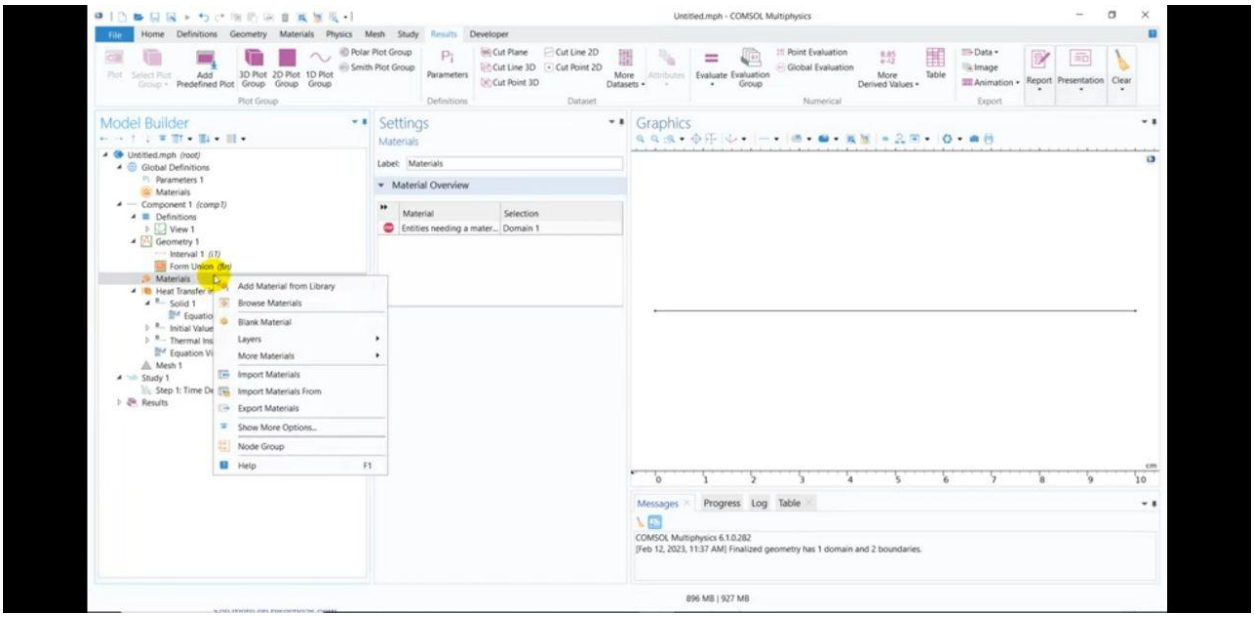


Now start applying the material to the geometry from the library:



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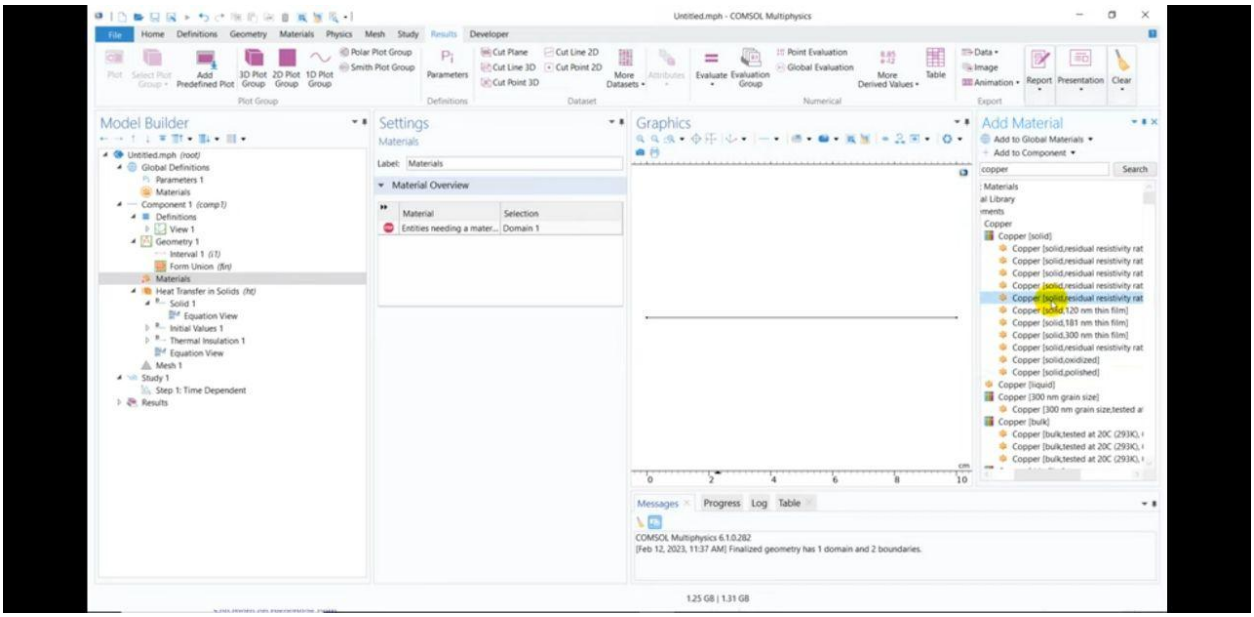
Choose the fifth option of Copper as shown below:



Apply the material to the geometry:

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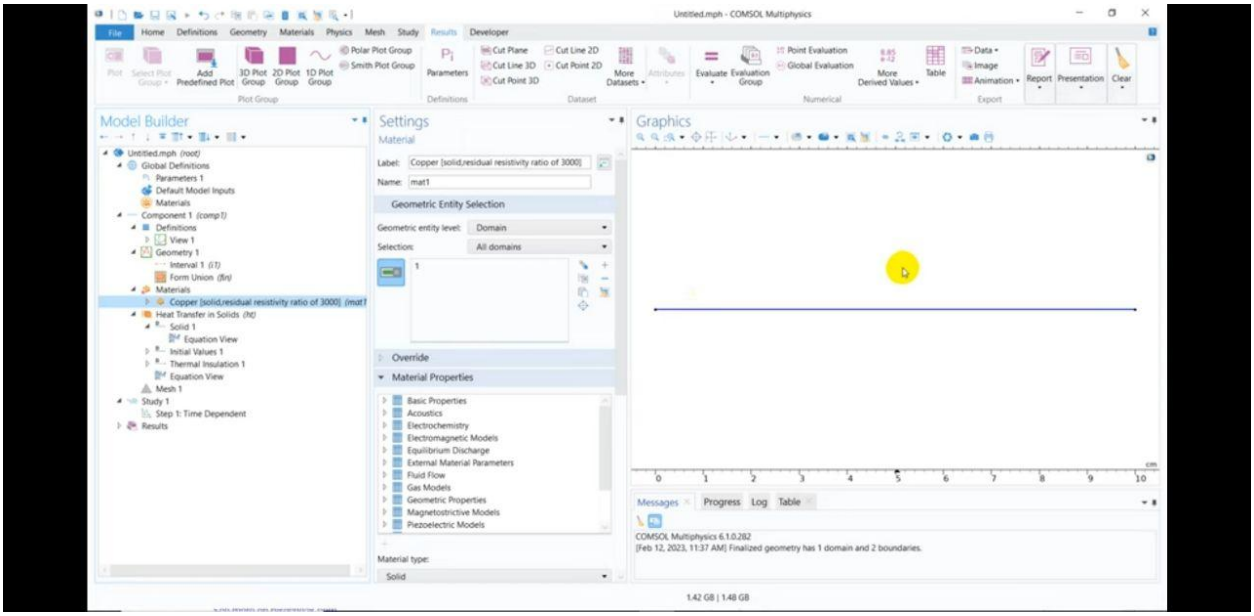
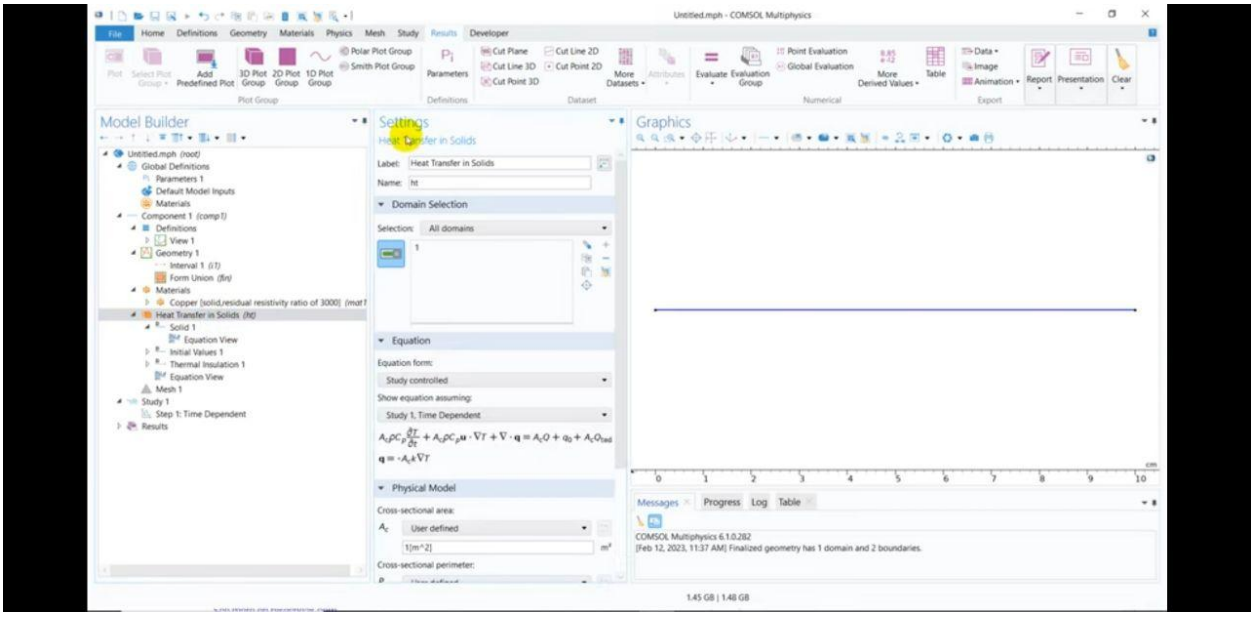


Apply the physic heat transfer in solids to the domain:



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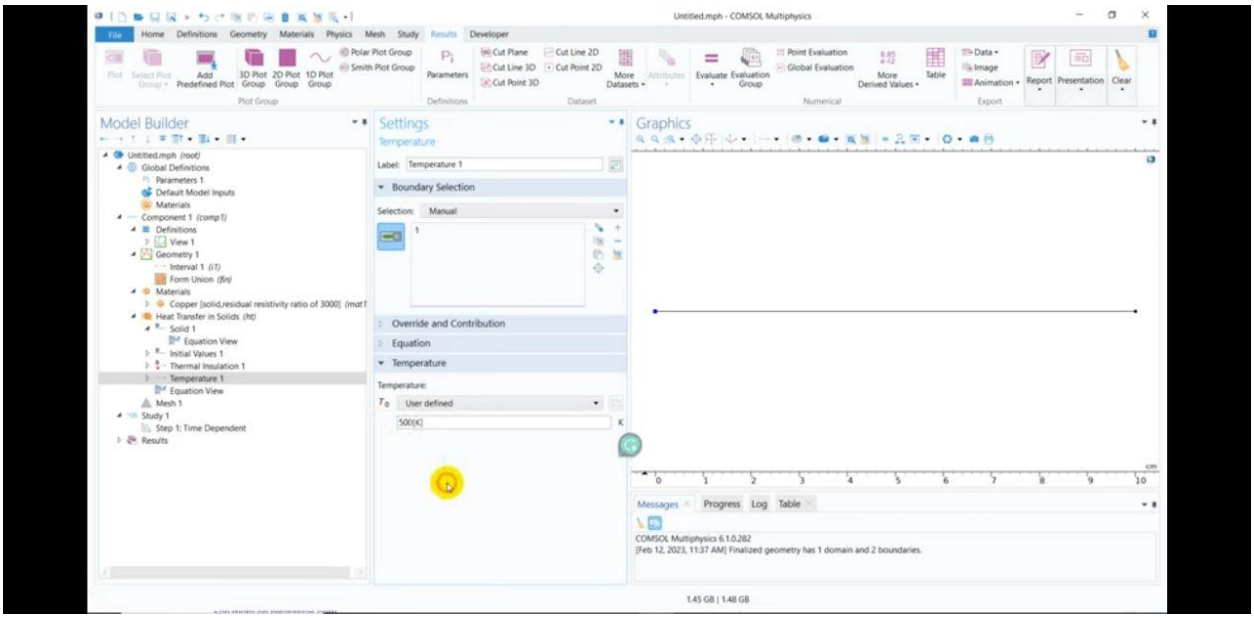
Start applying the boundary condition, the first one will be temperature of 500 K on the left node as shown below:



Then apply the second boundary condition on the right node which will be a temperature of 293.15 K.

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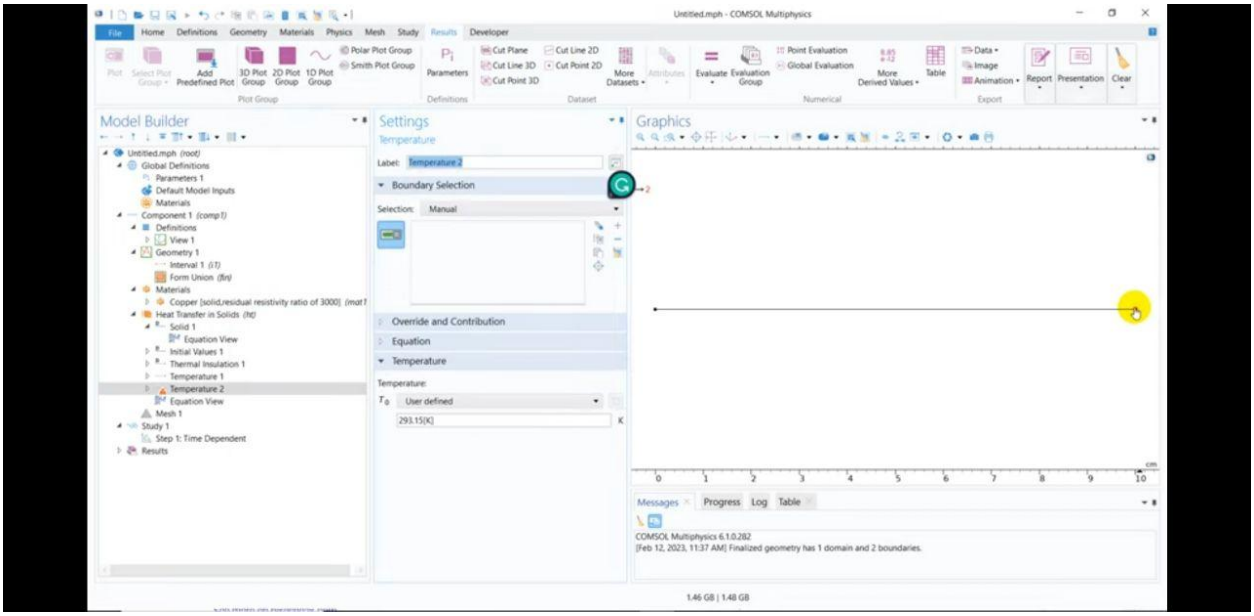
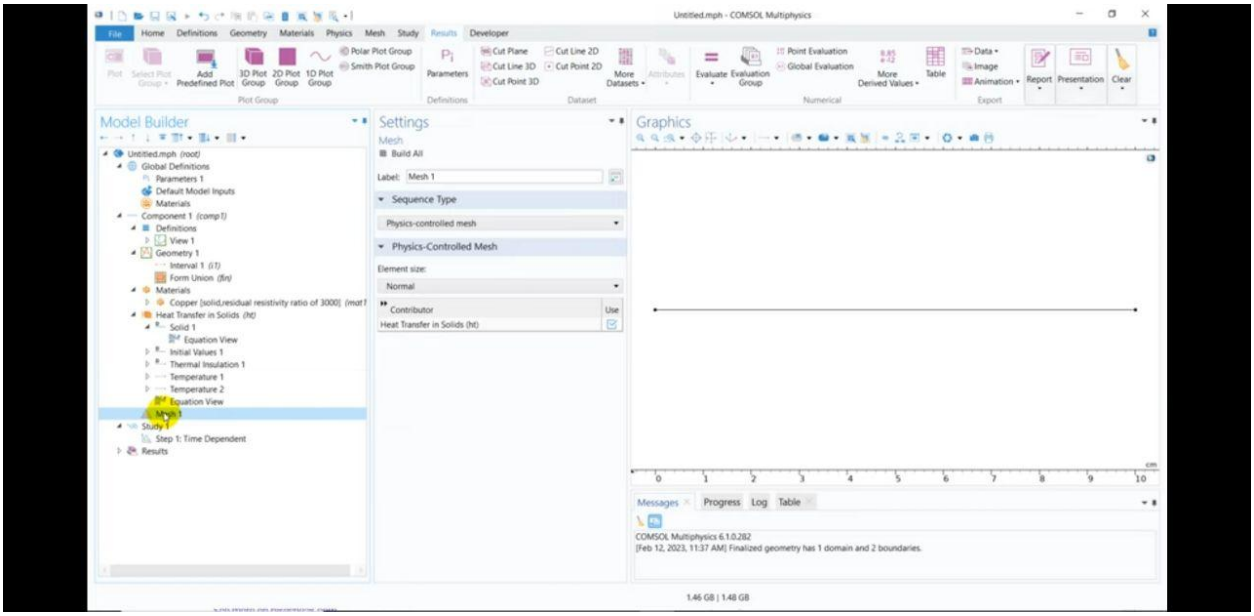


Apply the mesh on the one dimensional geometry:



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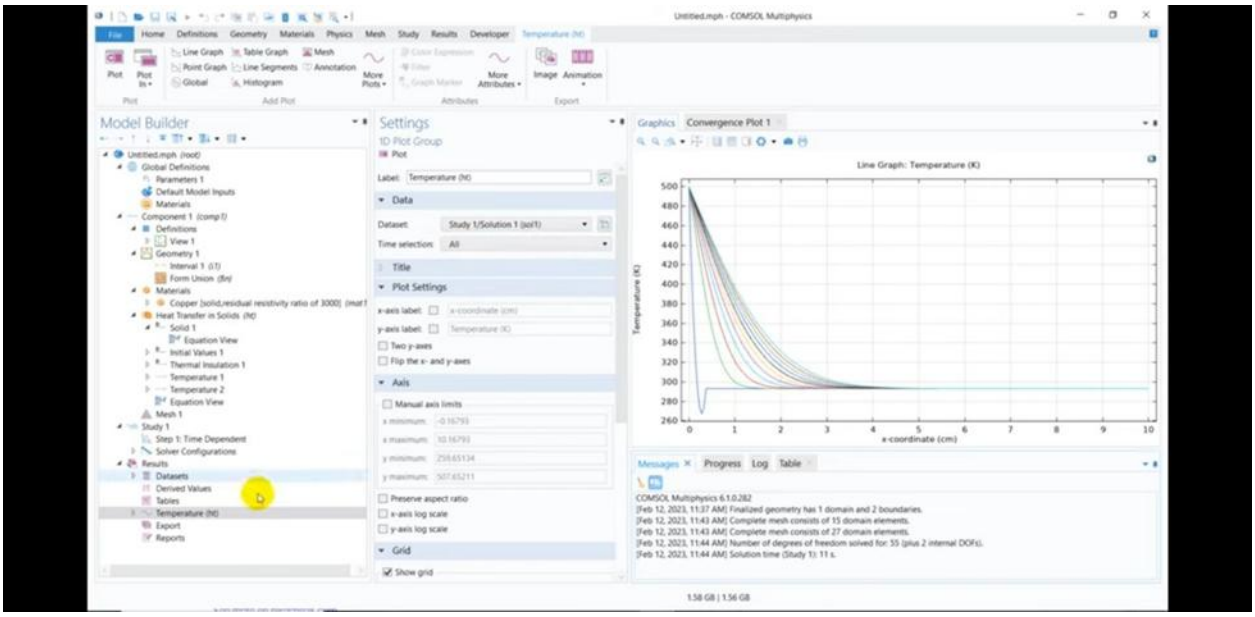
Click study to compute the results of the transient temperature:



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