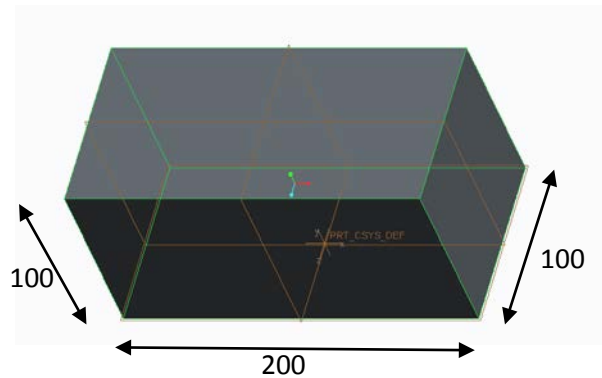


Creo Parametric comes with a feature called Sheet Metal. It is intended for creating enclosure designs to be manufactured from sheet materials such as steel etc. for machine bodies etc.

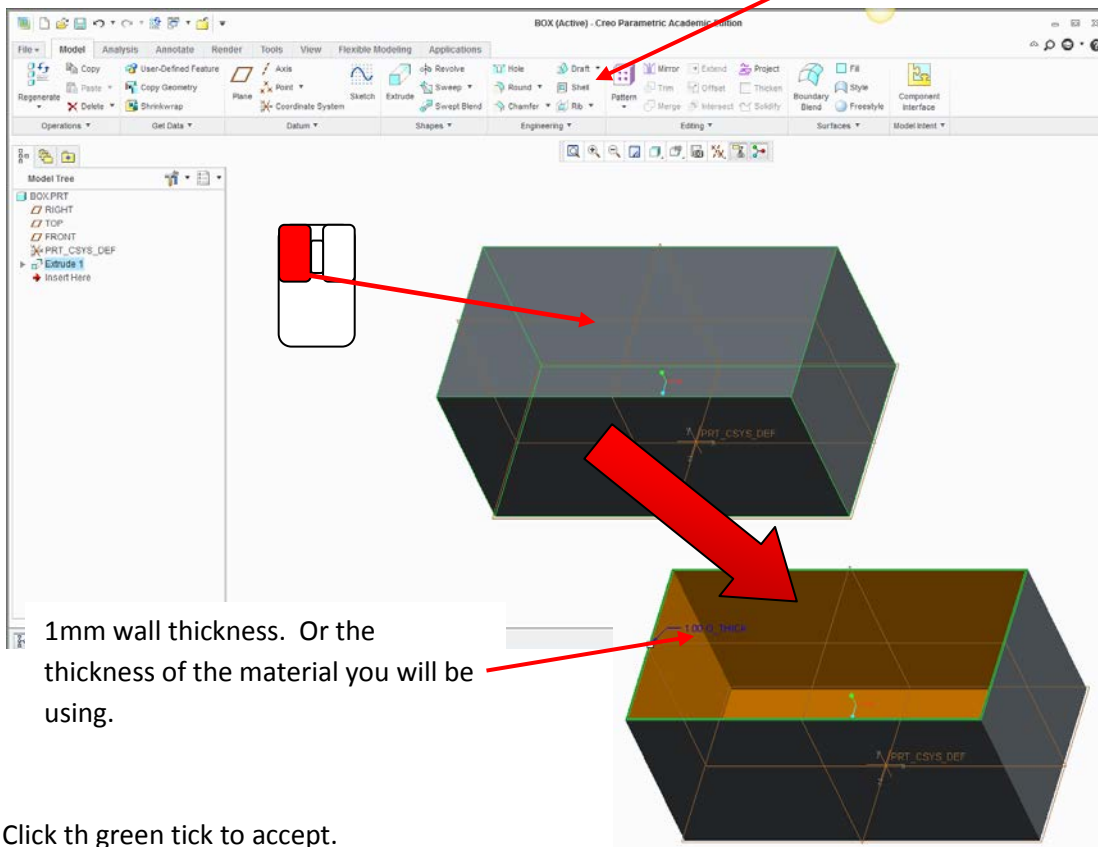
However, Sheet Metal is ideal for the design of nets for card boxes such as packing cartons etc. This tutorial will show you the basics of producing a simple card net.

If you have not already done so open Creo parametric and start a new part called Box.

On the top datum plane **extrude** a 100mm cuboid from a rectangle of 100 by 200mm.



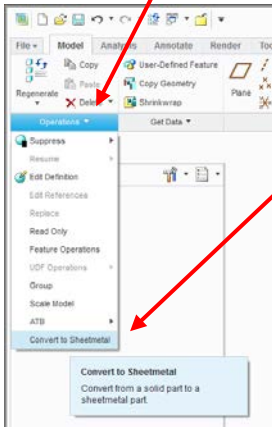
We now need to make it hollow with the **shell solids** feature. Select Shell Solids and click on the top face. Set the wall thickness to 1mm.



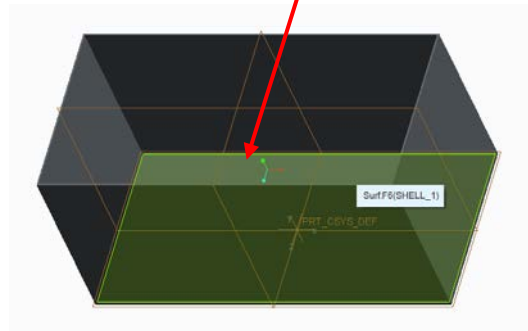
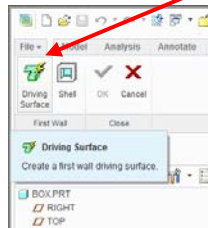
Click the green tick to accept.

Creo Parametric 2: Sheet Metal for a card box.

In the **operations** tab on the left select **Convert to Sheet Metal**.

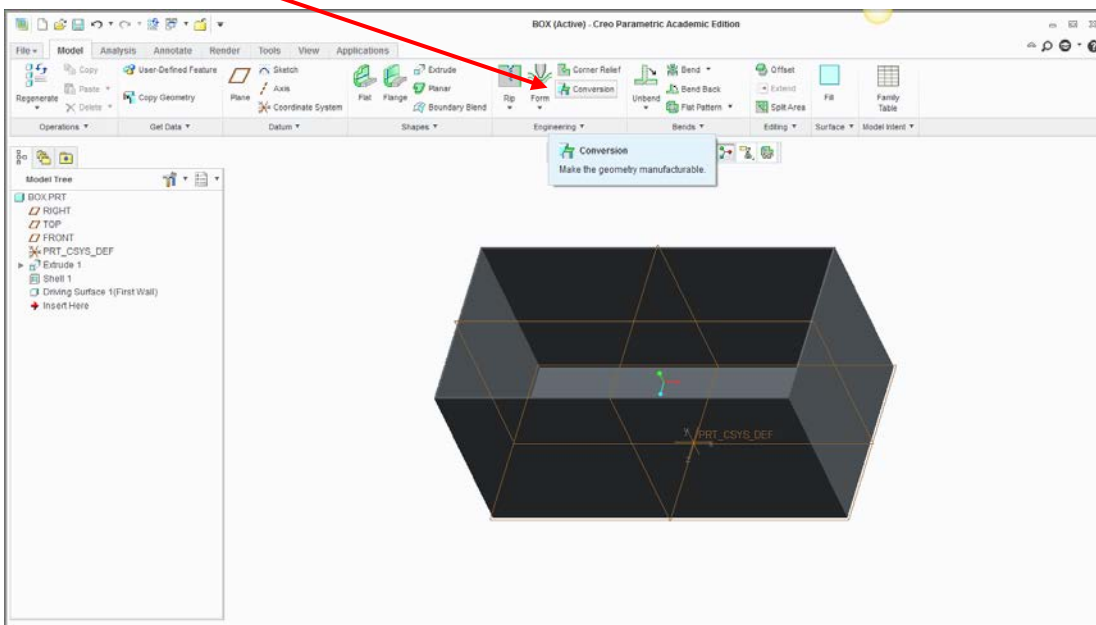


Now click on **Driving Surface** (top left) followed by the bottom of the box.

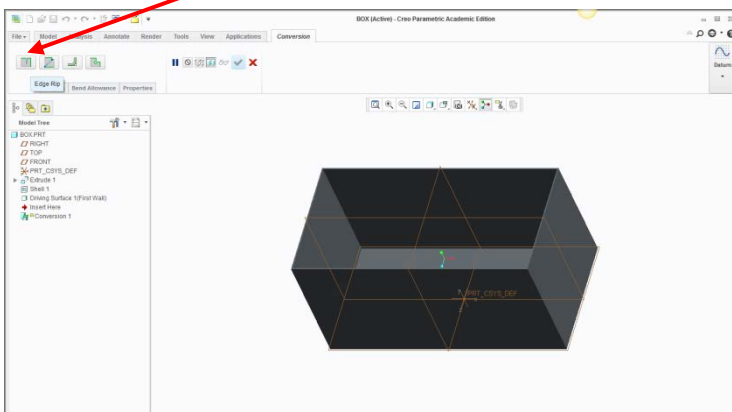


Click on the green tick to accept.

Now select **Conversion** in the ribbon.

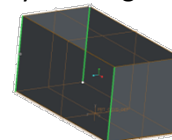


Then click on **Edge Rip**.

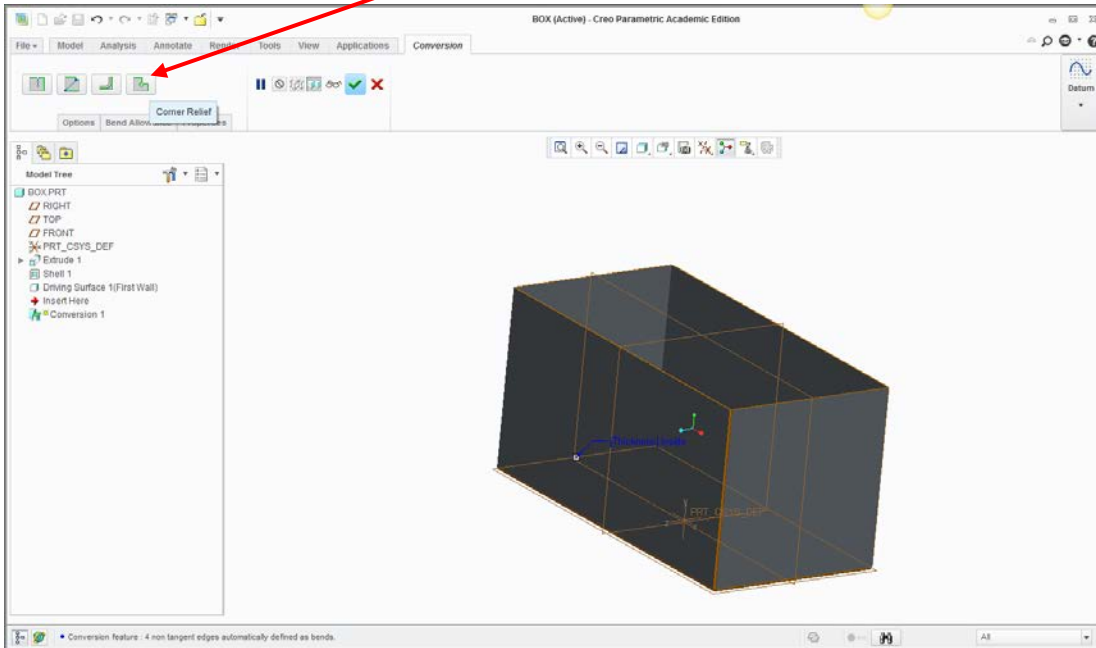


You should now select each of the vertical outer edges using the Ctrl button to multi select.

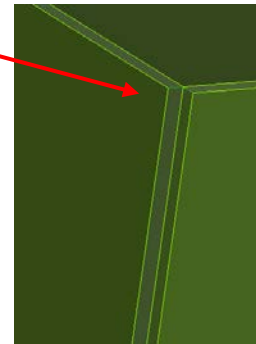
The edges turn green when selected. TIP: you may find it easier to select by rotating the model.



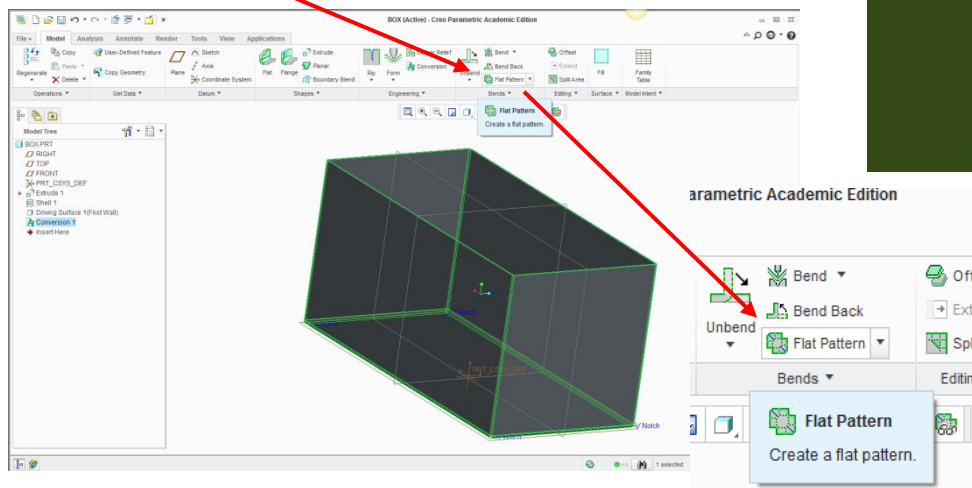
Click on the tick to accept then **Corner Relief**.



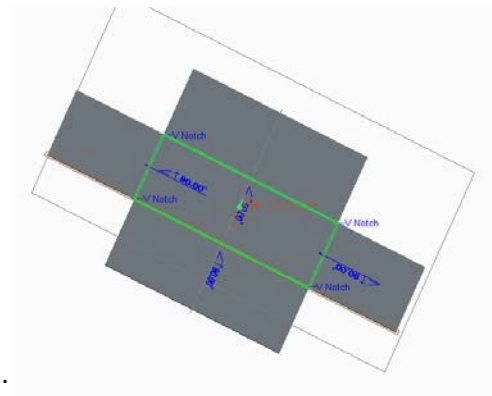
Click on the tick to accept. The edges have now been split as seen here (you may need to zoom in to see this on your model).



Now select **flat pattern** from the ribbon.

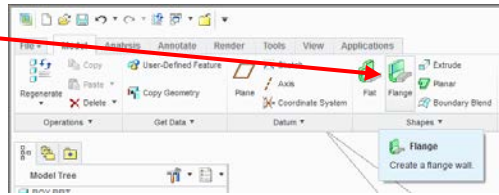


Now click on the green tick to accept. Your model has flattened to form a net. You may need to rotate it to see it properly.



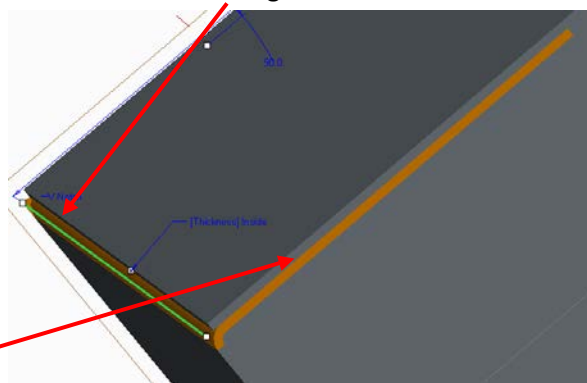
We now need to add the tabs to allow the net to be glued into a 3D box.

In the ribbon click on **Flange**.



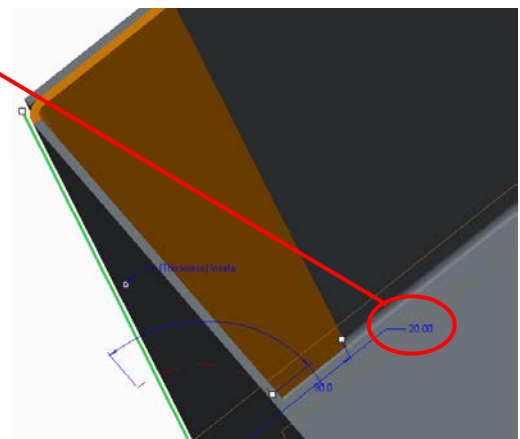
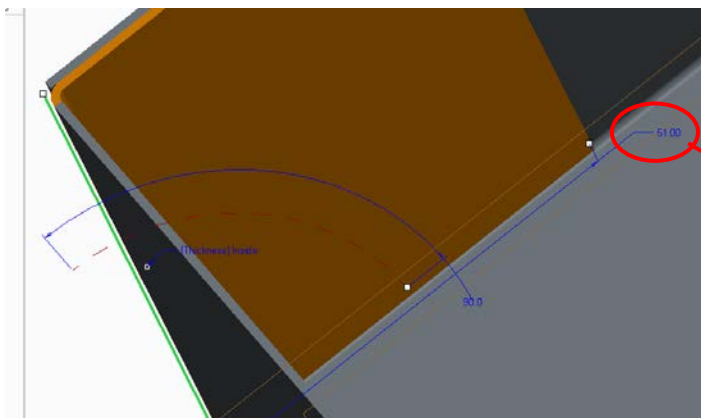
The model will fold itself into a box.

Zoom onto an edge and click on one thin edge.



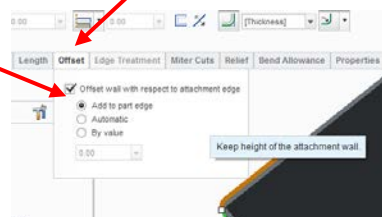
Note how a tab is added but as yet is not the size we want.

Rotate the model so that you can see the tab and its dimensions. Change the dimension to a more suitable size such as 20mm



Normally the tab is inside the box and the default setting is for this. If you want the tab outside click on **offset** and select **Add to part edge**.

Click on the tick to accept.

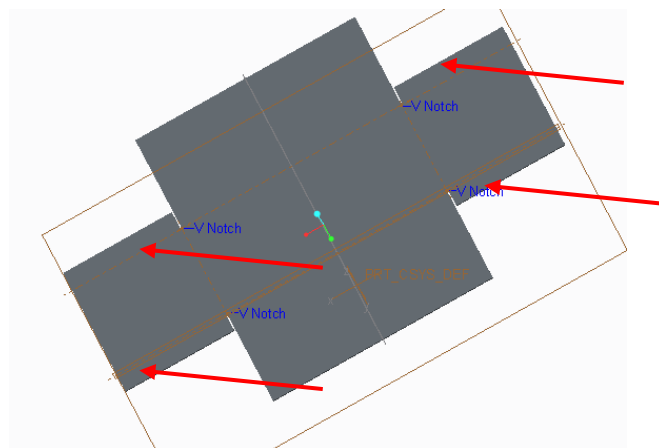


The tab has been added to the selected edge and the net has been flattened.



Repeat for the other edges individually.

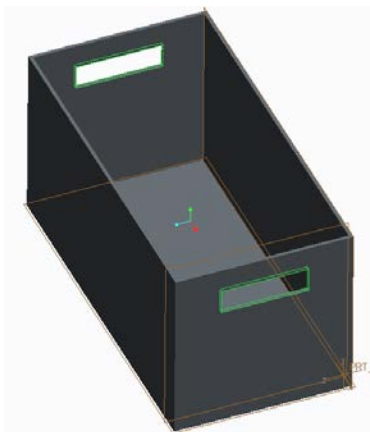
For neatness remember to add the the same edges on each corner unless for a specific reason this is not required. In this example we have added the tabs to the edge of the 100mm wide side, not the 200mm side in each occasion. The tabs are indicated by the arrows in the illustration below.



Save your work.

The net is complete.

If you wish to add special features such as handles cut into the ends of the box, this should be done immediately after the shell solids has been applied as with normal solid modelling.



From this you can create the net as above.

This concludes the tutorial.