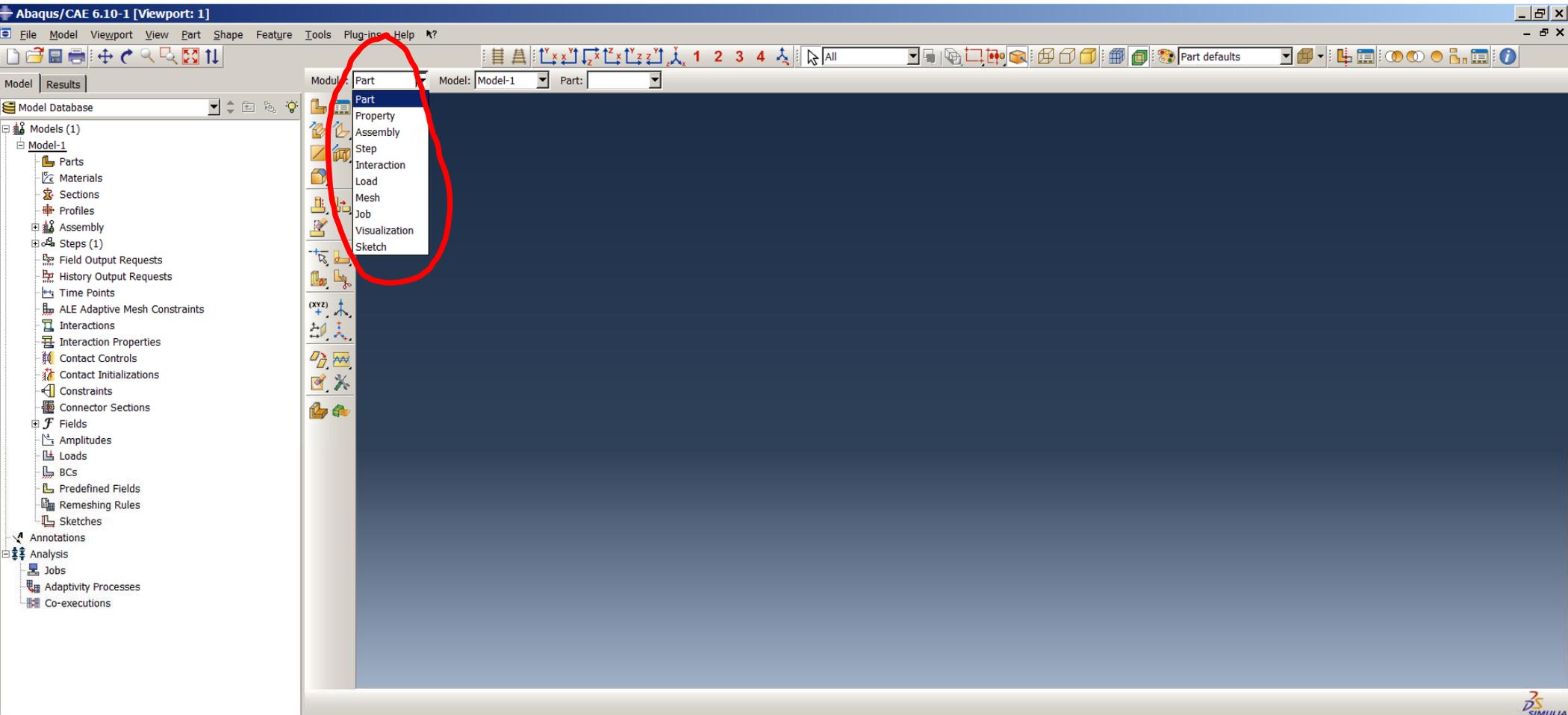


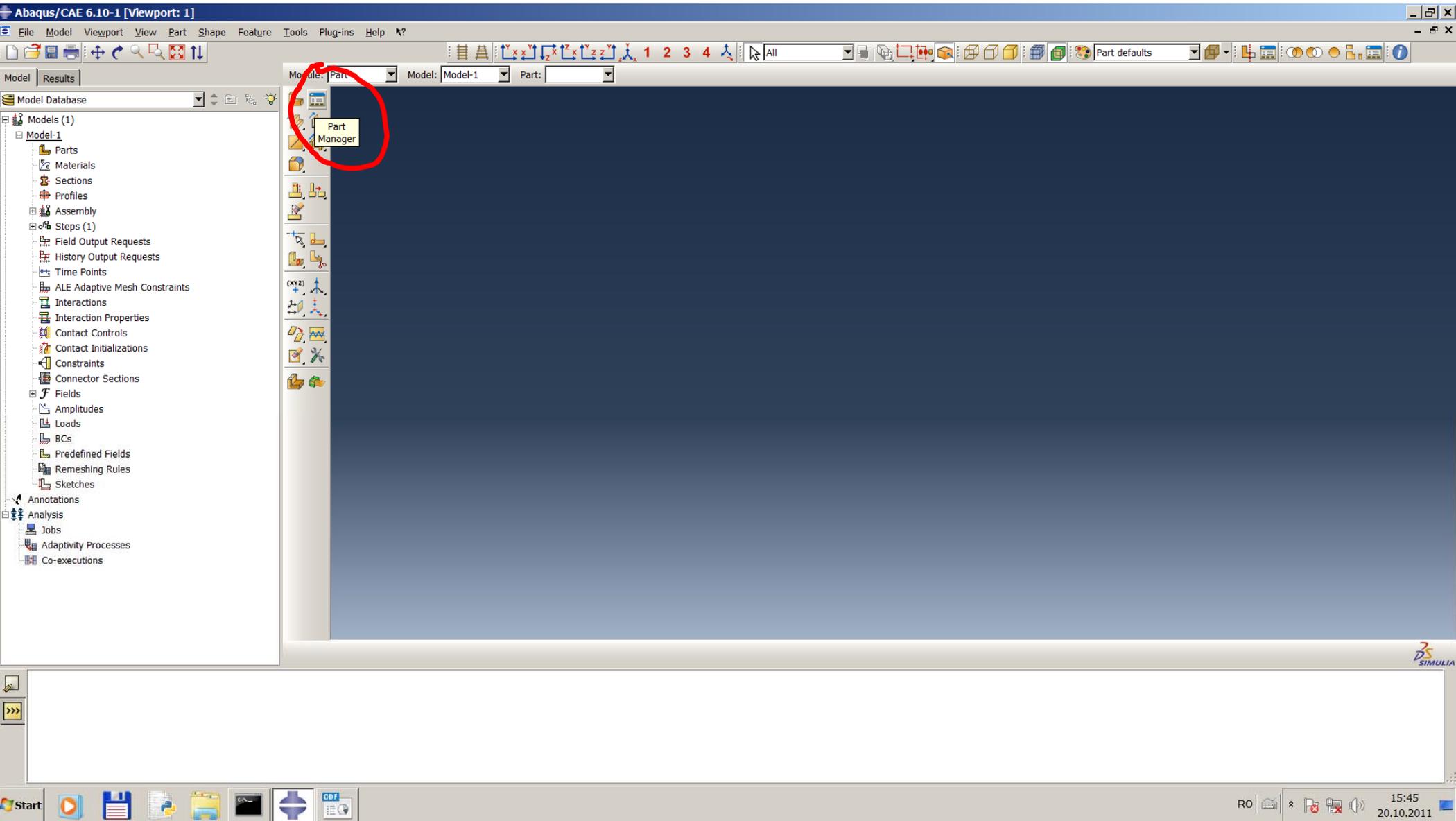
Grinda cu zabrele

- Elemente finite de tip TRUSS

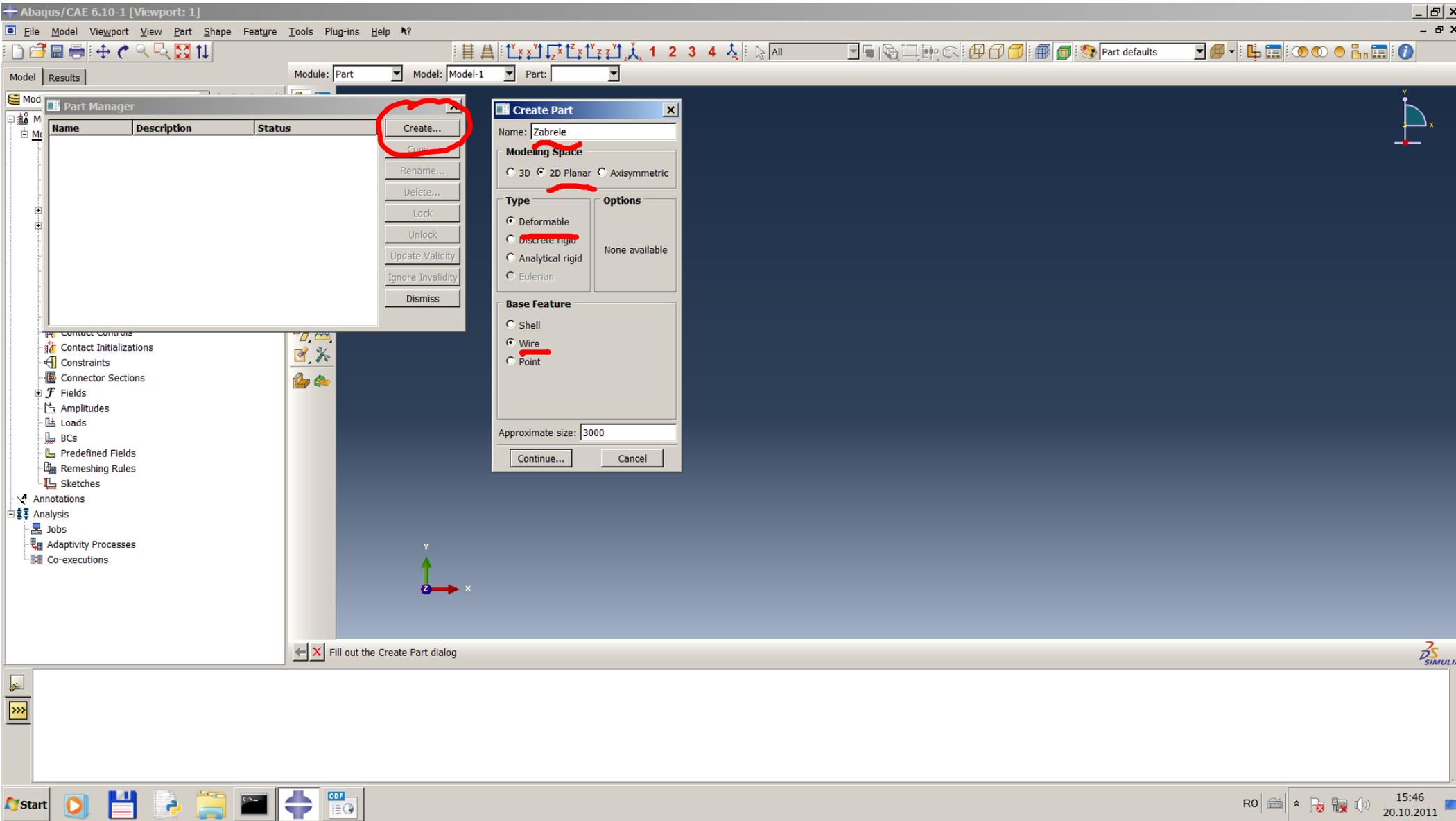
Modulul - Part



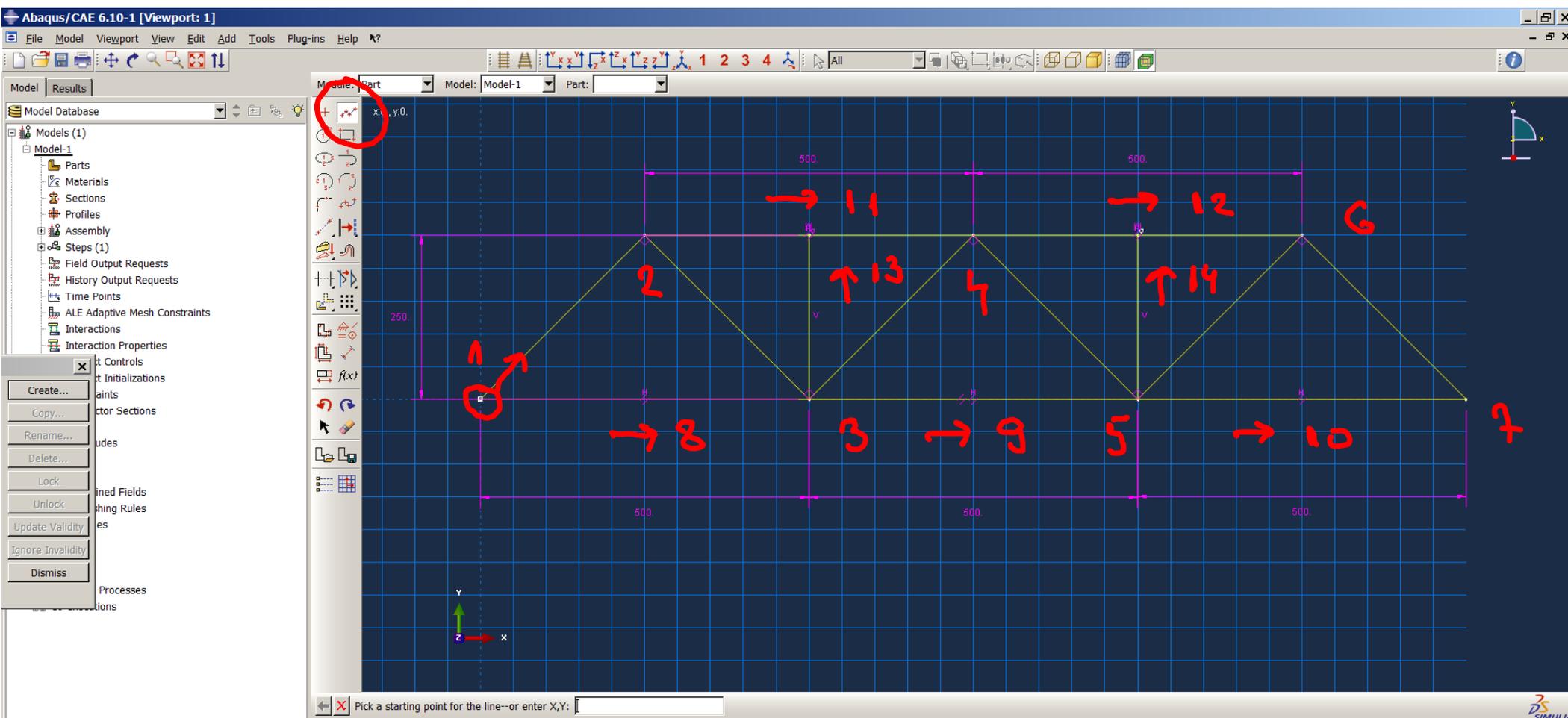
Manager Part



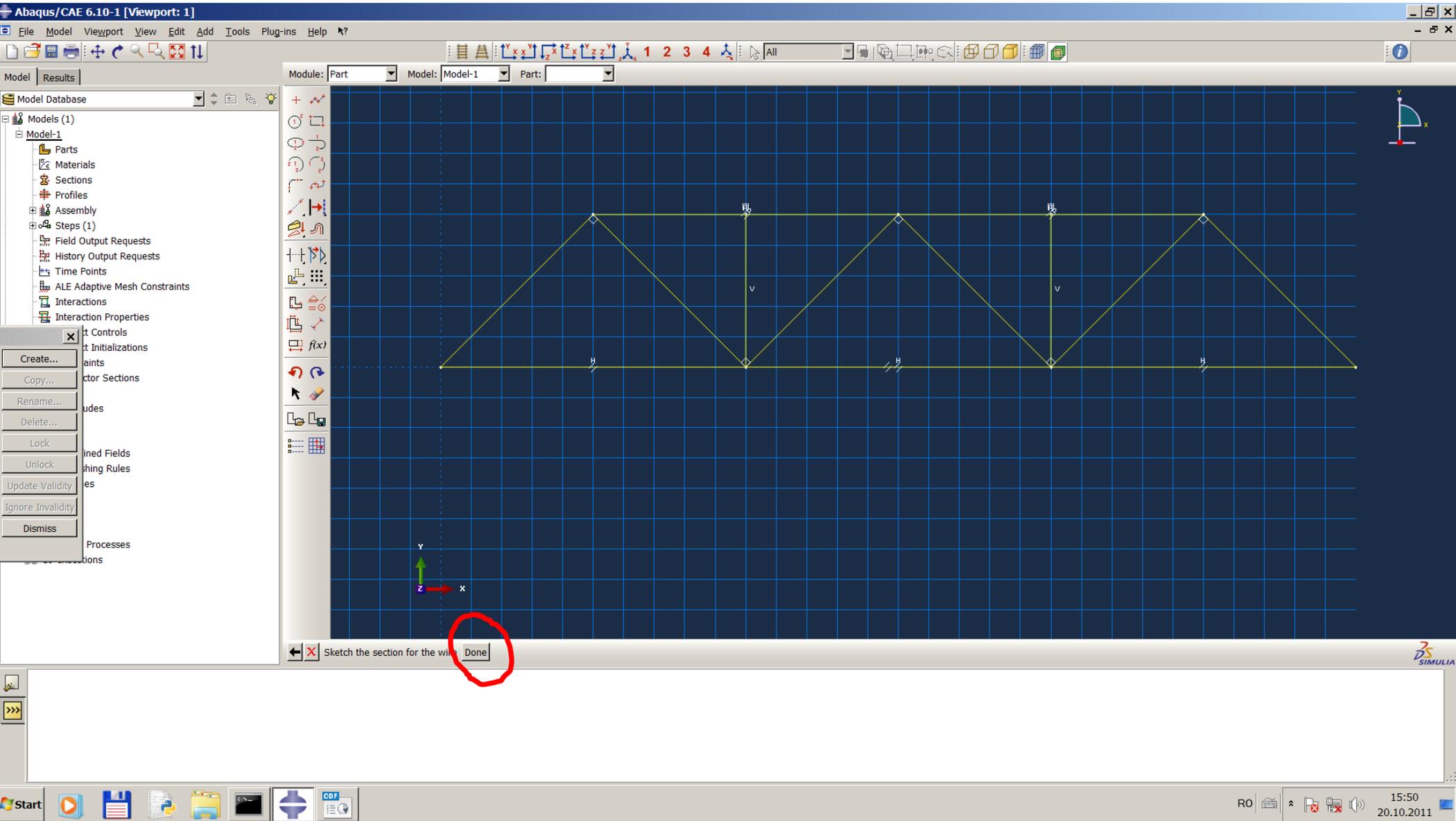
Crearea part 2D deformable wire



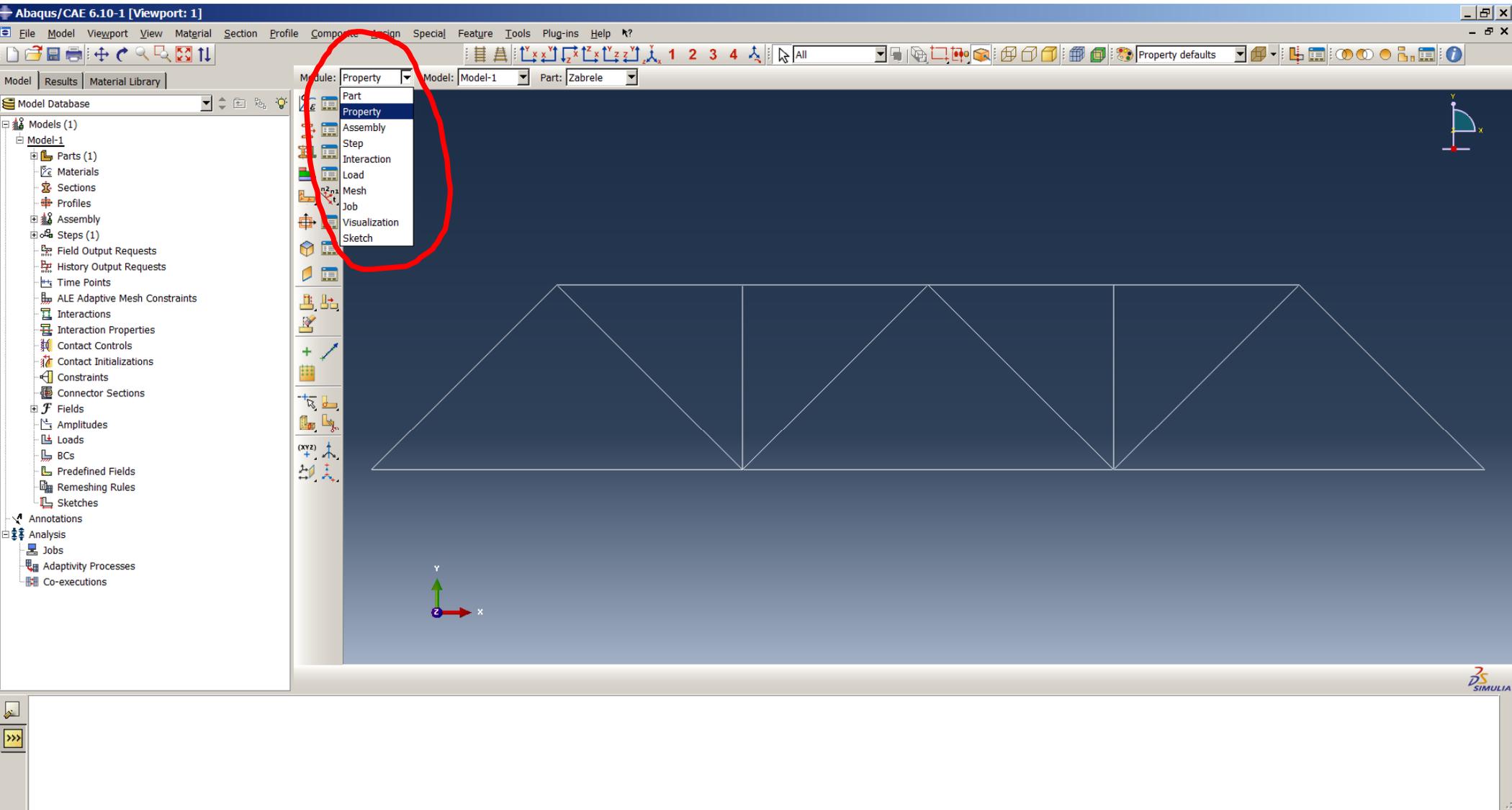
Crearea sketch



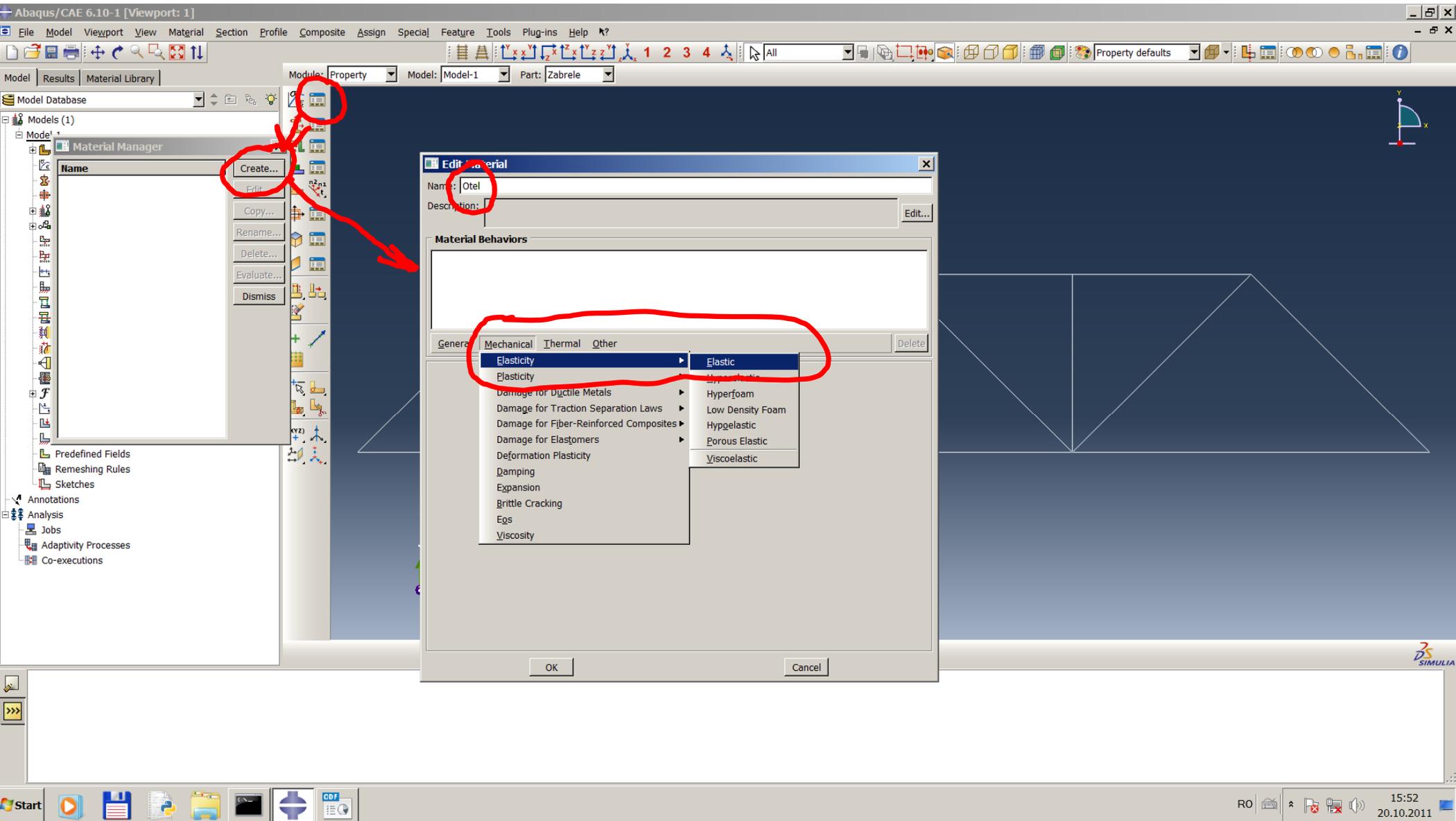
Crearea sketch



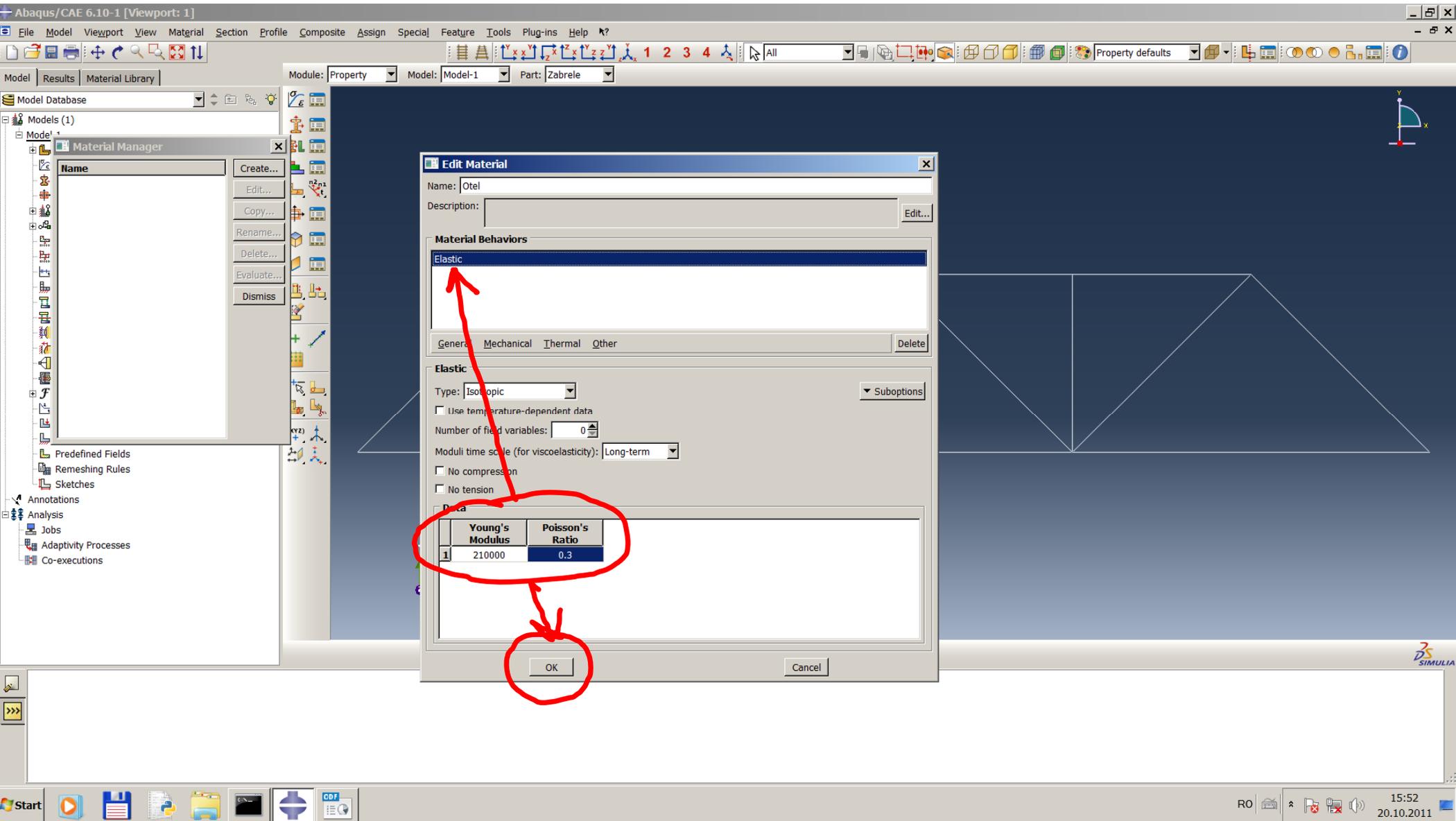
Modulul Property



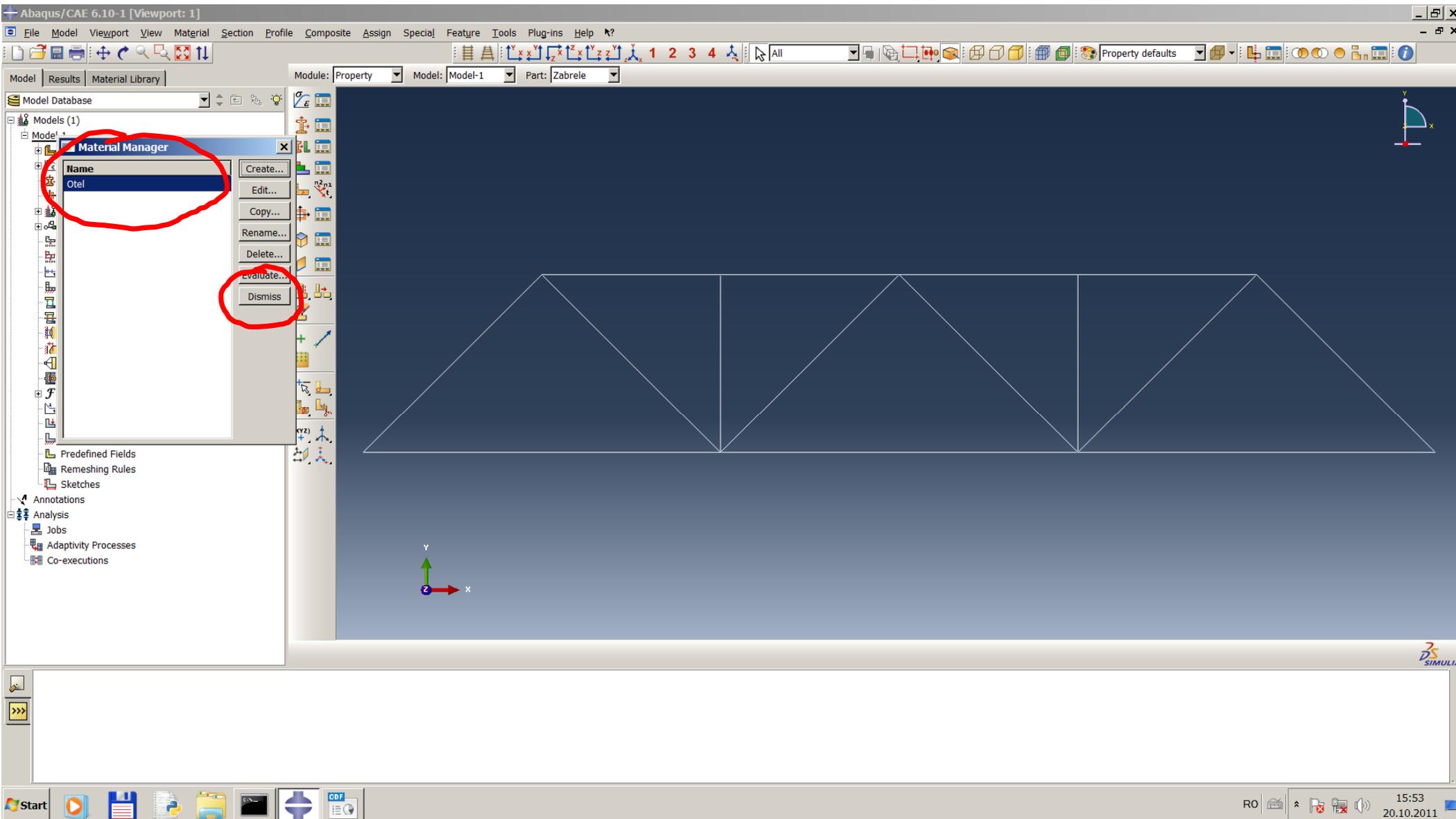
Crearea material – comportare elastica



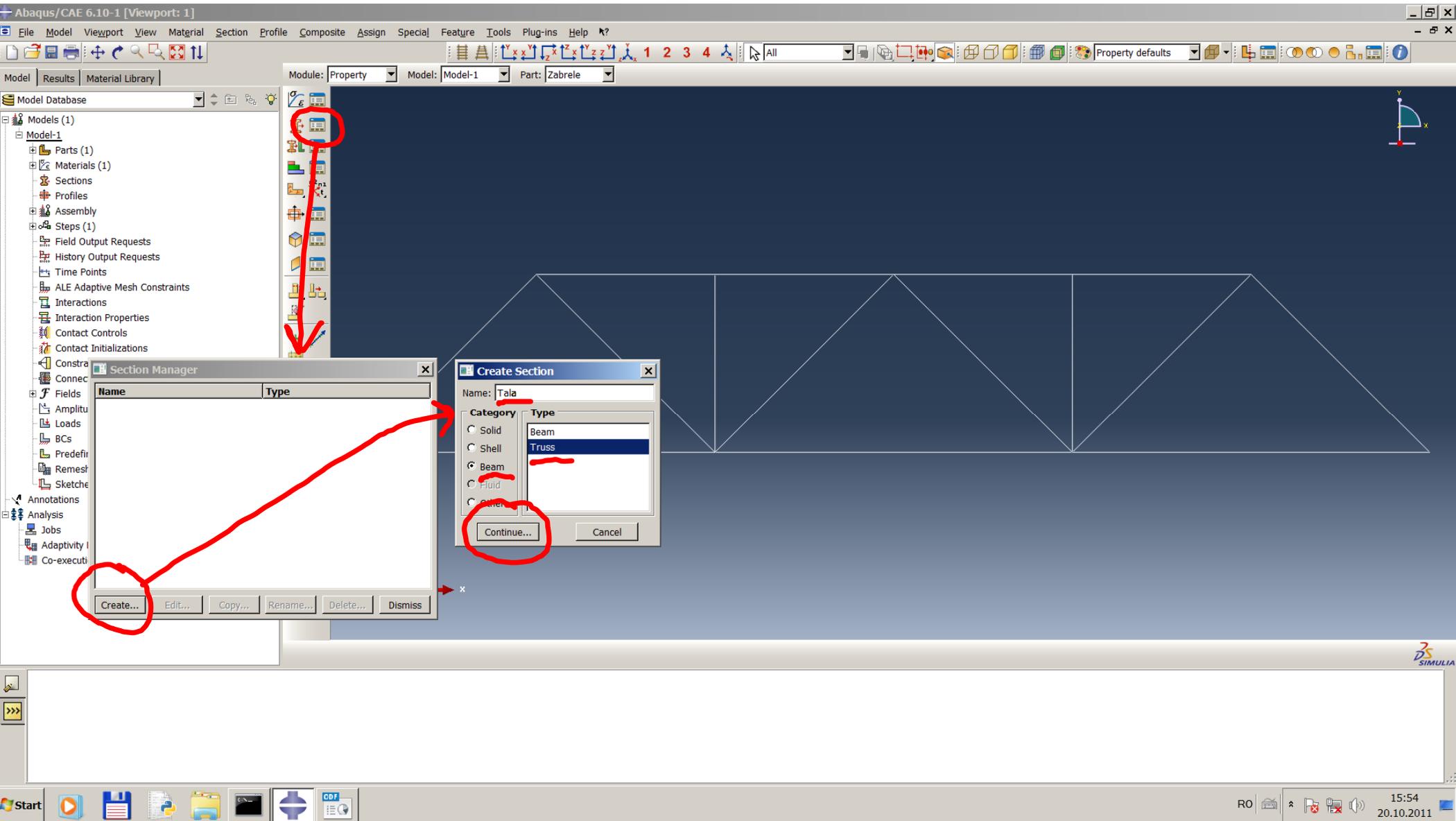
Crearea materialului – Modul elastic longitudinal si coeficientul lui Poisson



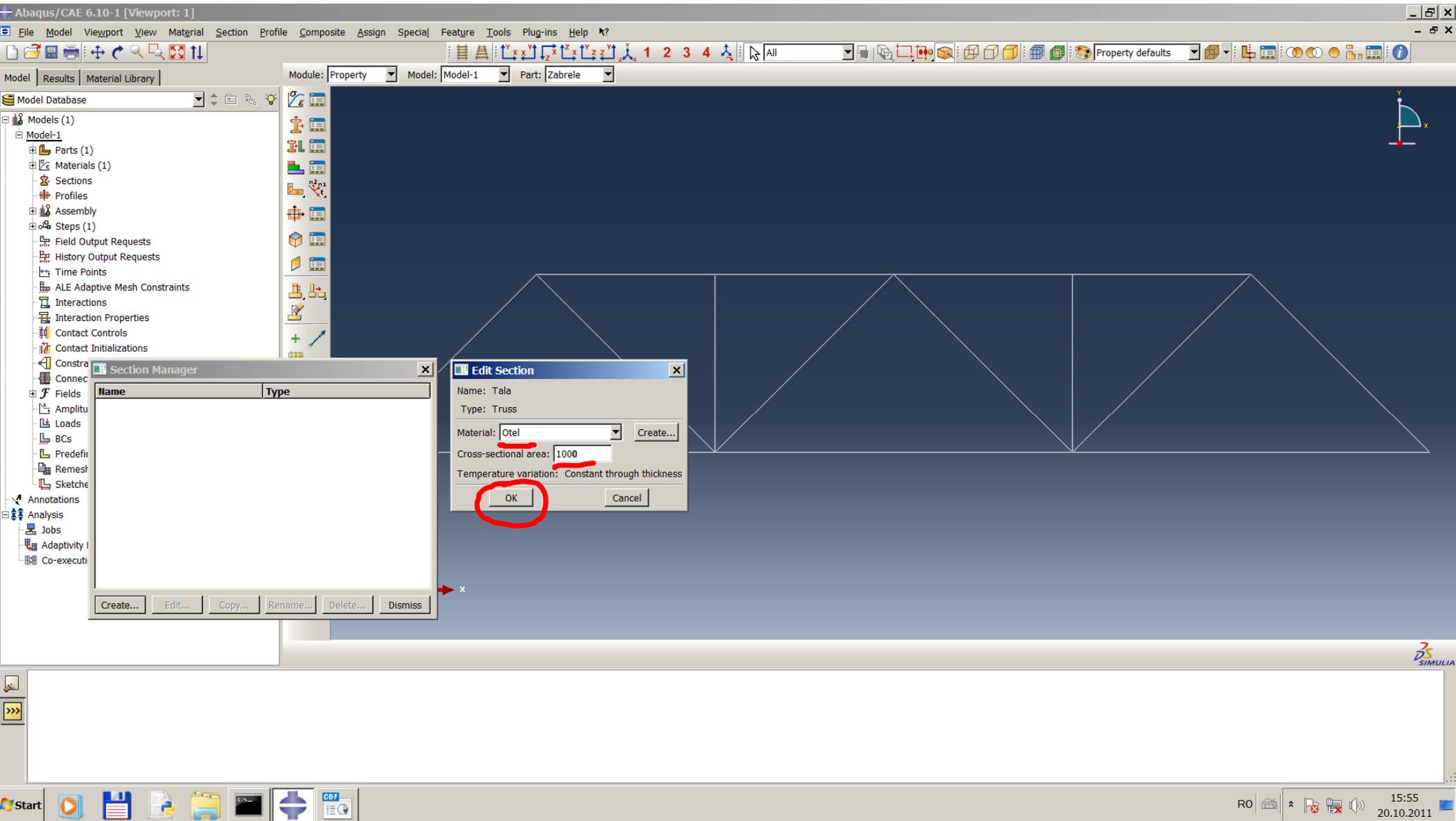
Otel



Crearea sectiunii talpa – truss (element de tip zabrea)



Crearea sectiunii talpa – introducerea materialului si a ariei



Crearea sectiunii zabrele

The screenshot displays the Abaqus/CAE 6.10-1 software interface. The main viewport shows a 3D model of a truss structure. Two dialog boxes are open in the foreground:

- Section Manager:** A table with the following data:

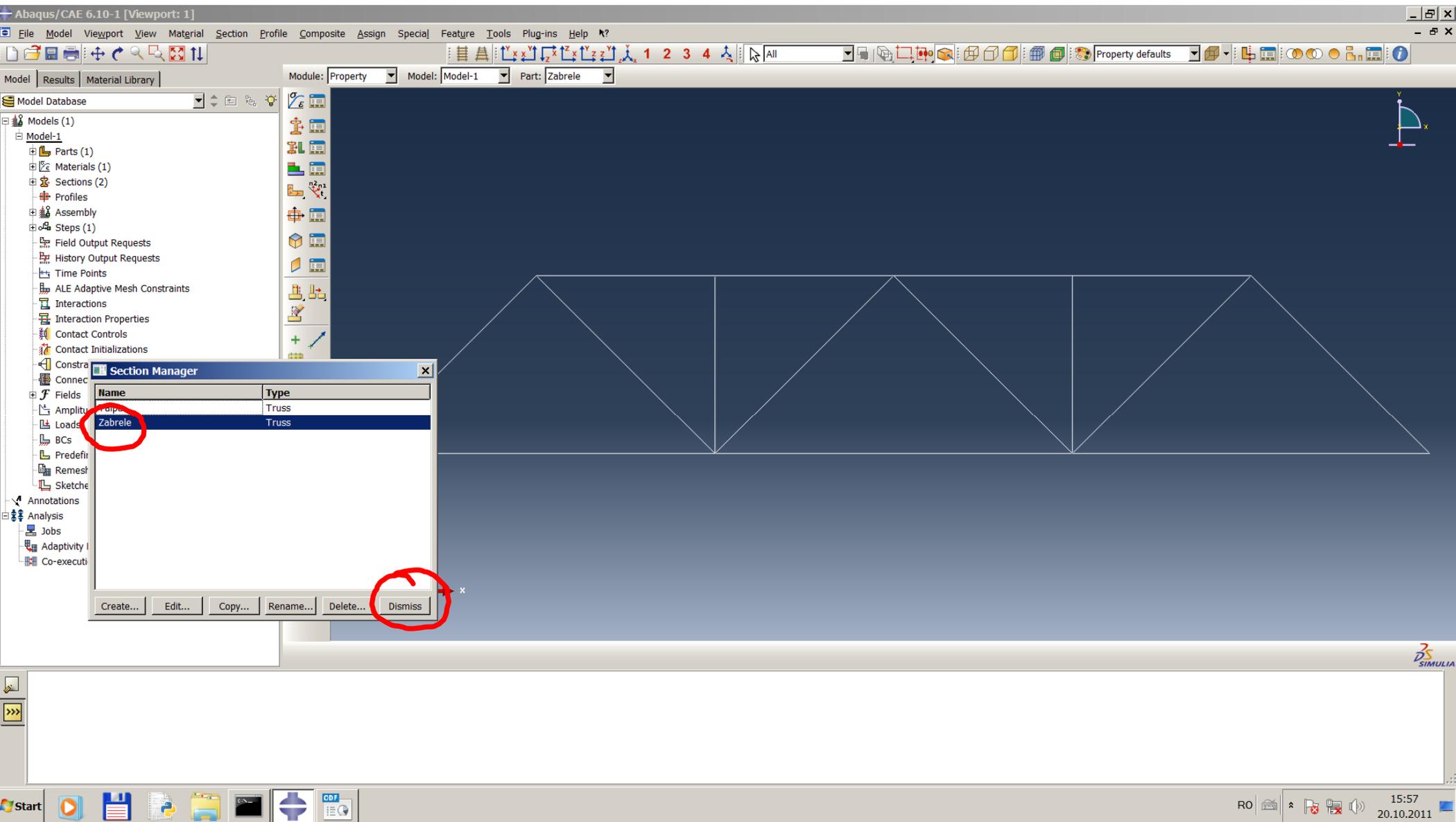
Name	Type
Talpa	Truss

The 'Create...' button at the bottom is circled in red.
- Edit Section:** A dialog box with the following fields:
 - Name: Zabrele (circled in red)
 - Type: Truss
 - Material: Otel
 - Cross-sectional area: 800 (circled in red)
 - Temperature variation: Constant through thicknessThe 'OK' button is circled in red.

Red arrows indicate the workflow: from the 'Create...' button in the Section Manager to the 'Edit Section' dialog, and from the 'Edit Section' dialog back to the 'Create...' button in the Section Manager.

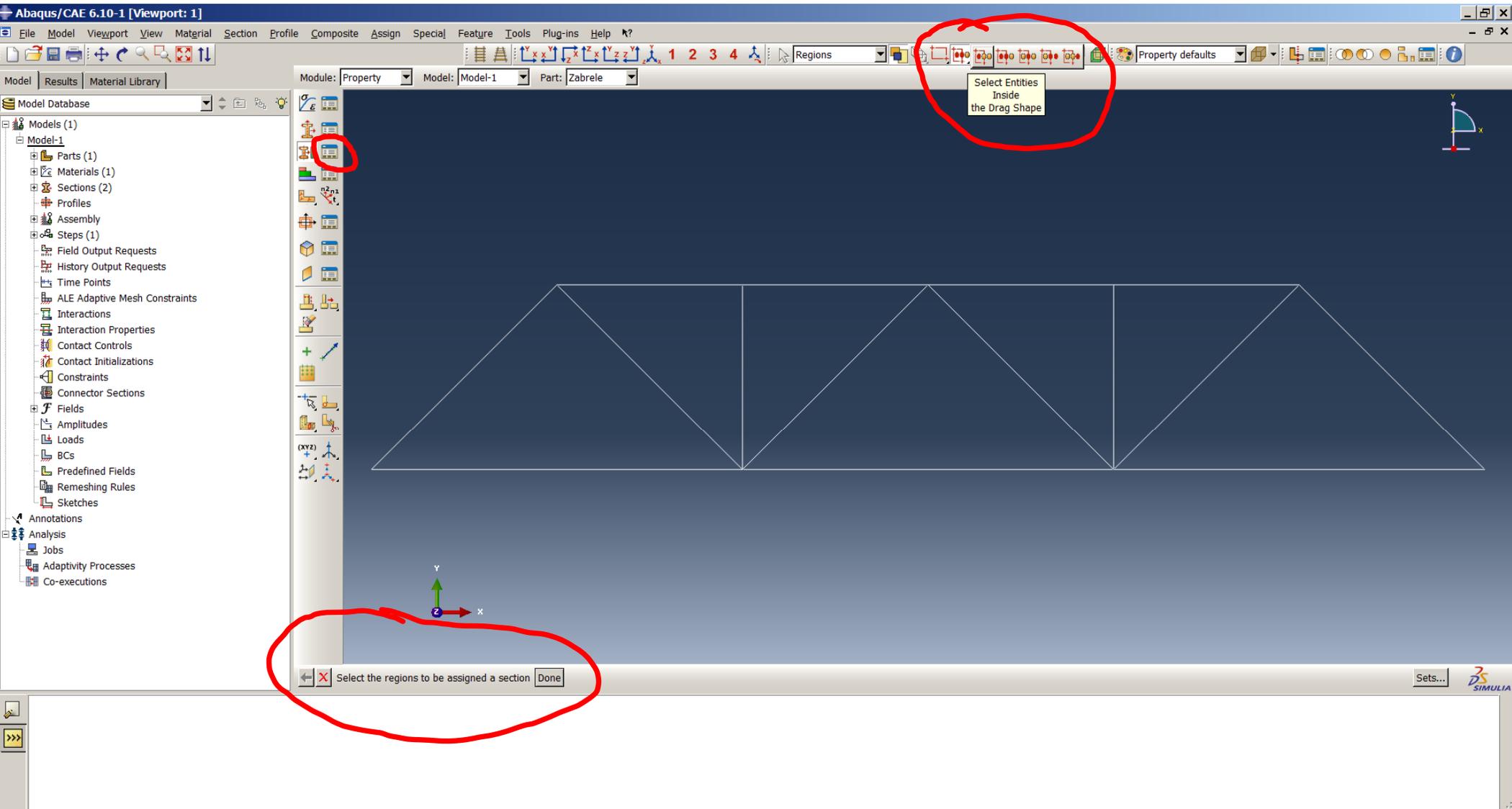
The bottom of the image shows the Windows taskbar with the Start button, several application icons, and the system tray displaying the time 15:57 and date 20.10.2011.

Crearea sectiunii zabrele

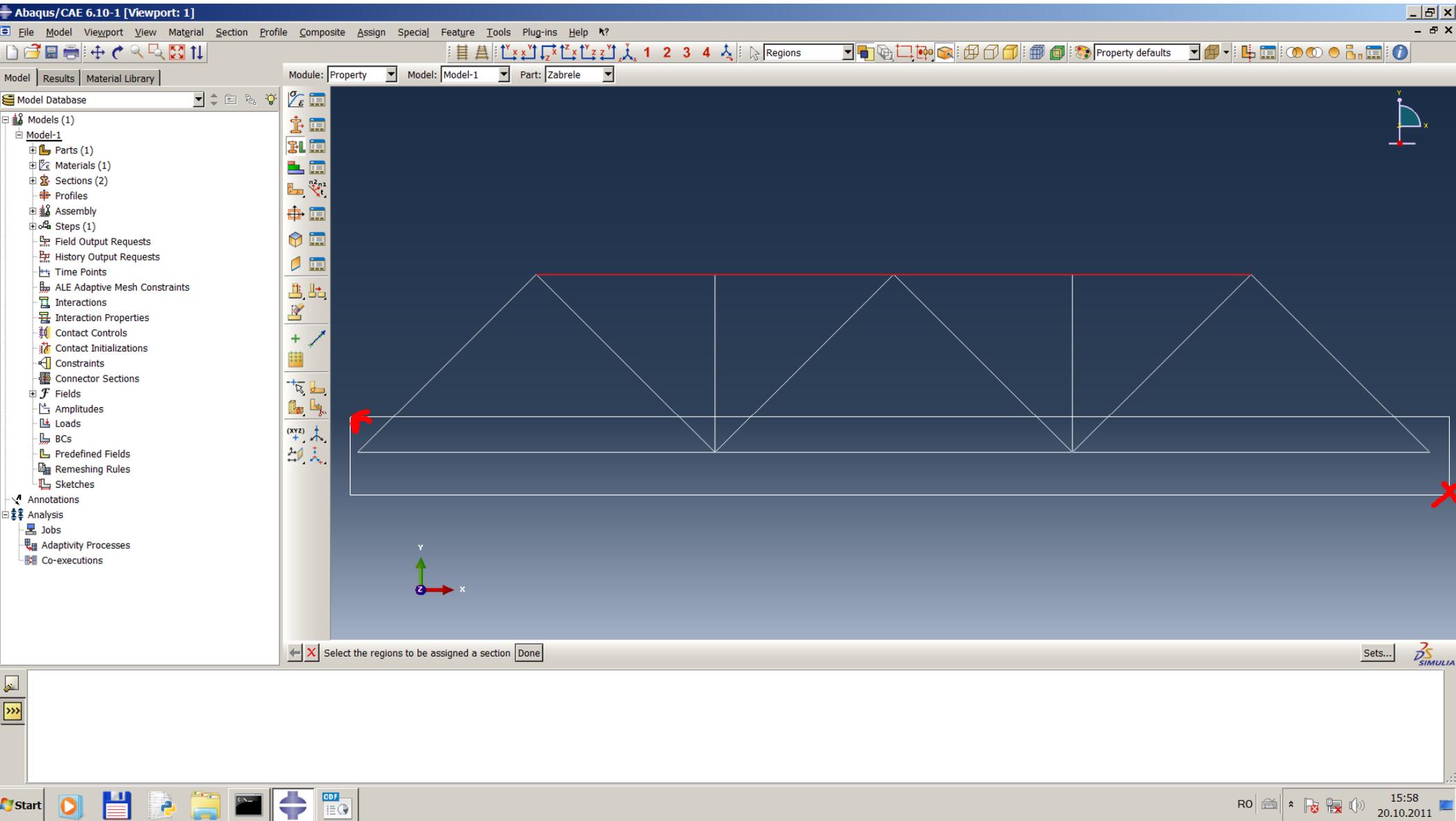


Atribuirea sectiunii

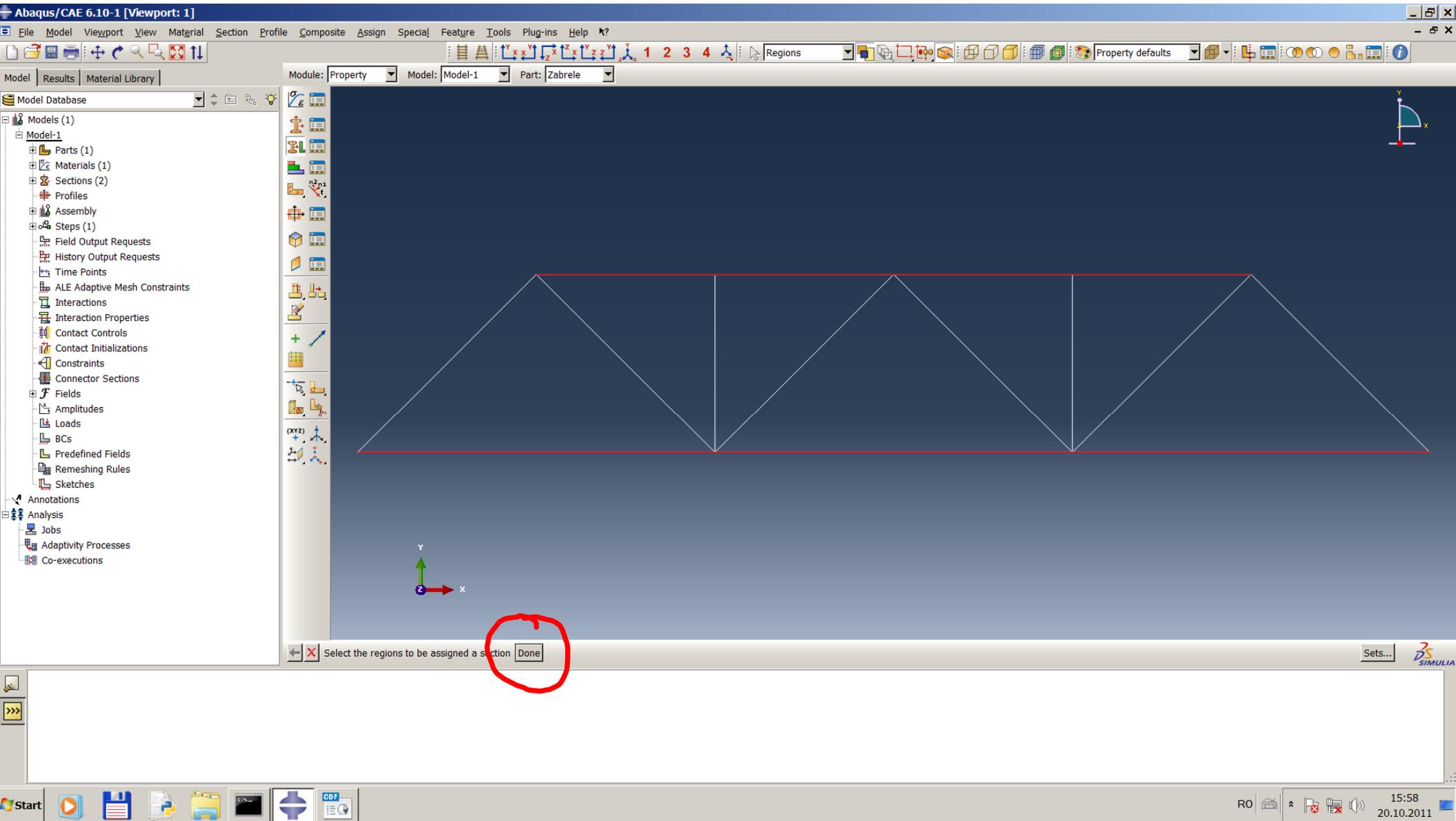
SELECTION OPT.



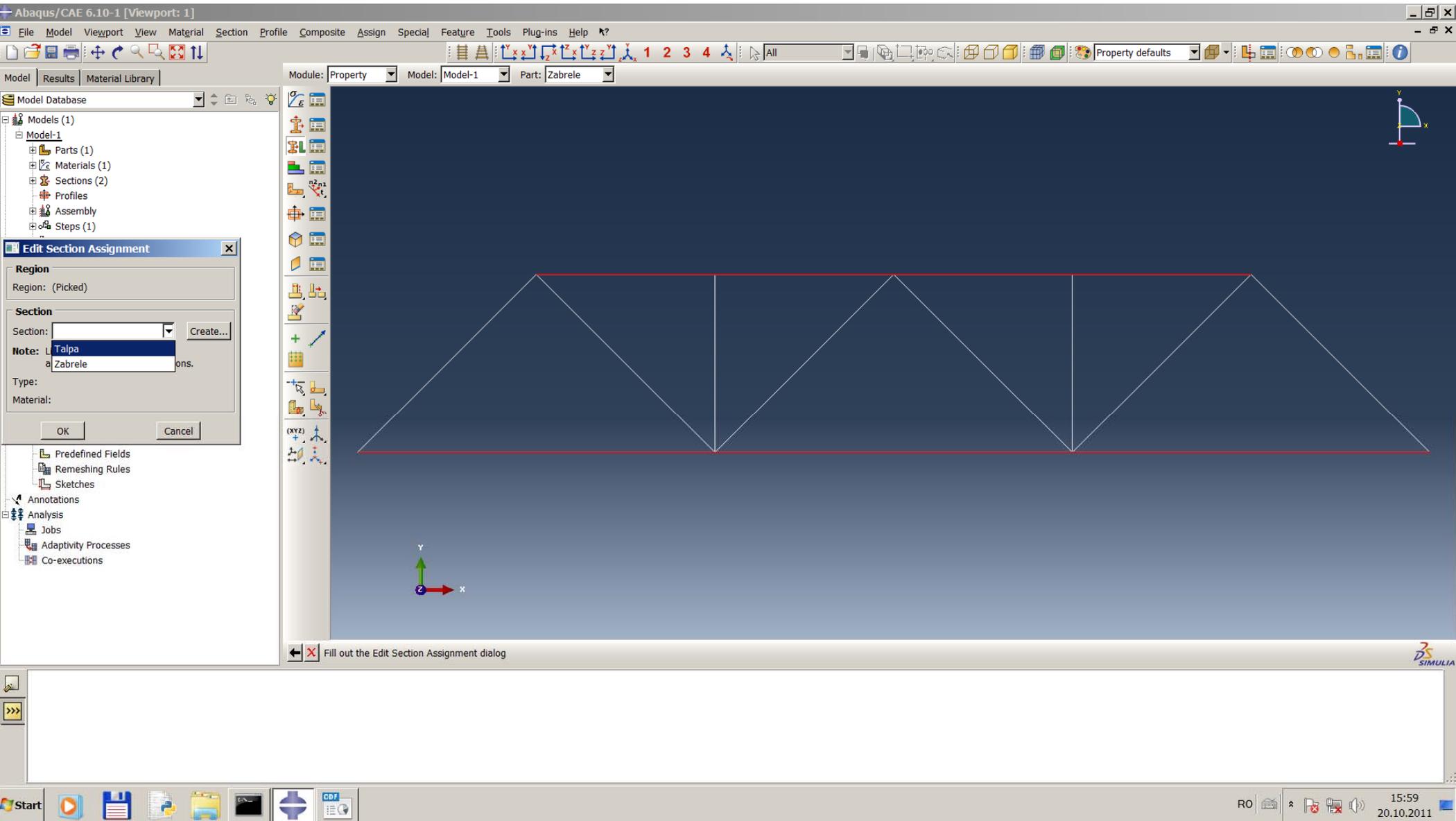
Selectarea talpilor



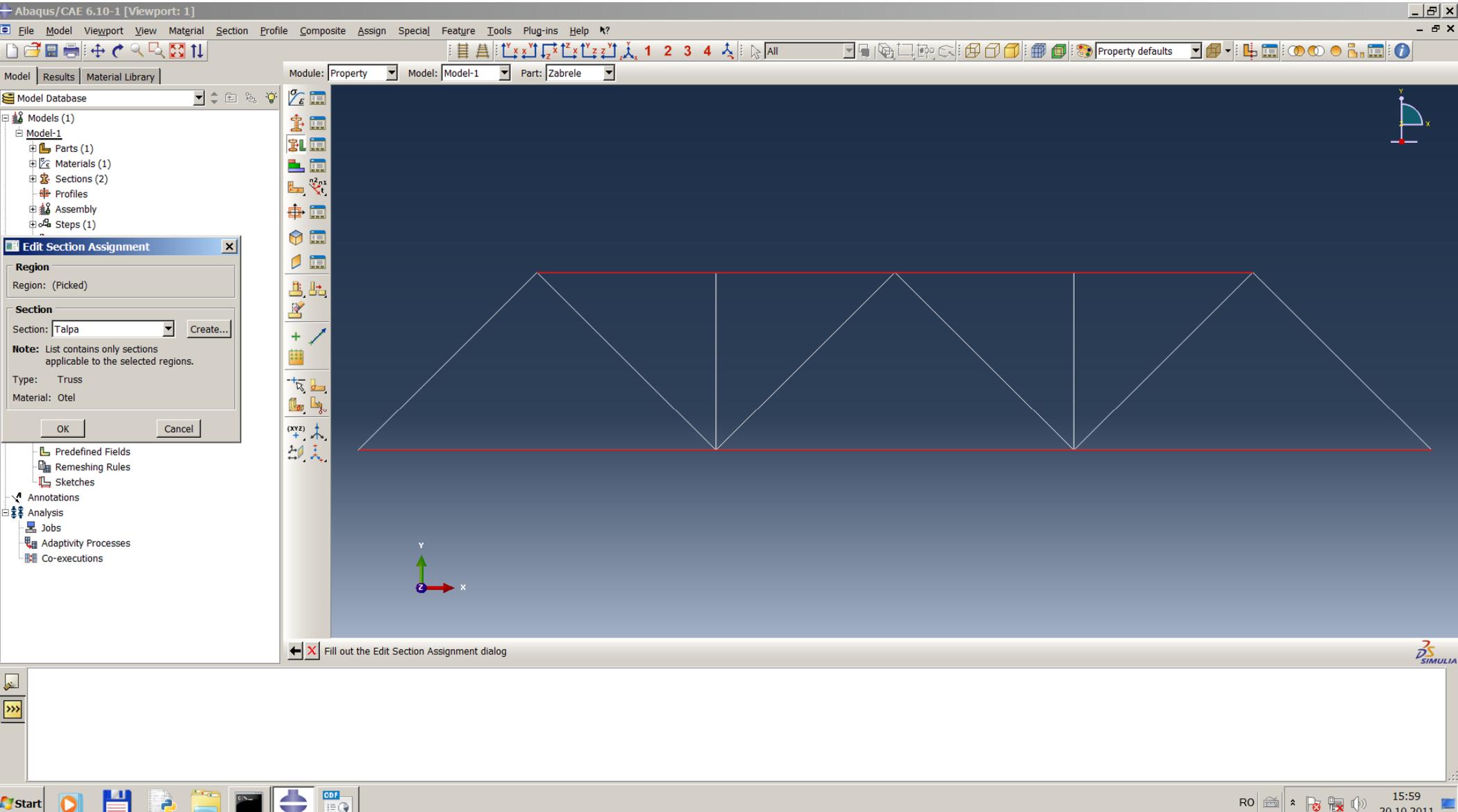
Selectarea talpilor



Atribuirea sectiunii - talpa



Atribuirea sectiunii - talpa



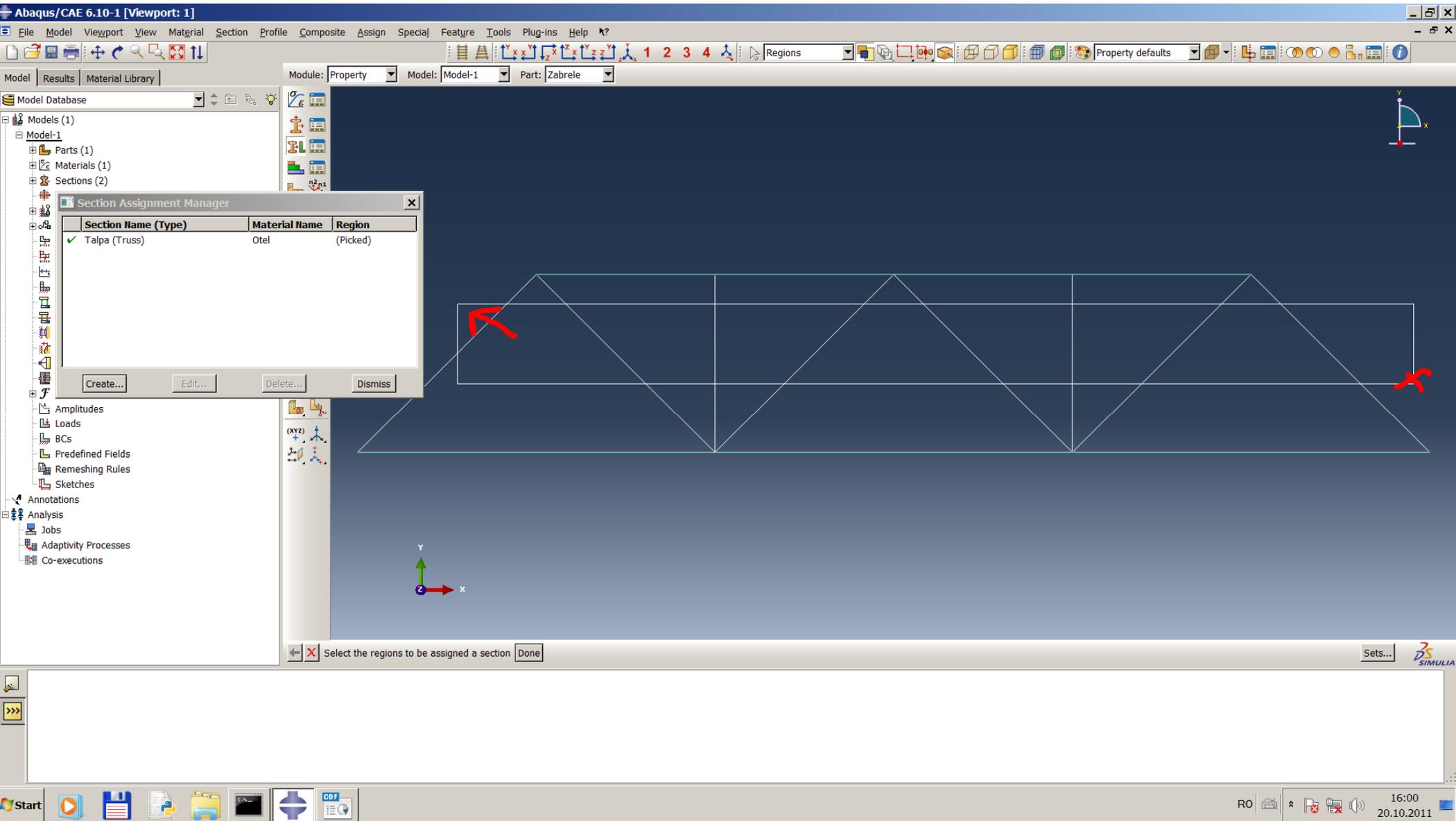
Atribuirea sectiunii

The screenshot displays the Abaqus/CAE 6.10-1 software interface. The main viewport shows a truss structure with three triangular elements. A red circle highlights the 'Select Entities Crossing the Drag Shape' button in the top toolbar. A red arrow labeled 'TALPA' points to the top chord of the truss, and another red arrow labeled 'TALPĂ' points to the bottom chord. A red circle with a question mark is drawn around the rightmost triangular element. The 'Section Assignment Manager' dialog box is open, showing a table with the following content:

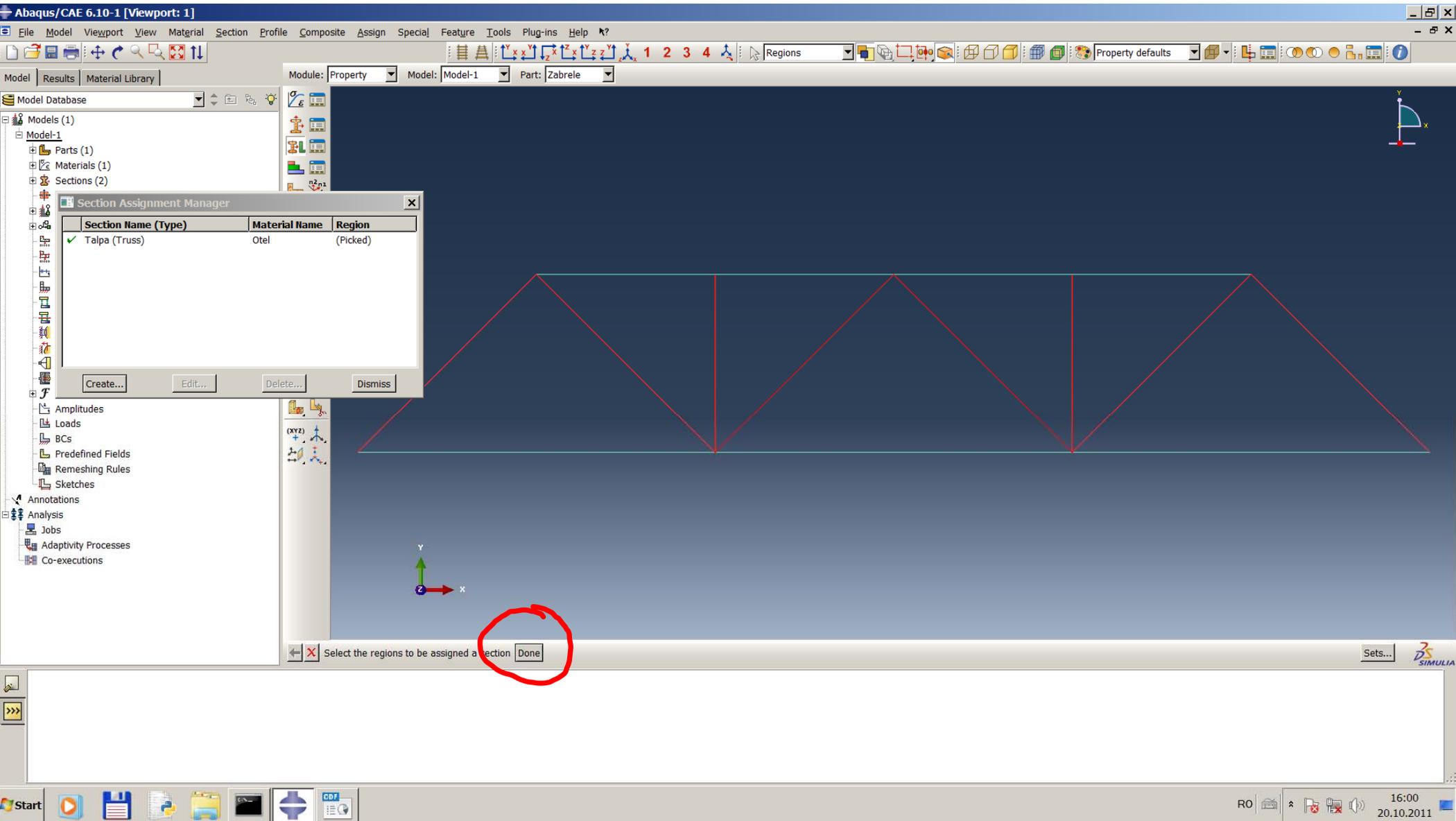
Section Name (Type)	Material Name	Region
✓ Talpa (Truss)	Otel	(Picked)

The 'Region' column for the 'Talpa (Truss)' entry is circled in red. The bottom status bar indicates 'Select the regions to be assigned a section Done'.

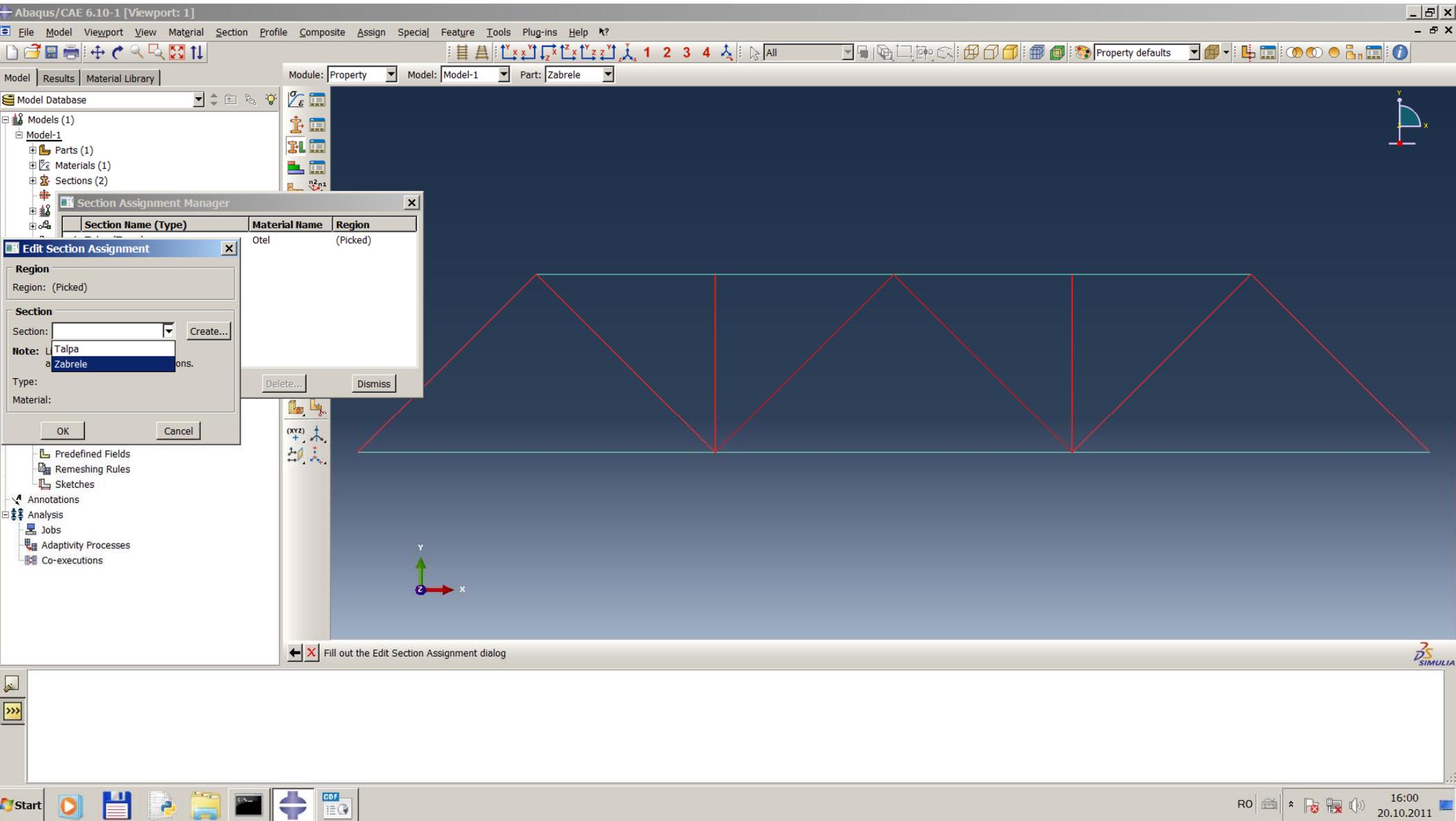
Selectarea diagonalelor si a montantilor



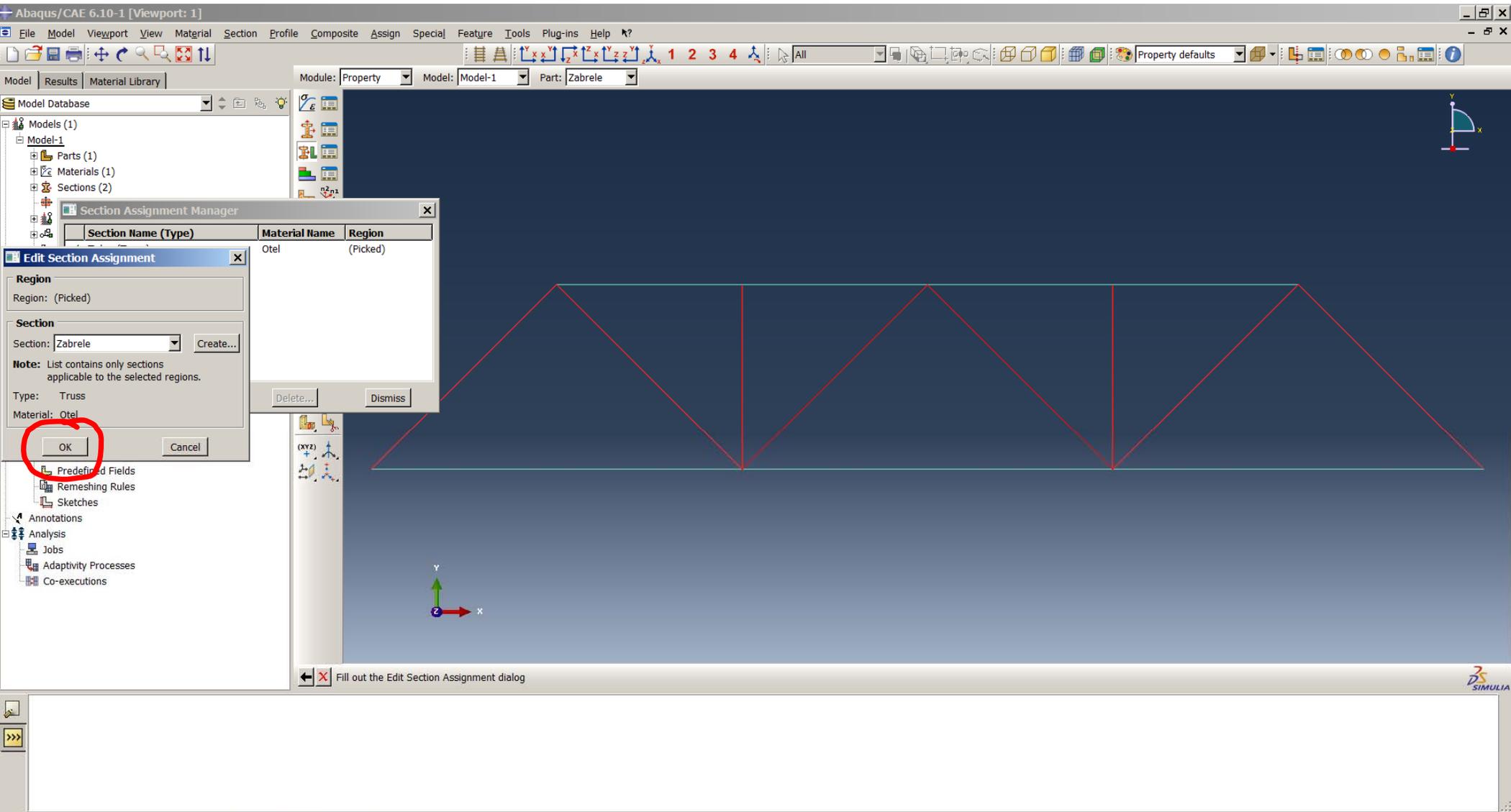
Selectarea diagonalelor si a montantilor



Atribuirea sectiunii - zabrele



Atribuirea sectiunii - zabrele



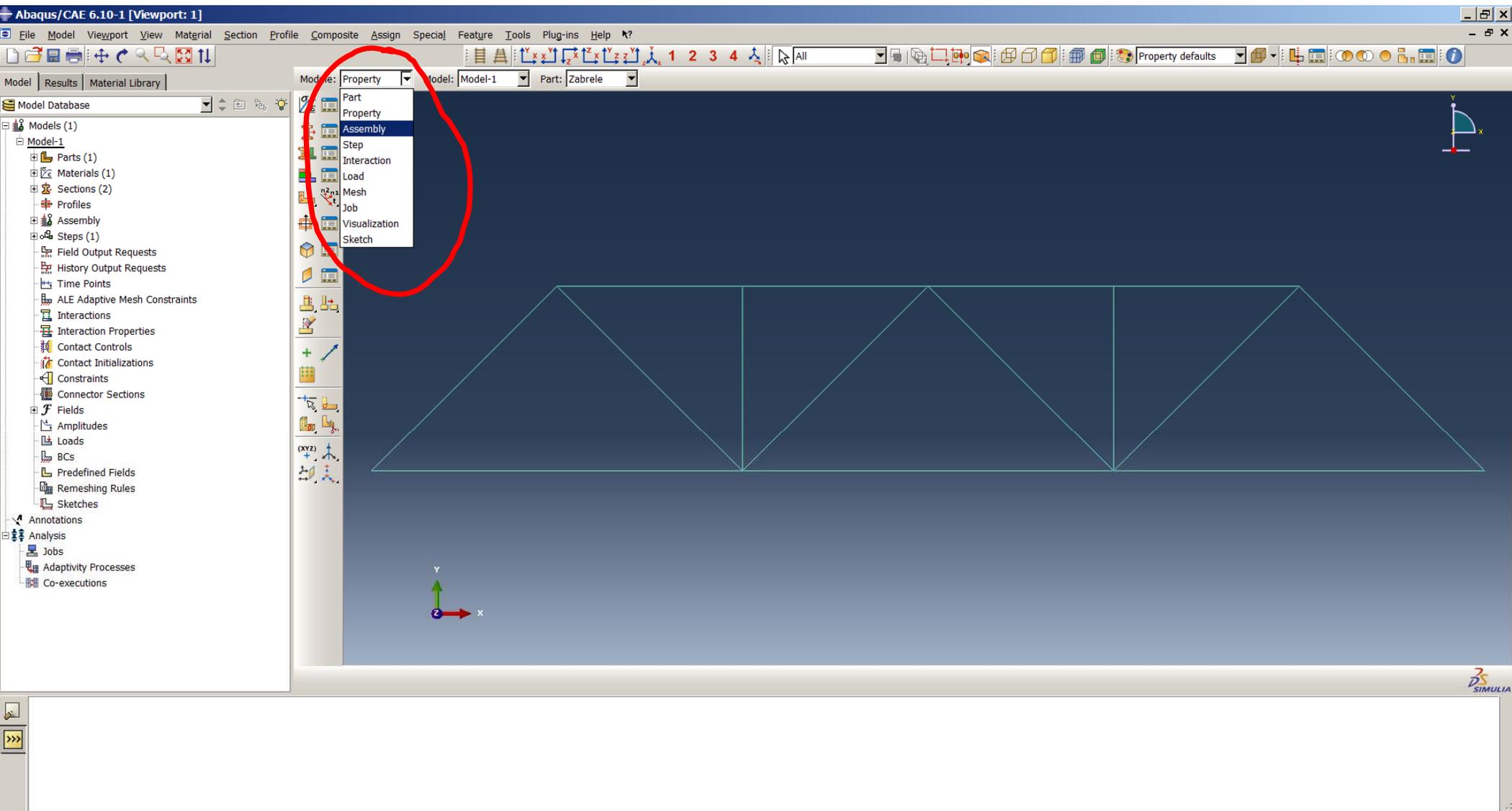
Atribuirea sectiunii

The screenshot displays the Abaqus/CAE 6.10-1 software interface. The main viewport shows a truss structure with three triangular panels. A dialog box titled "Section Assignment Manager" is open, showing a table with the following data:

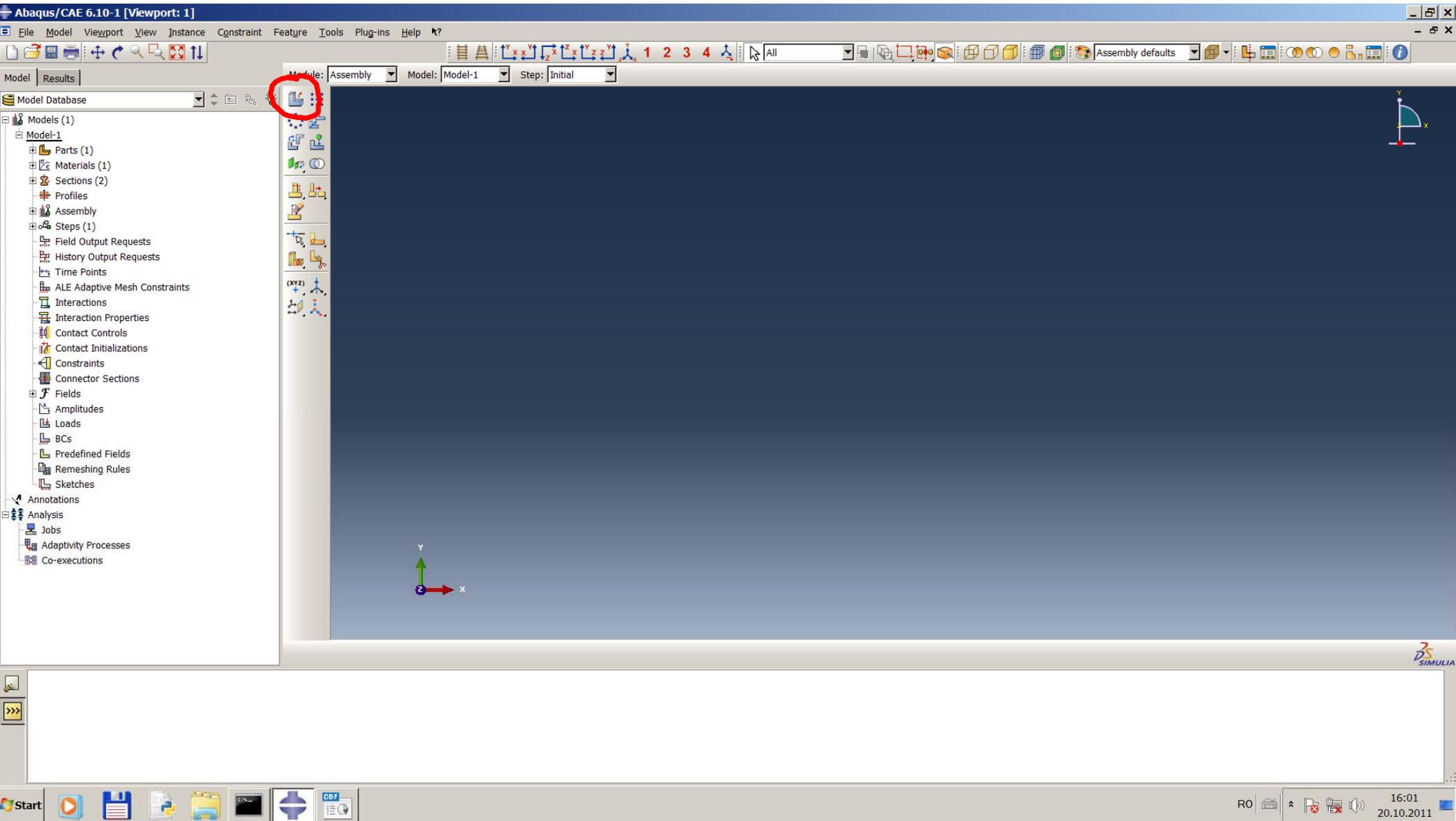
Section Name (Type)	Material Name	Region
✓ Talpa (Truss)	Otel	(Picked)
✓ Zabrele (Truss)	Otel	(Picked)

The dialog box also includes buttons for "Create...", "Edit...", "Delete...", and "Dismiss". The software interface includes a menu bar (File, Model, Viewport, View, Material, Section, Profile, Composite, Assign, Special, Feature, Tools, Plug-ins, Help), a toolbar, and a left-hand panel with a tree view showing the model hierarchy (Models, Parts, Materials, Sections, etc.). The status bar at the bottom indicates "Select the regions to be assigned a section" and "Done".

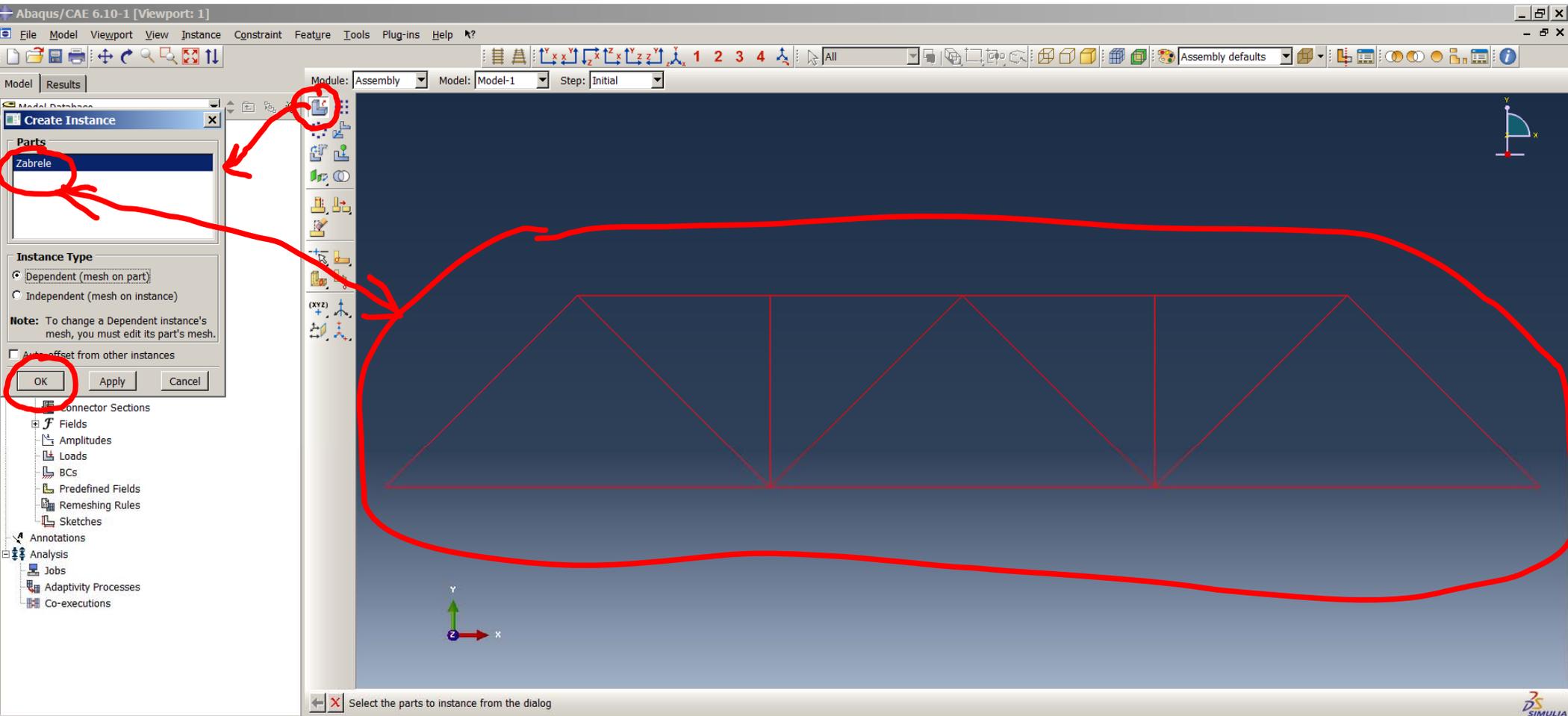
Modulul Assembly



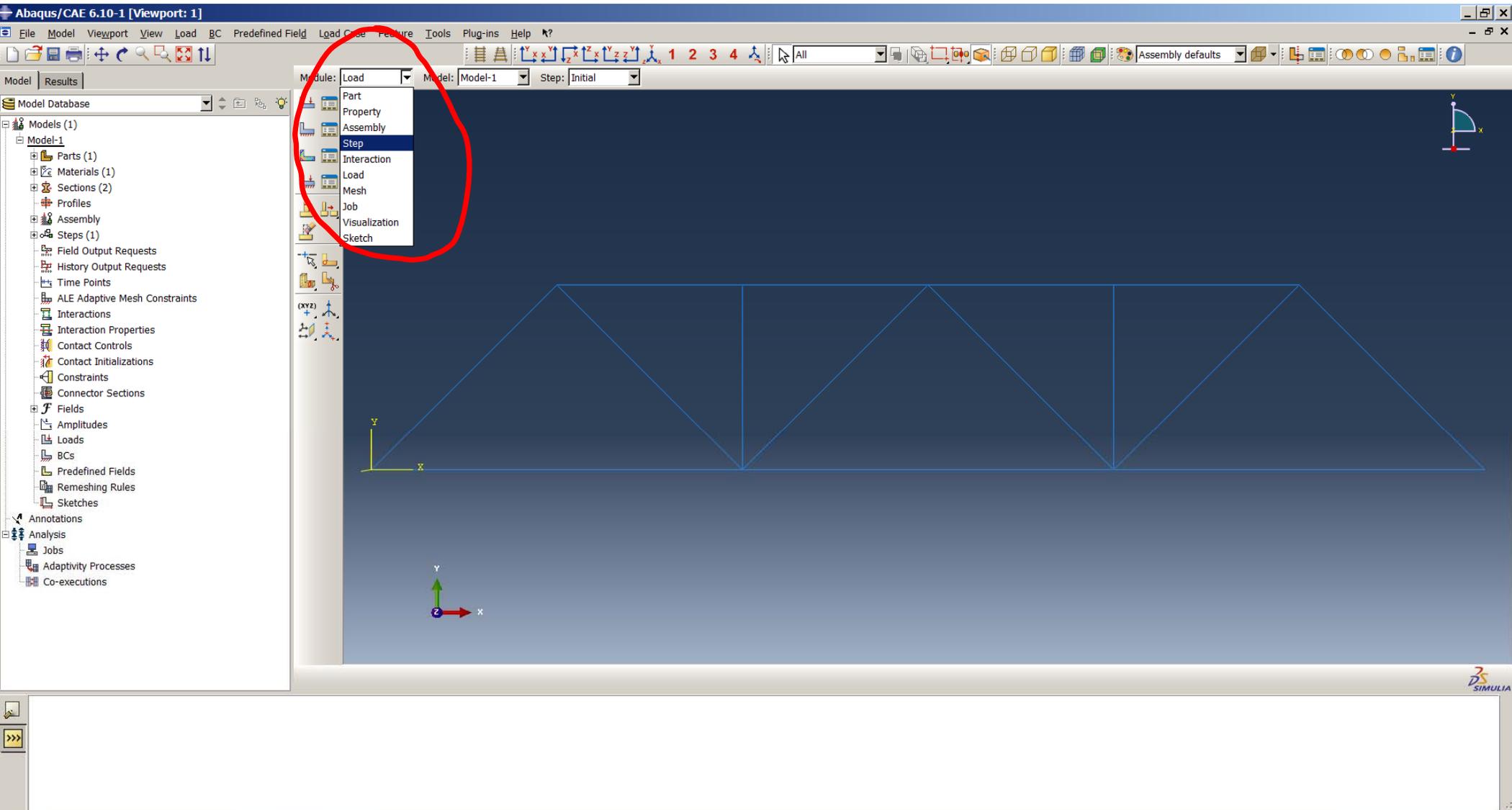
Crearea instance



Crearea instance



Modulul Step



Crearea pasului de analiza Static general

The screenshot displays the Abaqus/CAE 6.10-1 software interface. The main window shows a 3D model of a trapezoidal structure. Two dialog boxes are open:

- Step Manager:** A table with columns 'Name', 'Procedure', 'Nlgeom', and 'Time'. The 'Initial' step is listed with '(Initial)' procedure, 'N/A' for Nlgeom, and 'N/A' for Time. The 'Create...' button is circled in red.
- Create Step:** A dialog box for creating a new step. The 'Name' field is 'Step-1'. The 'Procedure type' dropdown is set to 'General'. The 'Procedure' list has 'Static, General' selected, which is circled in red. The 'Continue...' button is also circled in red.

The bottom of the image shows the Windows taskbar with the Start button, several application icons, and the system tray displaying the time as 16:04 on 20.10.2011.

Crearea pasului de analiza Static general

The screenshot displays the Abaqus/CAE 6.10-1 software interface. The main window shows a 3D model of a structure with a coordinate system (X, Y, Z). Two dialog boxes are open: 'Step Manager' and 'Create Step'.

Step Manager Table:

Name	Procedure	NIgeom	Time
Initial	(Initial)	N/A	N/A

Create Step Dialog:

- Name: Step-1
- Insert new step after: Initial
- Procedure type: General
- Procedure type list: Dynamic, Explicit; Dynamic, Temp-disp, Explicit; Geostatic; Heat transfer; Mass diffusion; Soils; **Static, General**; Static, Riks

At the bottom of the interface, a status bar displays the following text:

```
The job input file "GZabrele.inp" has been submitted for analysis.  
Job GZabrele: Analysis Input File Processor completed successfully.  
Job GZabrele: Abaqus/Standard completed successfully.  
Job GZabrele completed successfully.
```

Definirea parametrilor pasului de analiza Static general

The screenshot displays the Abaqus/CAE 6.10-1 software interface. The main window shows a 3D coordinate system with X, Y, and Z axes. Two dialog boxes are open: 'Step Manager' and 'Edit Step'.

Step Manager: A table listing the analysis steps.

Name	Procedure	NIgeom	Time
Initial	(Initial)	N/A	N/A

Edit Step: A dialog box for configuring the 'Step-1' analysis step.

- Name: Step-1
- Type: Static, General
- Basic tab selected
- Description: [Empty text box]
- Time period: 1
- NIgeom: Off (This setting controls the inclusion of nonlinear effects of large displacements and affects subsequent steps.)
- Automatic stabilization: None
- Include adiabatic heating effects

The 'OK' button in the 'Edit Step' dialog is circled in red.

At the bottom of the screen, a status bar displays the following text:

```
The job input file "GZabrele.inp" has been submitted for analysis.  
Job GZabrele: Analysis Input File Processor completed successfully.  
Job GZabrele: Abaqus/Standard completed successfully.  
Job GZabrele completed successfully.
```

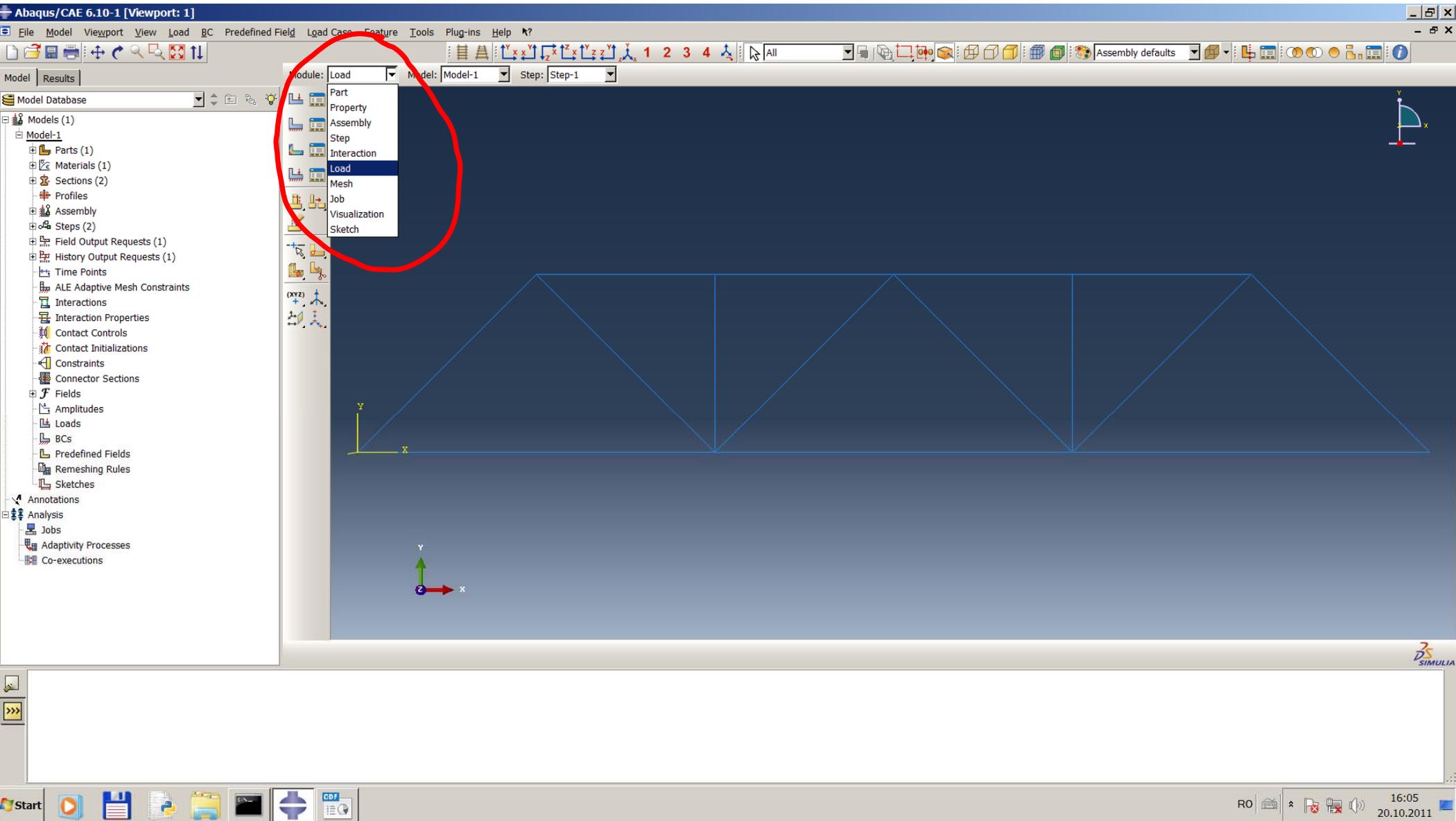
Pasii de analiza

The screenshot displays the Abaqus/CAE 6.10-1 software interface. The main window shows a 3D model of a truss structure. A 'Step Manager' dialog box is open, listing the analysis steps. The 'Step-1' row is highlighted, and the 'Dismiss' button is circled in red. The status bar at the bottom indicates that the job input file 'GZabrele.inp' has been submitted for analysis and that the analysis input file processor completed successfully.

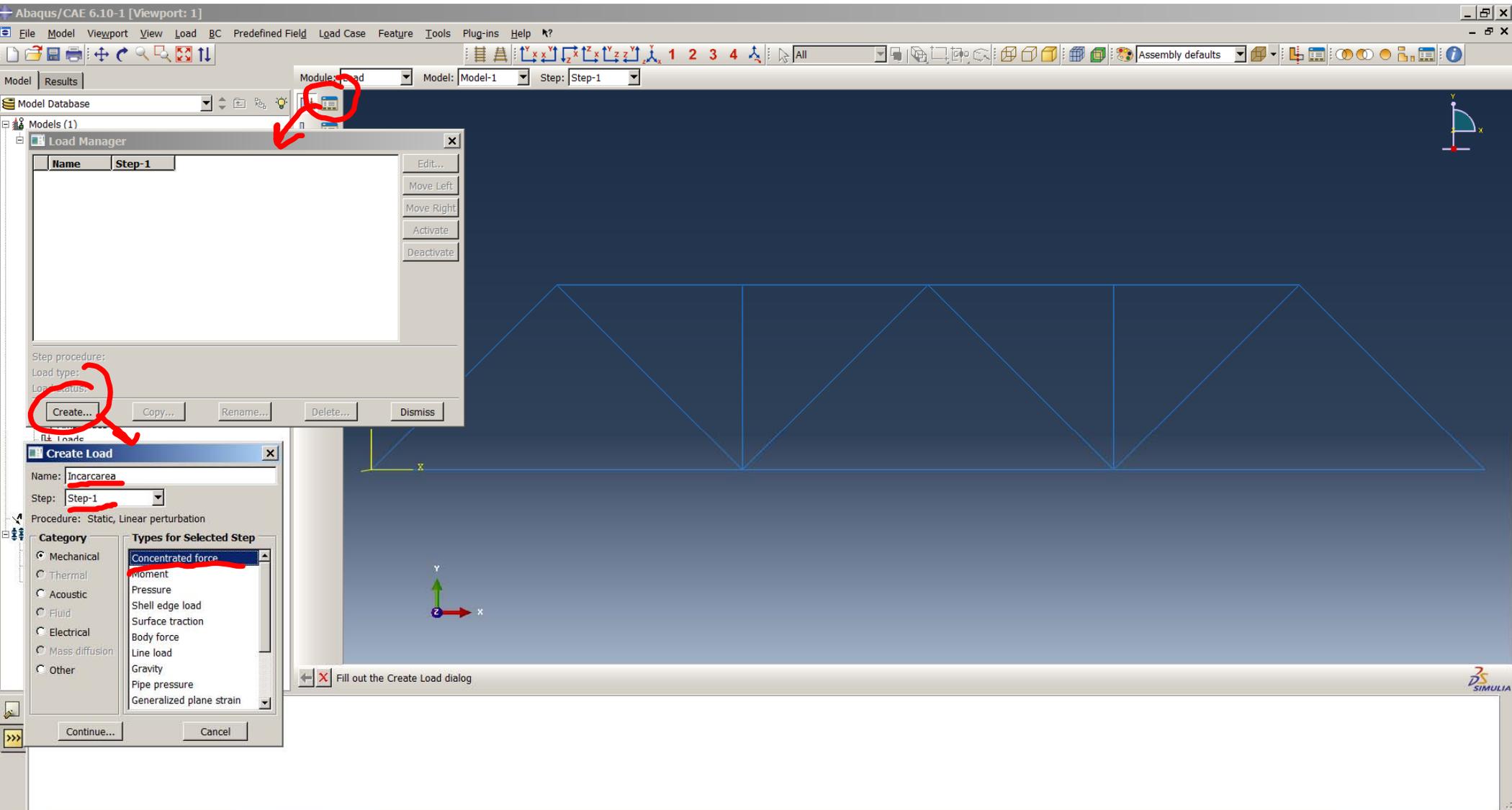
Name	Procedure	Nlgeom	Time
Initial	(Initial)	N/A	N/A
Step-1	Static, General	OFF	1

Job GZabrele: Analysis Input File Processor completed successfully.
Job GZabrele: Abaqus/Standard completed successfully.
Job GZabrele completed successfully.

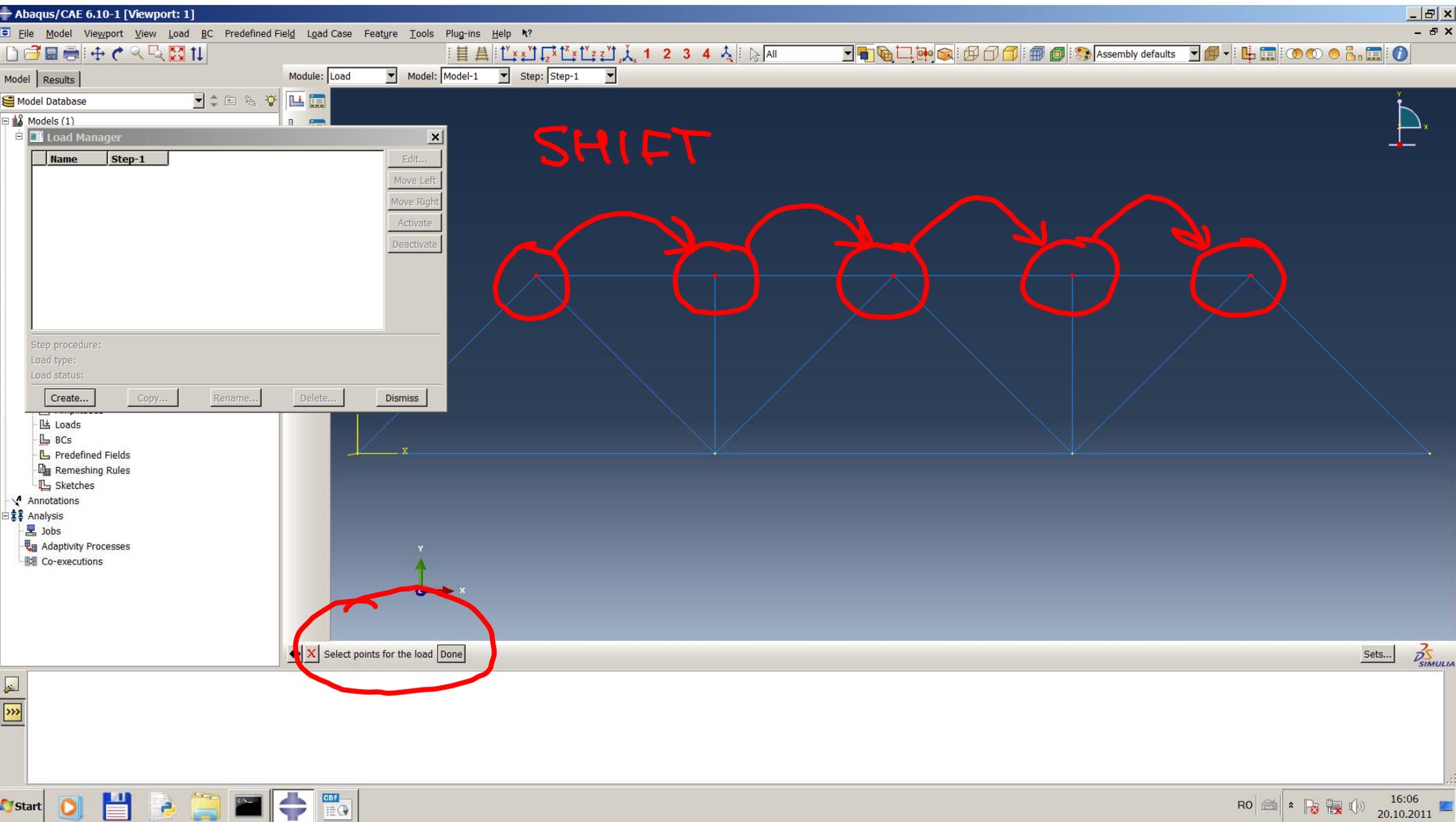
Modulul Load



Crearea Incarcarilor Forte Concentrate



Selectarea nodurilor Punctul de aplicatie al fortelor



Declararea intensitatii, a directiei si a sensului fortei

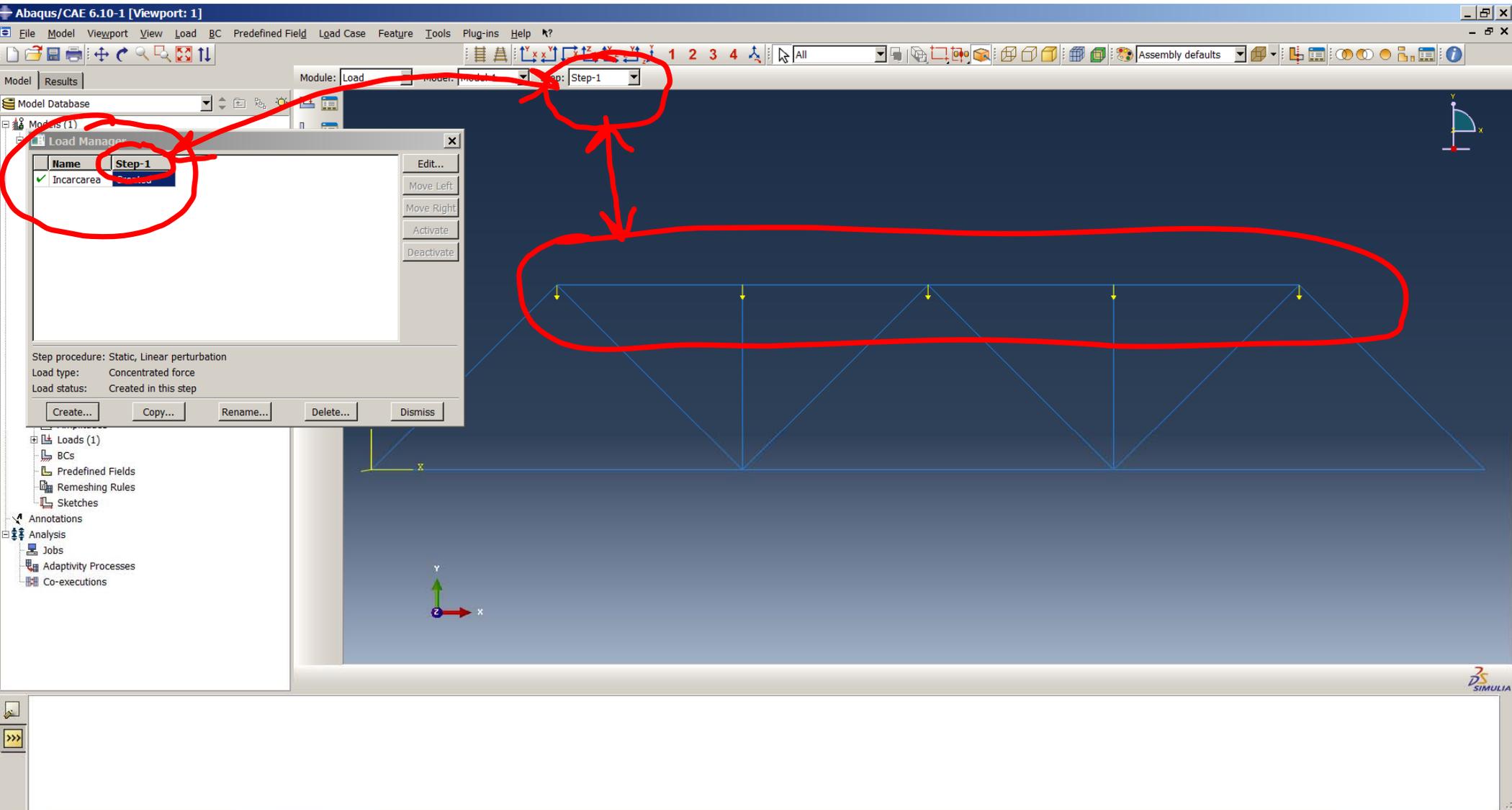
The screenshot displays the Abaqus/CAE 6.10-1 software interface. The main viewport shows a truss structure with a coordinate system (x, y, z). Red handwritten annotations include the word "ROSU" at the top with arrows pointing to the top nodes, and "+2" and "-CF2" at the bottom with arrows pointing to the bottom nodes.

Two dialog boxes are open:

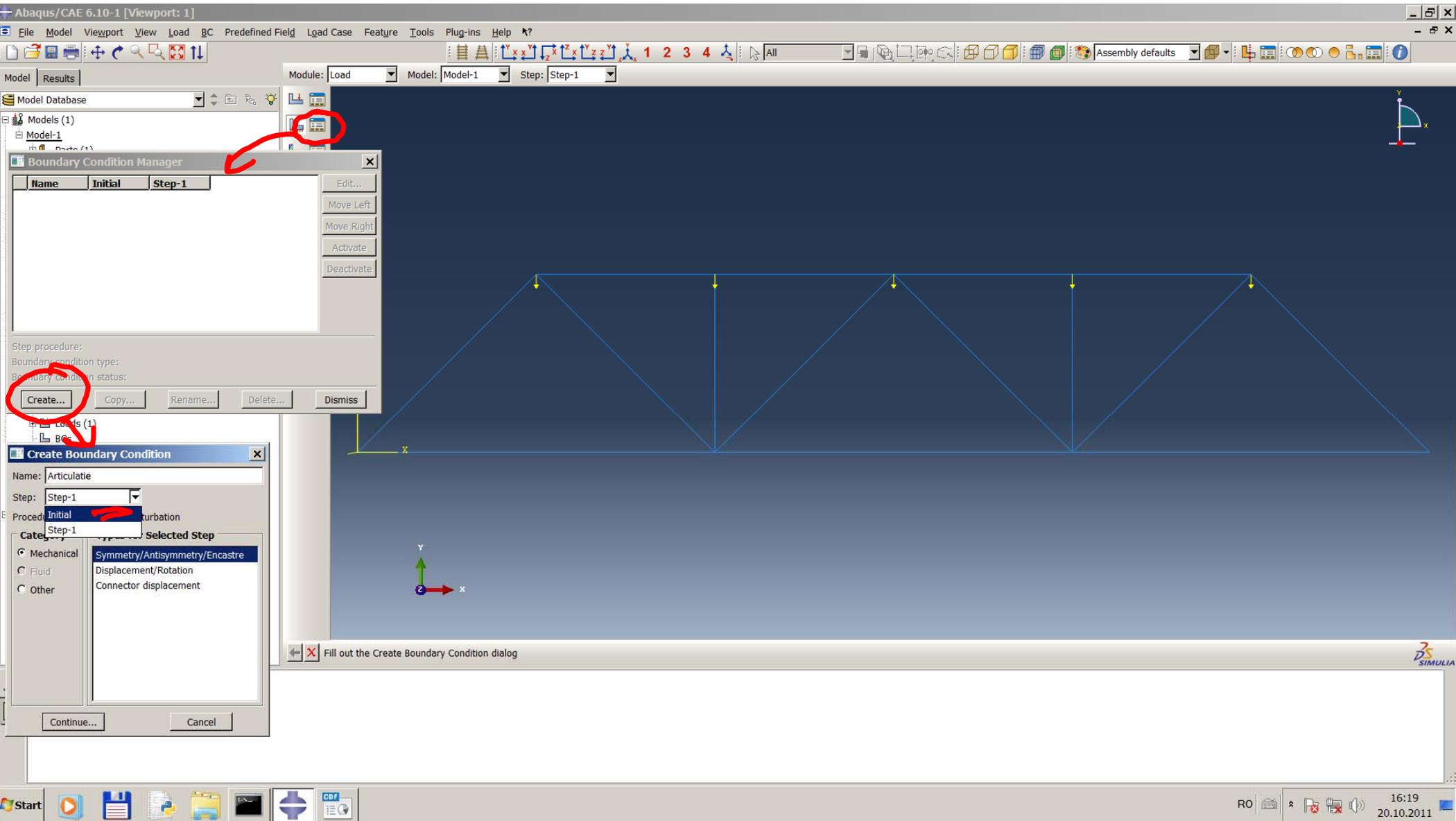
- Load Manager:** A table with columns "Name" and "Step-1".
- Edit Load:** Fields include Name: Incarcarea, Type: Concentrated force, Step: Step-1 (Static, Linear perturbation), Region: (Picked), CSYS: (Global), Distribution: Uniform, CF1: 0, and CF2: -10000. The "OK" button is circled in red.

The bottom status bar contains the text: "Fill out the Edit Load dialog".

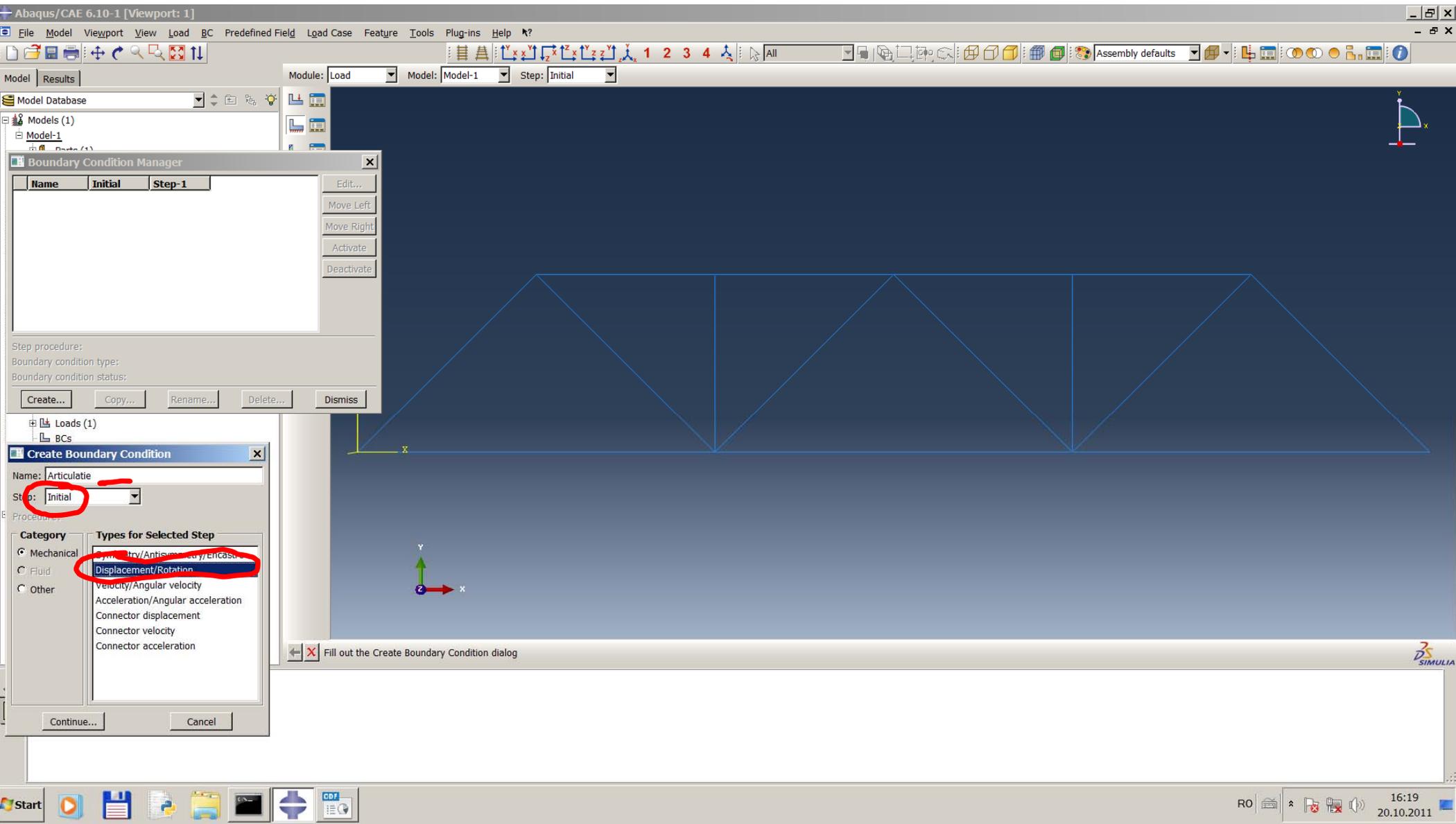
Managerul Load



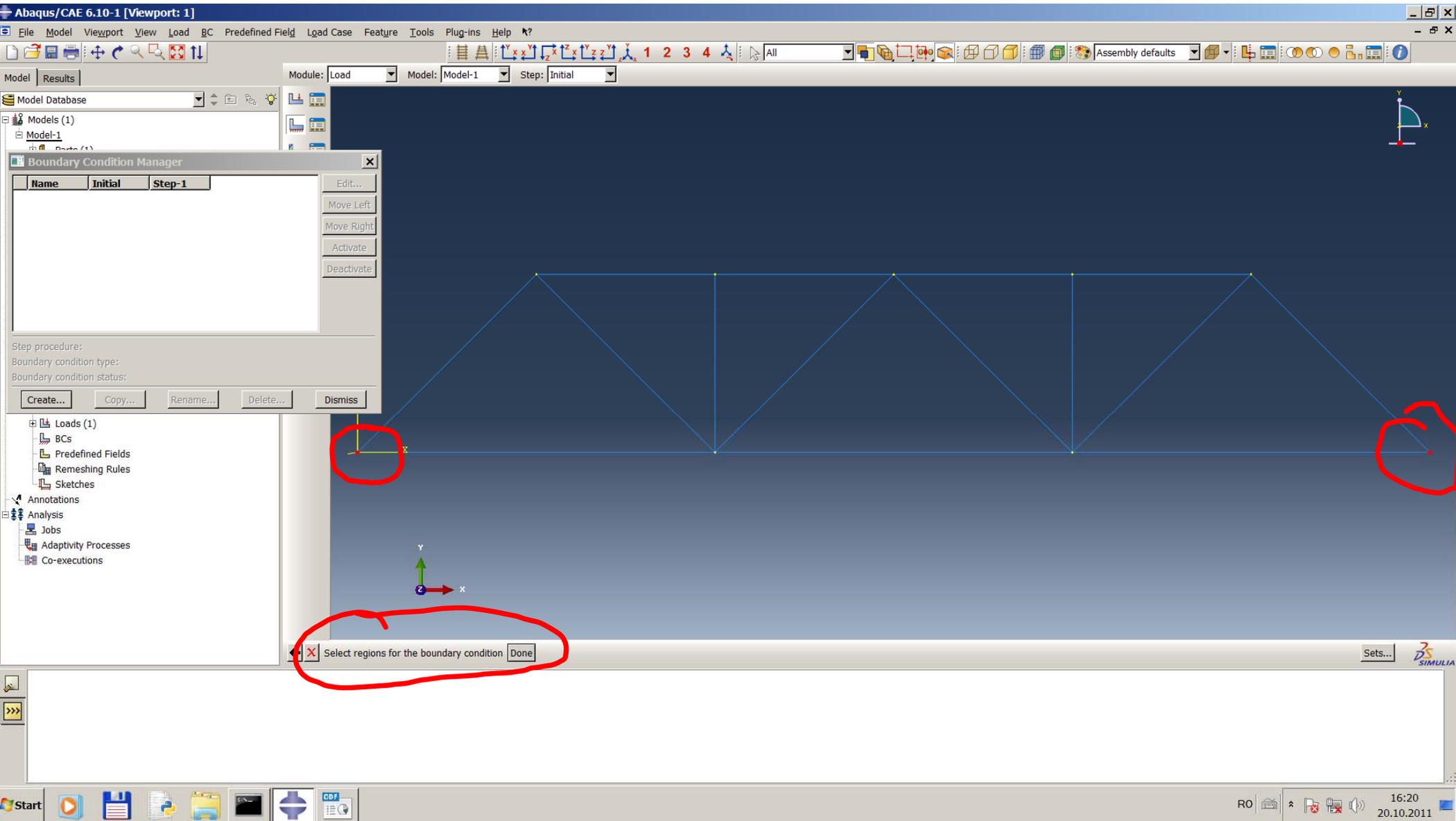
Crearea rezemarilor



Tipul Deplasare (liniara/rotire)



Selectarea punctelor



Definirea gradelor de libertate blocate

The screenshot displays the Abaqus/CAE 6.10-1 software interface. The main viewport shows a 3D model of a truss structure. Two dialog boxes are open: the 'Boundary Condition Manager' and the 'Edit Boundary Condition' dialog. The 'Edit Boundary Condition' dialog is configured for an 'Articulate' boundary condition, with 'Displacement/Rotation' type, 'Initial' step, and 'Region: (Picked)'. The 'CSYS' is set to '(Global)'. The 'U1' and 'U2' checkboxes are checked, while 'U3' is unchecked. A note at the bottom of the dialog states: 'Note: The displacement value will be maintained in subsequent steps.' Hand-drawn red annotations on the model and in the dialog indicate the degrees of freedom: 'U1' (horizontal displacement), 'U2' (vertical displacement), and 'U3' (rotation). The 'Boundary Condition Manager' table is empty.

Name	Initial	Step-1
------	---------	--------

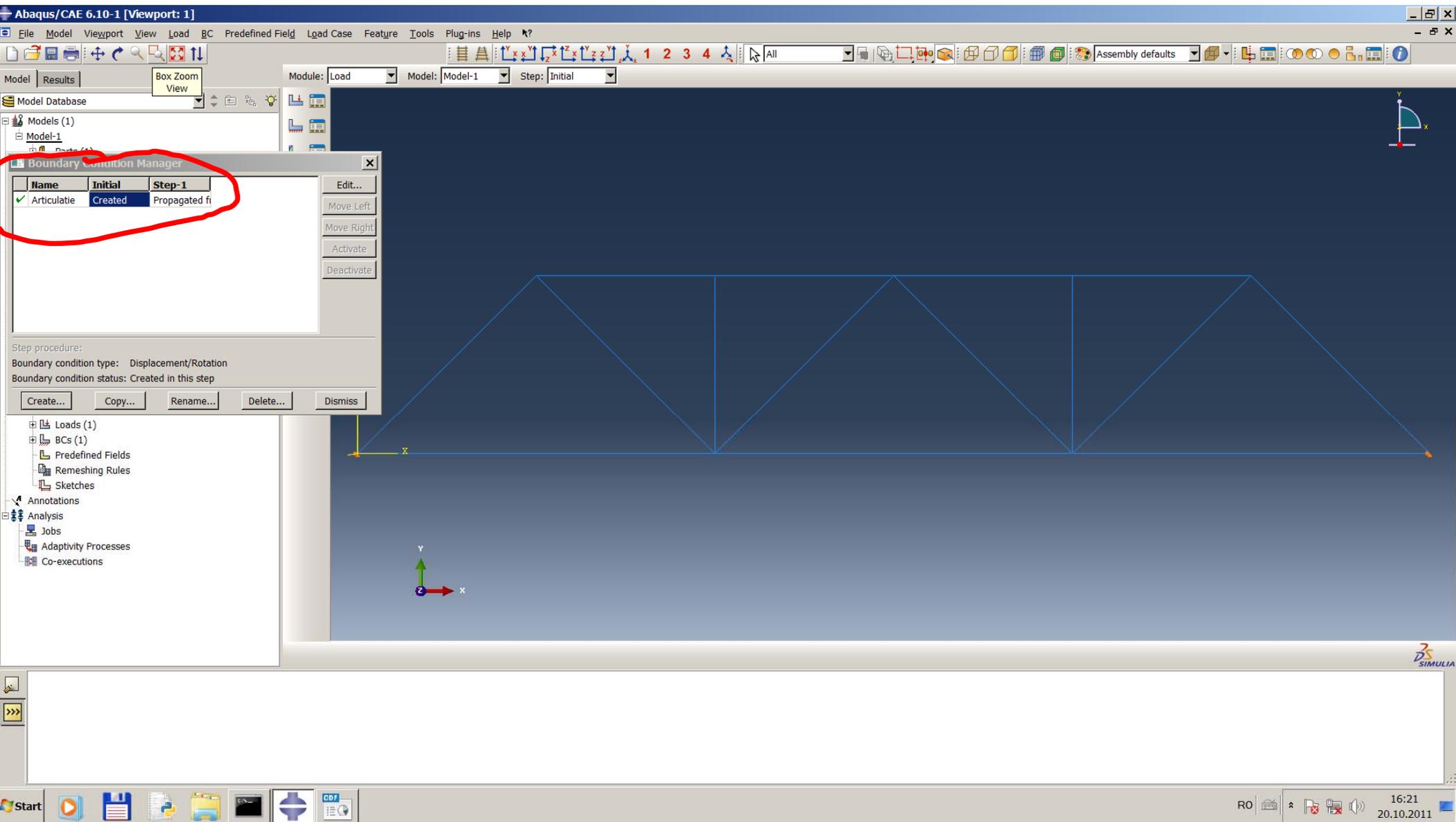
U1
U2
U3

Note: The displacement value will be maintained in subsequent steps.

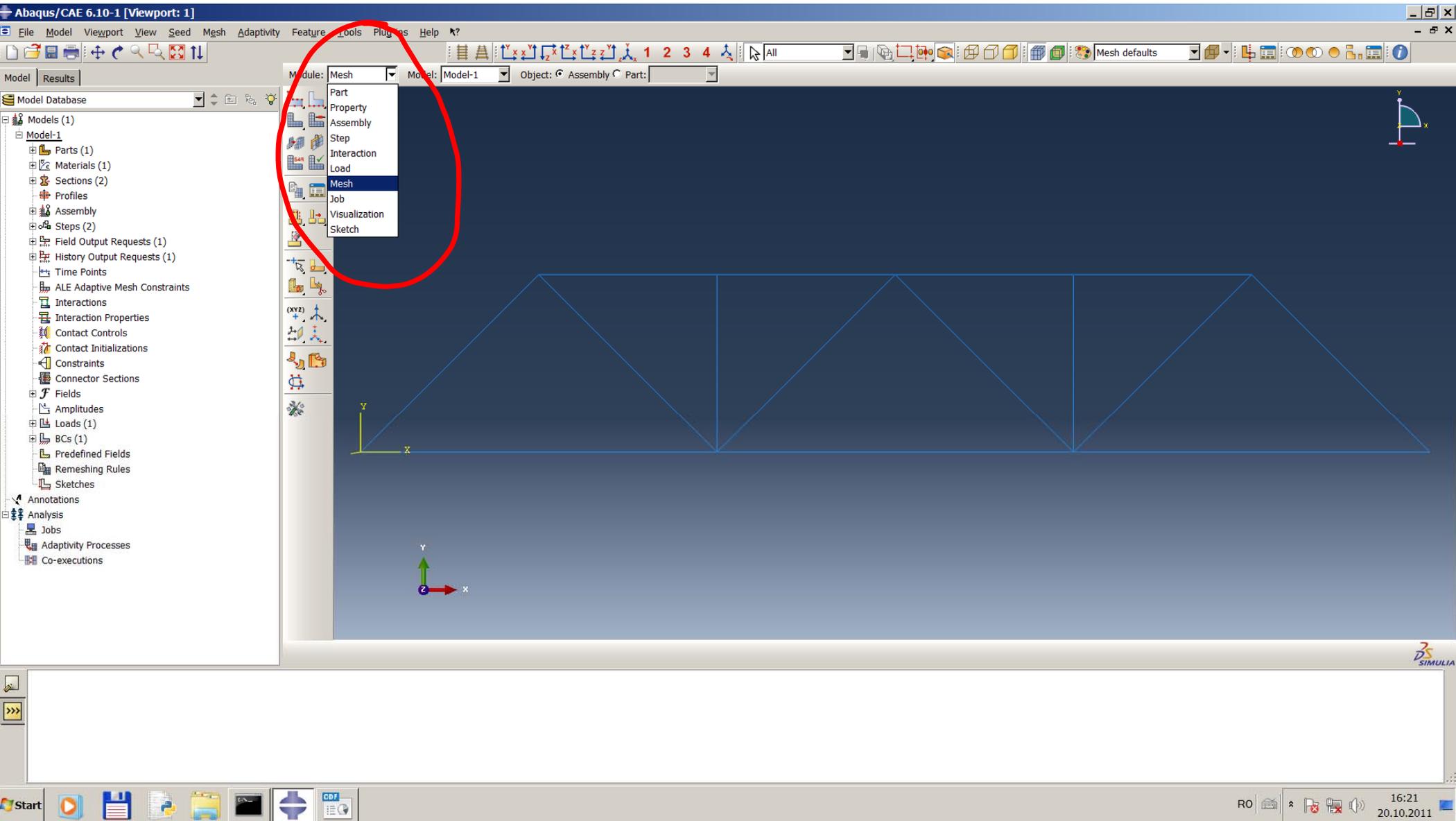
OK Cancel

Fill out the Edit Boundary Condition dialog

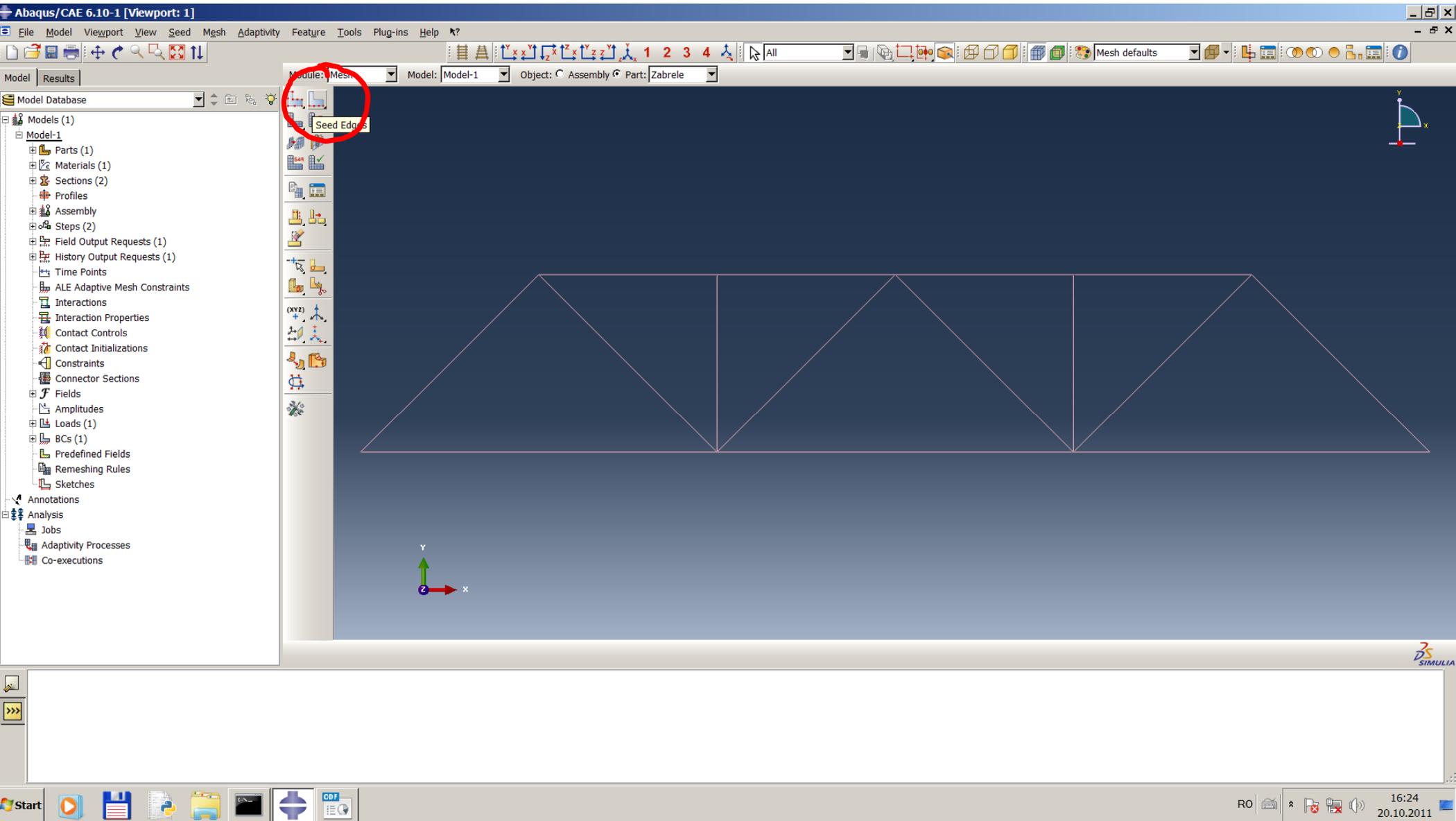
Modulul Boundary Condition



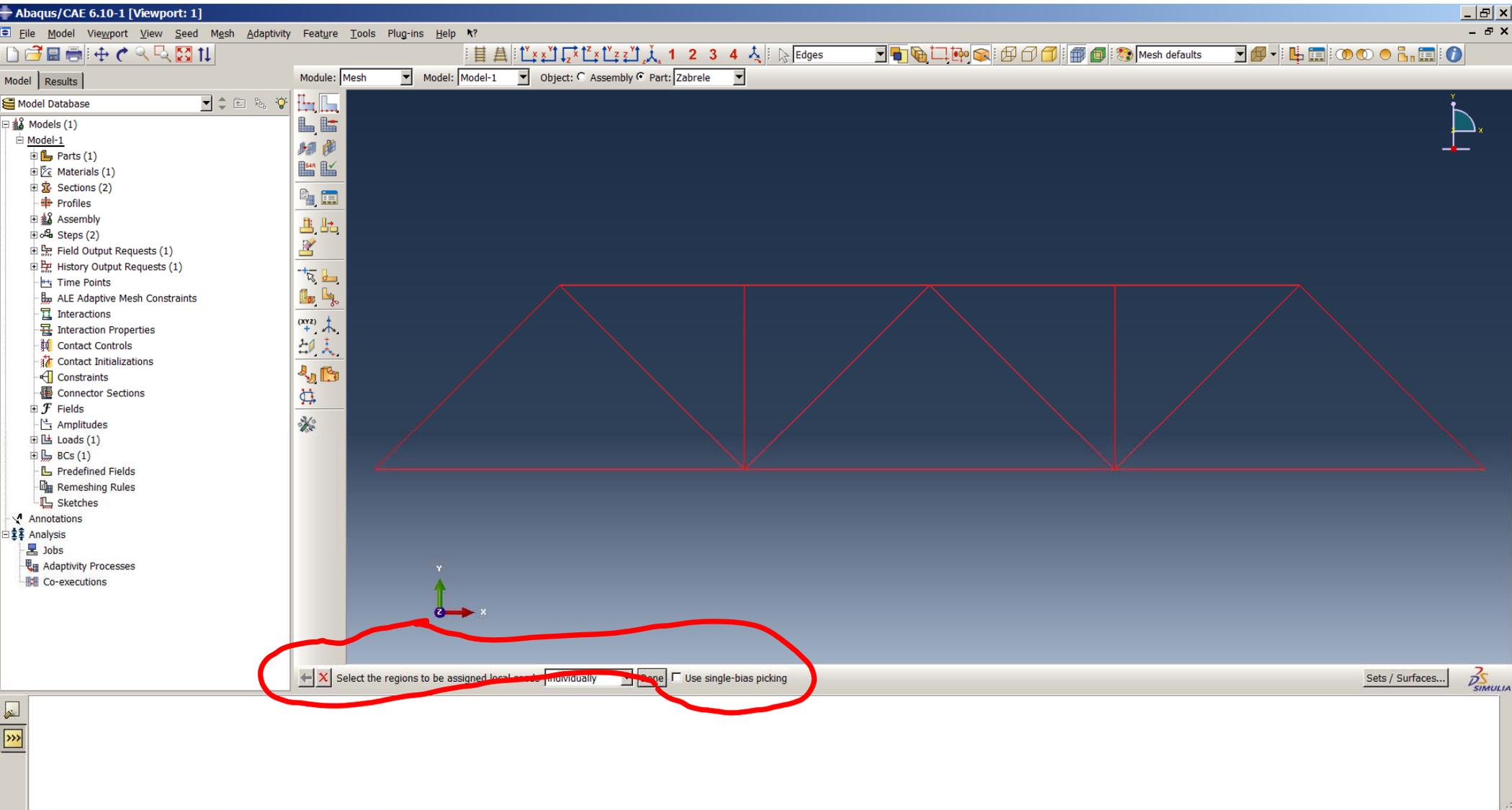
Modulul Mesh (Discretizarea)



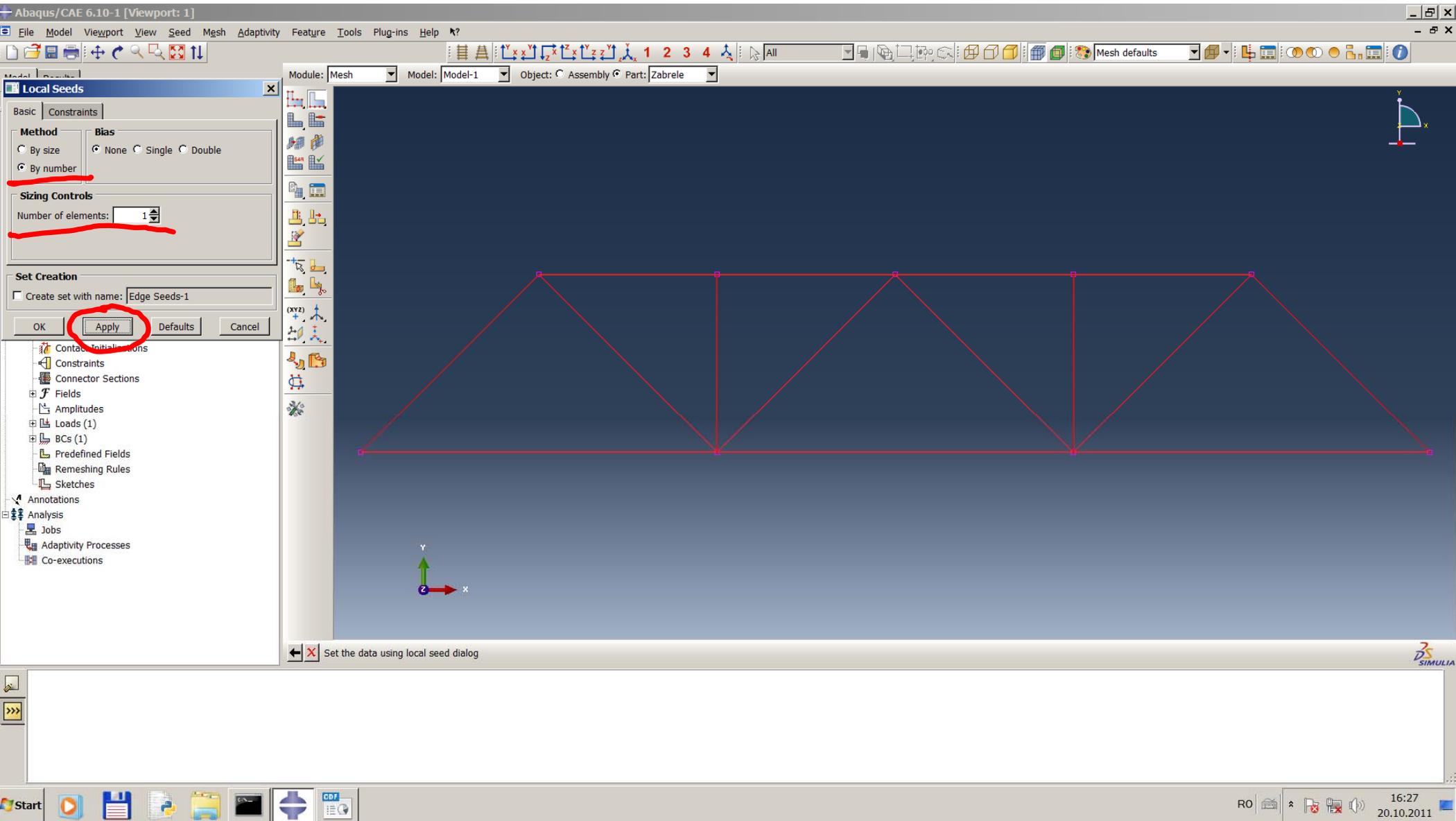
Atribuirea semintelor locale (seed edge)



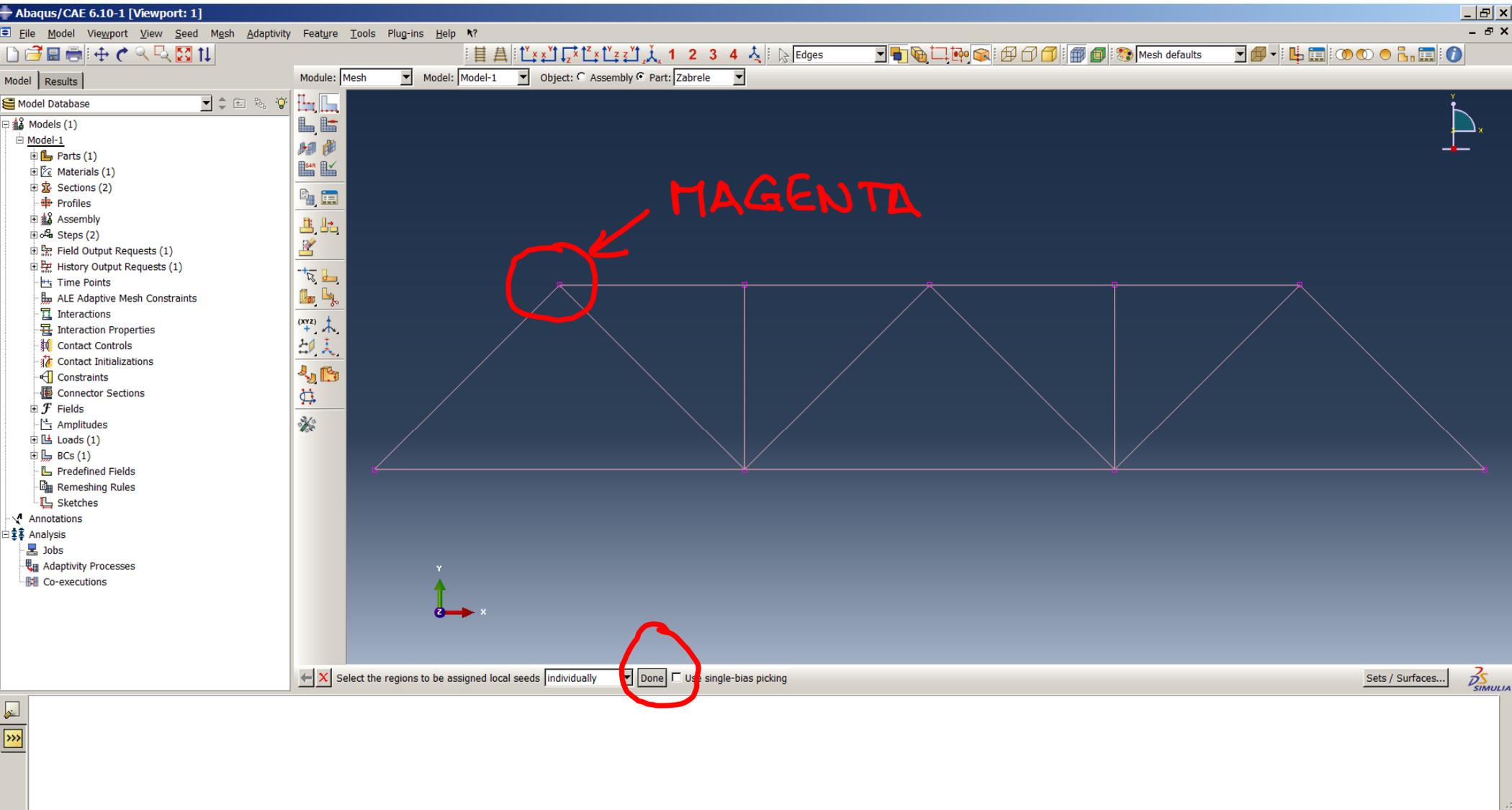
Selectare elementelor



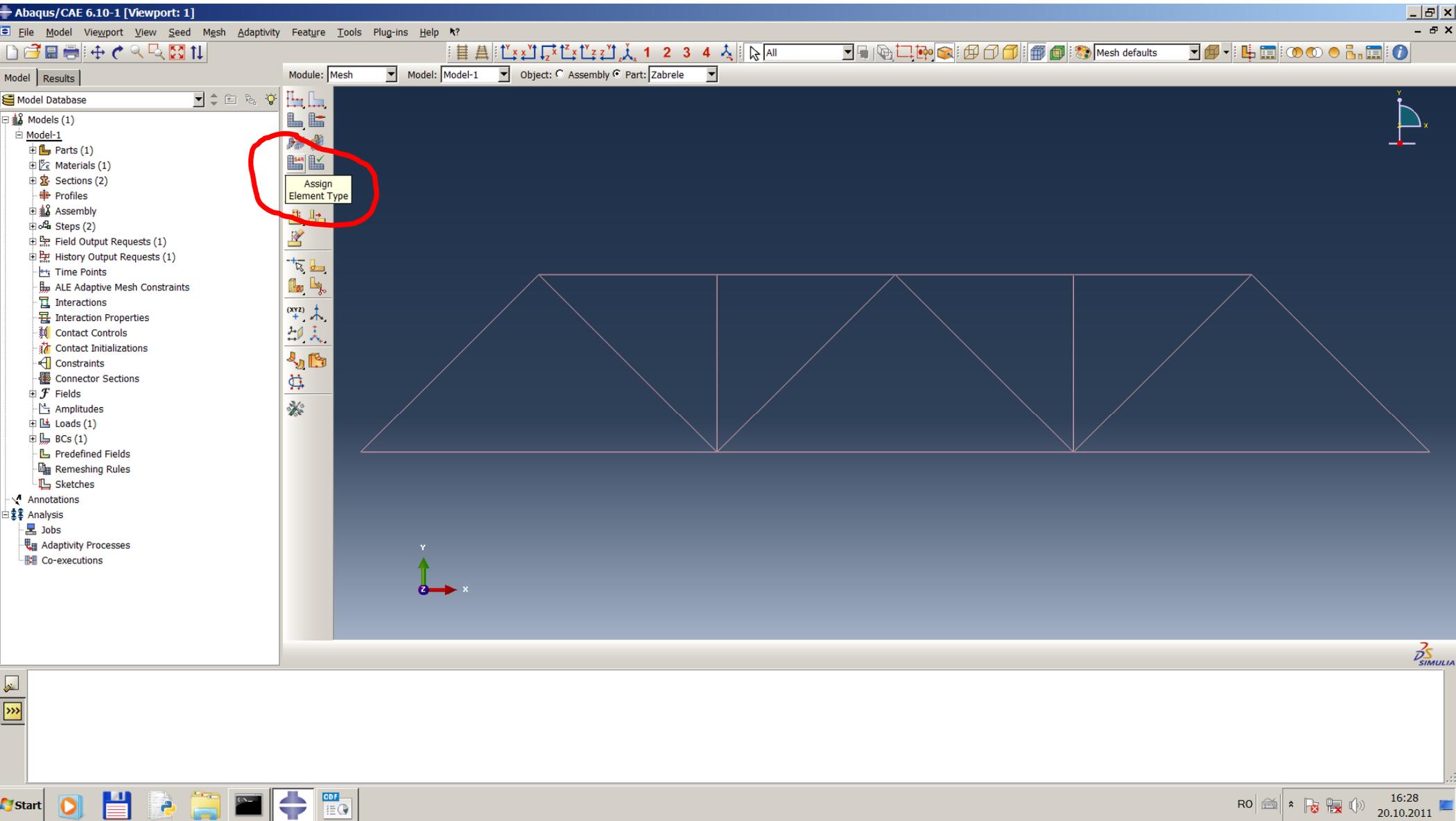
Atribuirea semintelor – numar de elemente pe geometrie



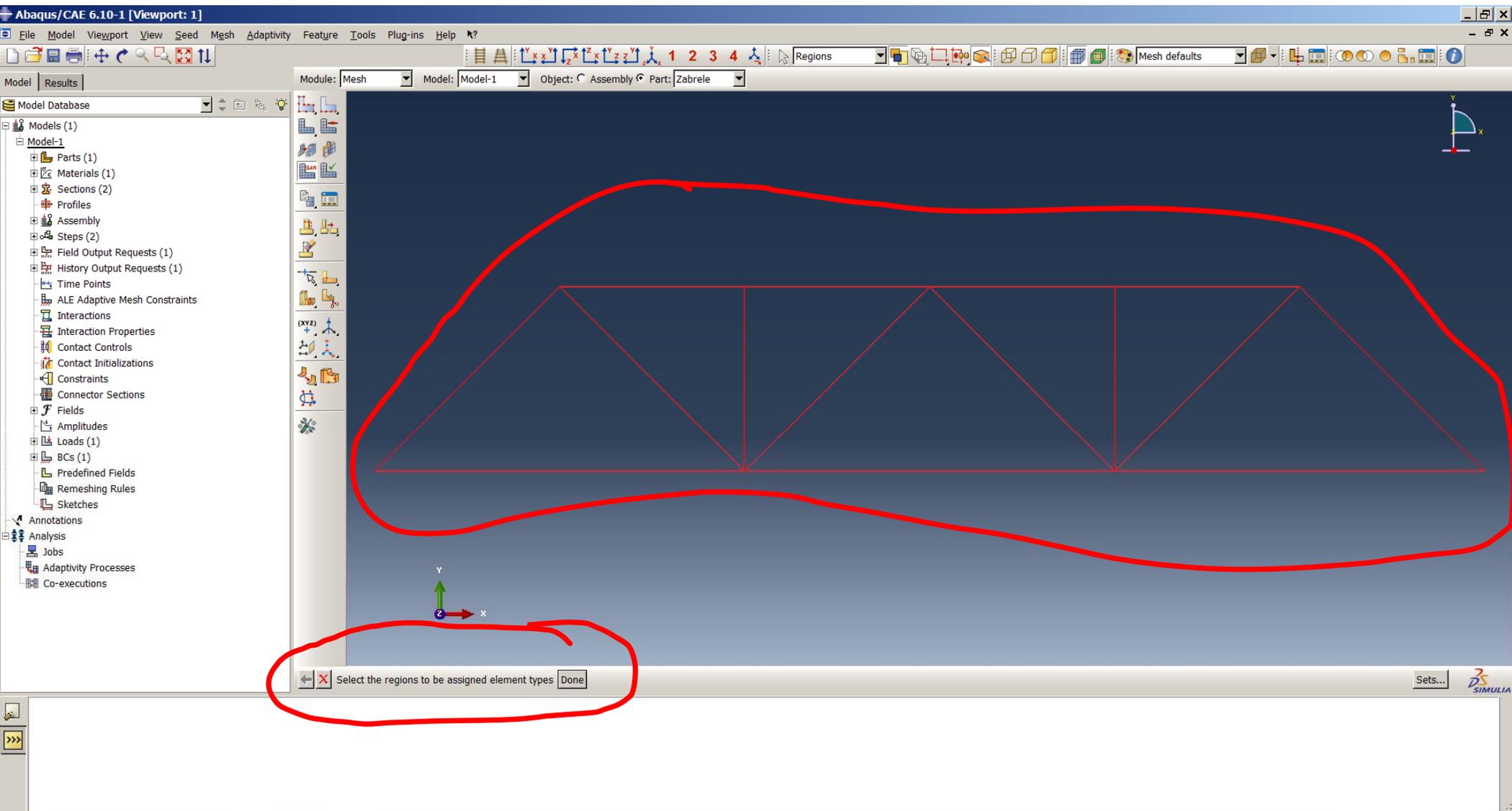
Vizualizarea semintelor



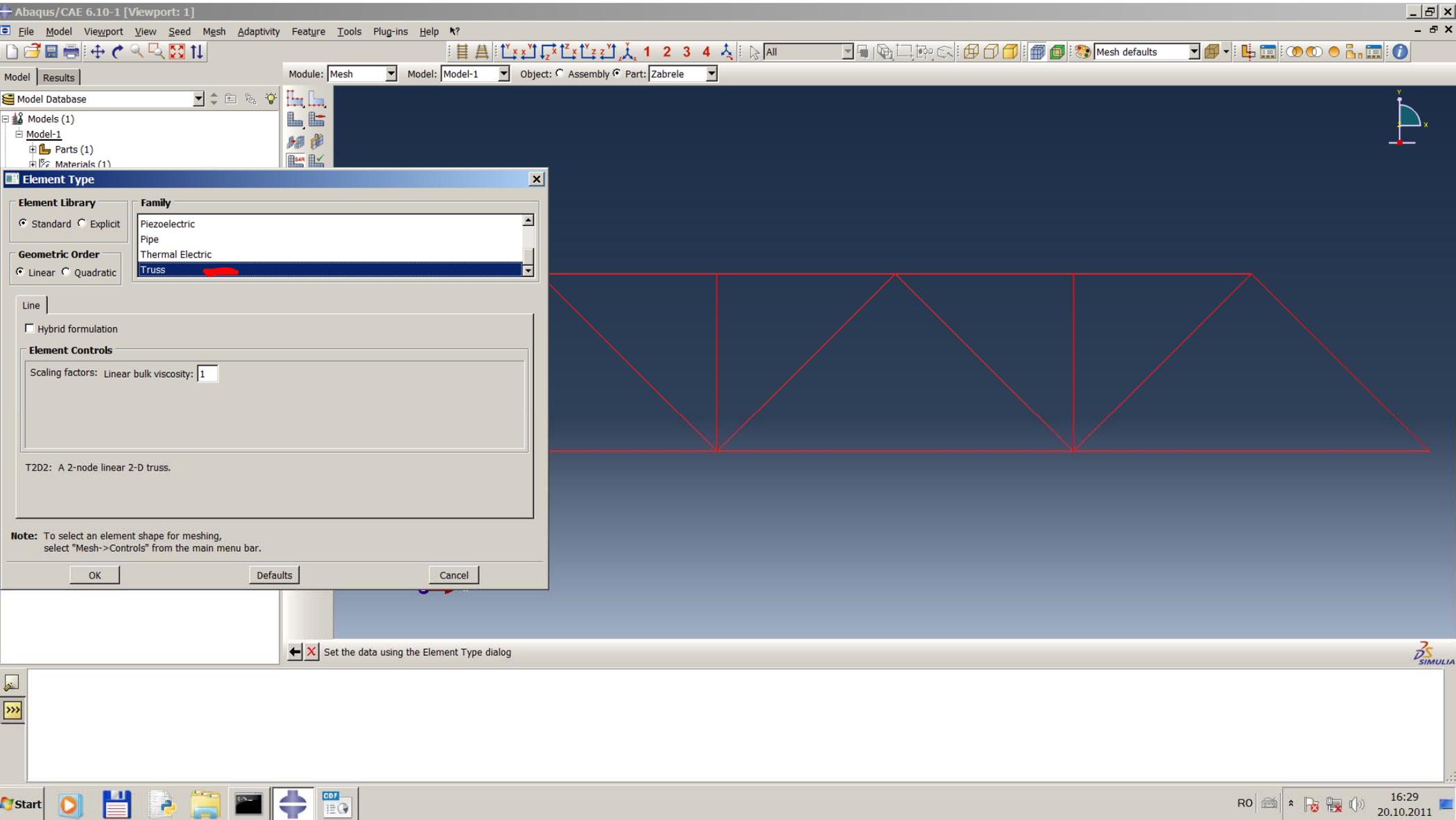
Atribuirea tipului de FE



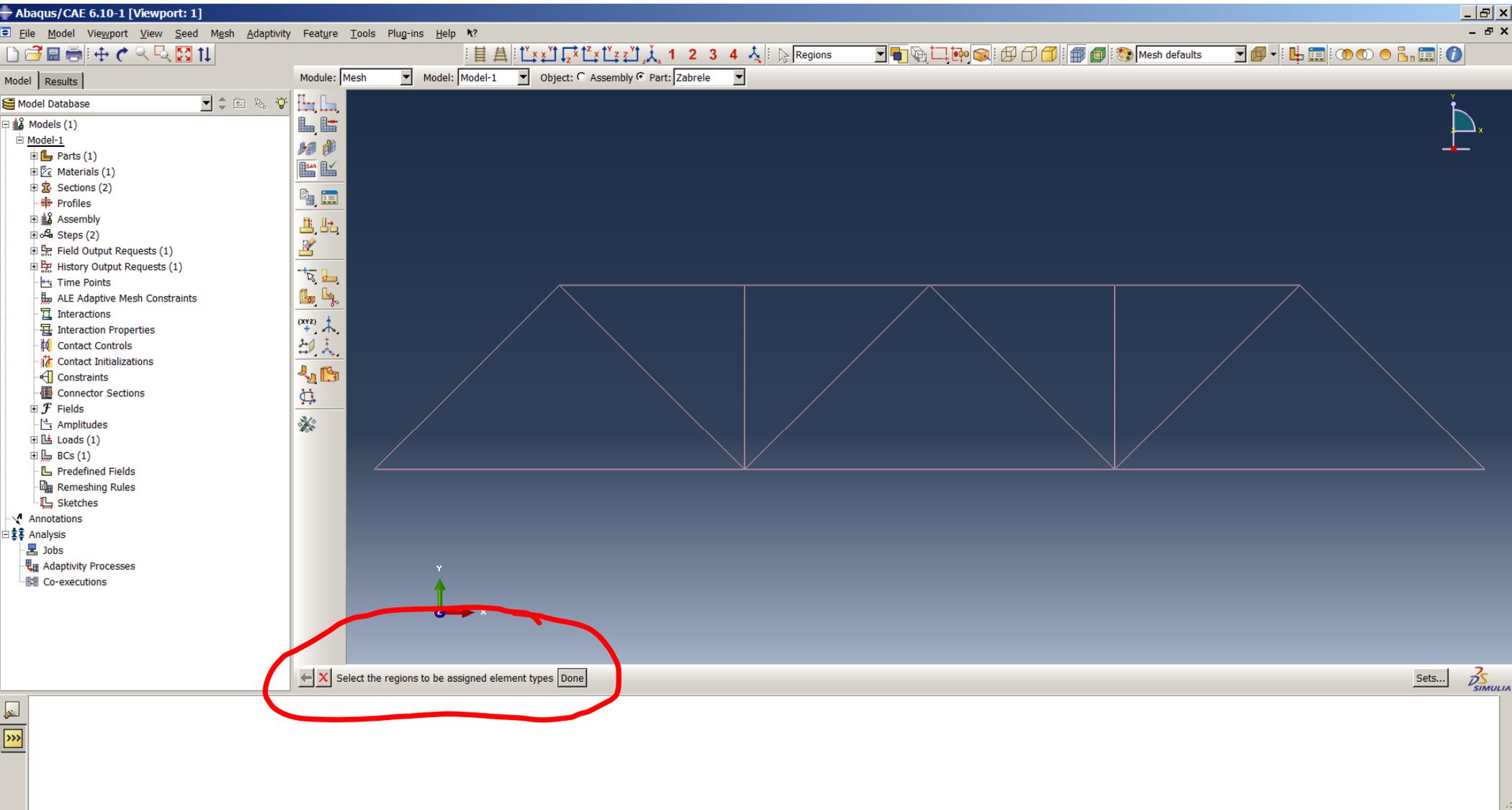
Selectarea geometriei



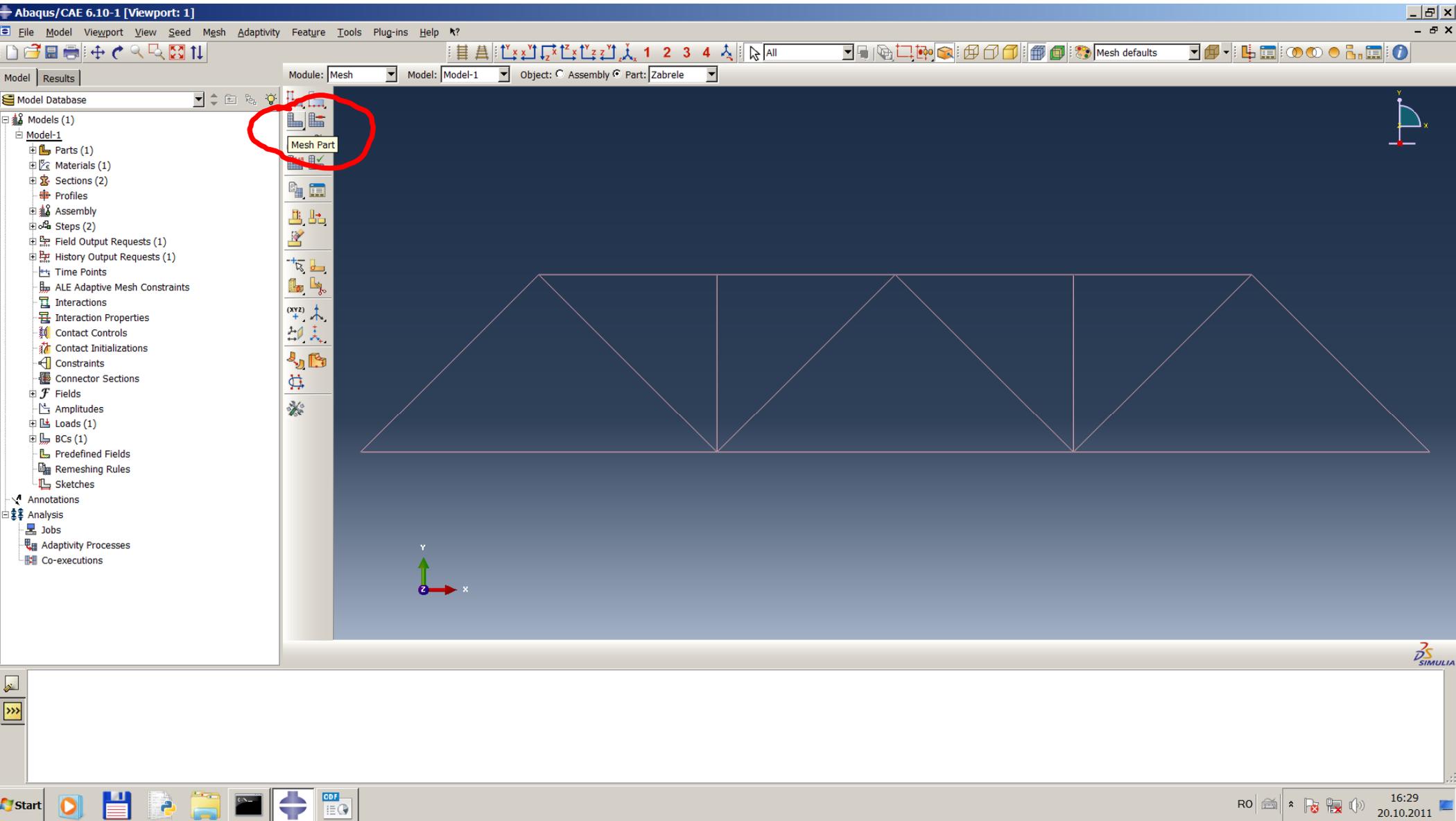
Atribuirea tipului – truss - zabrea



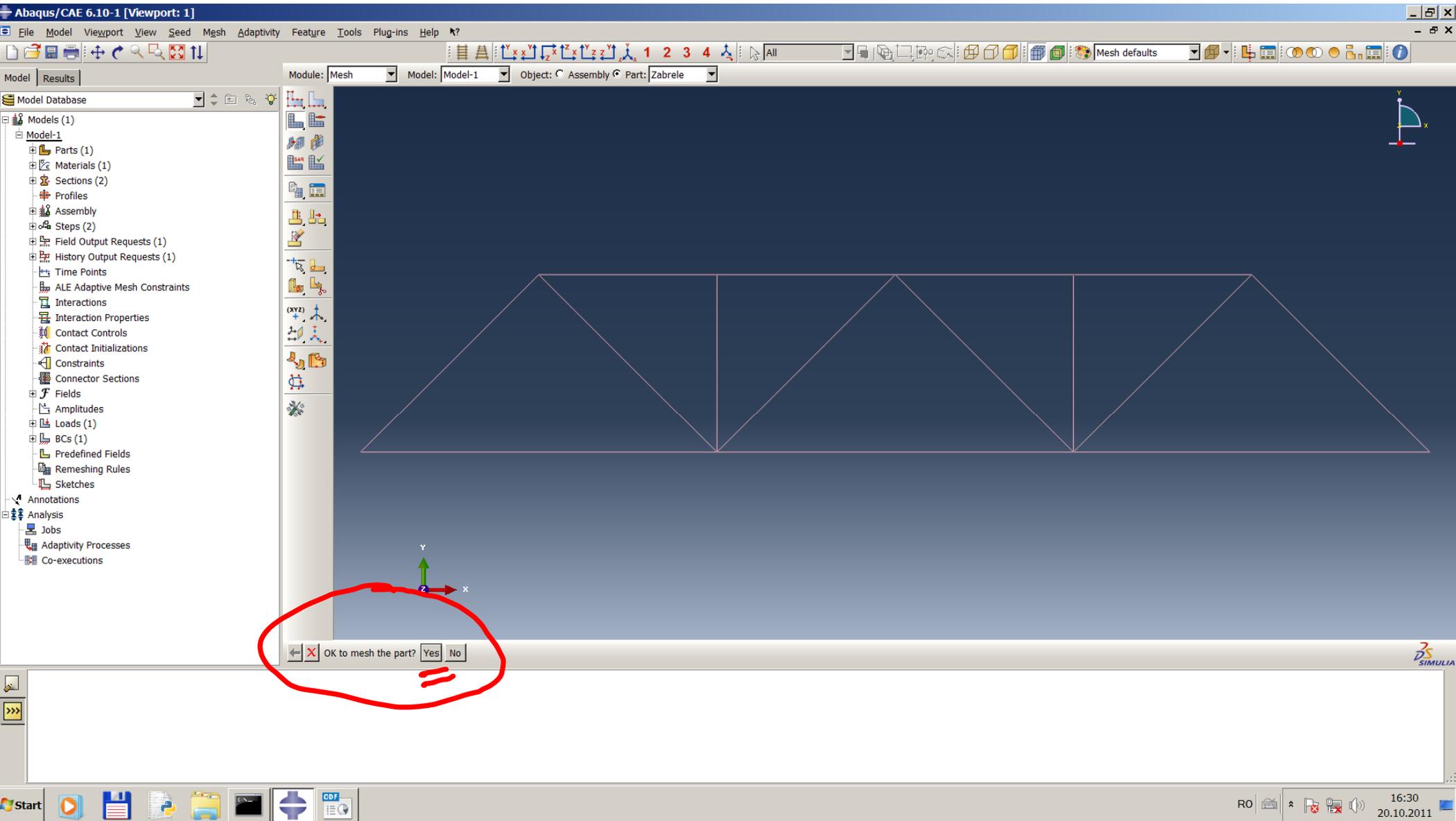
Atribuirea tipului – truss - zabrea



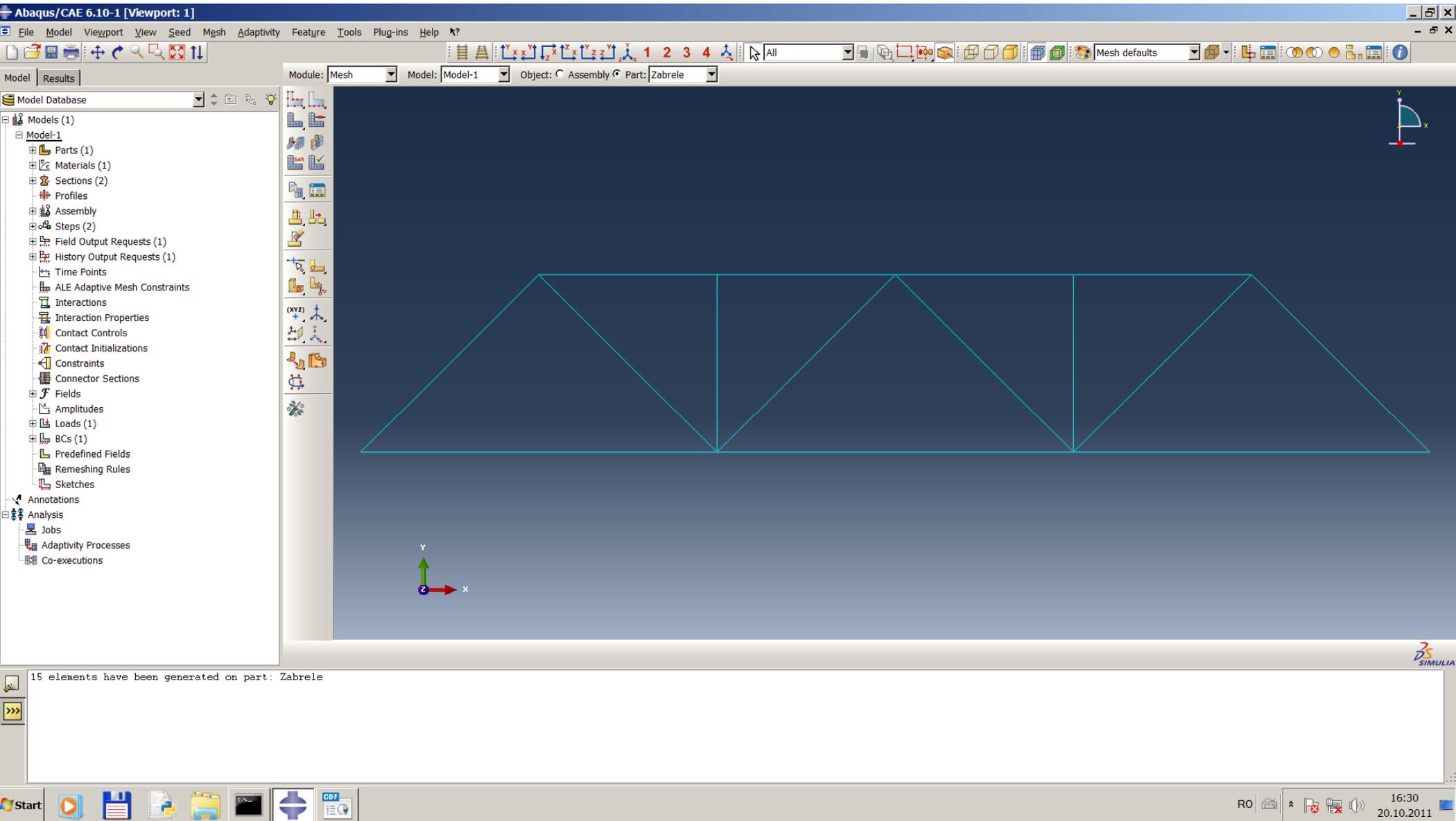
Discretizarea parti (geometriei) zăbrele



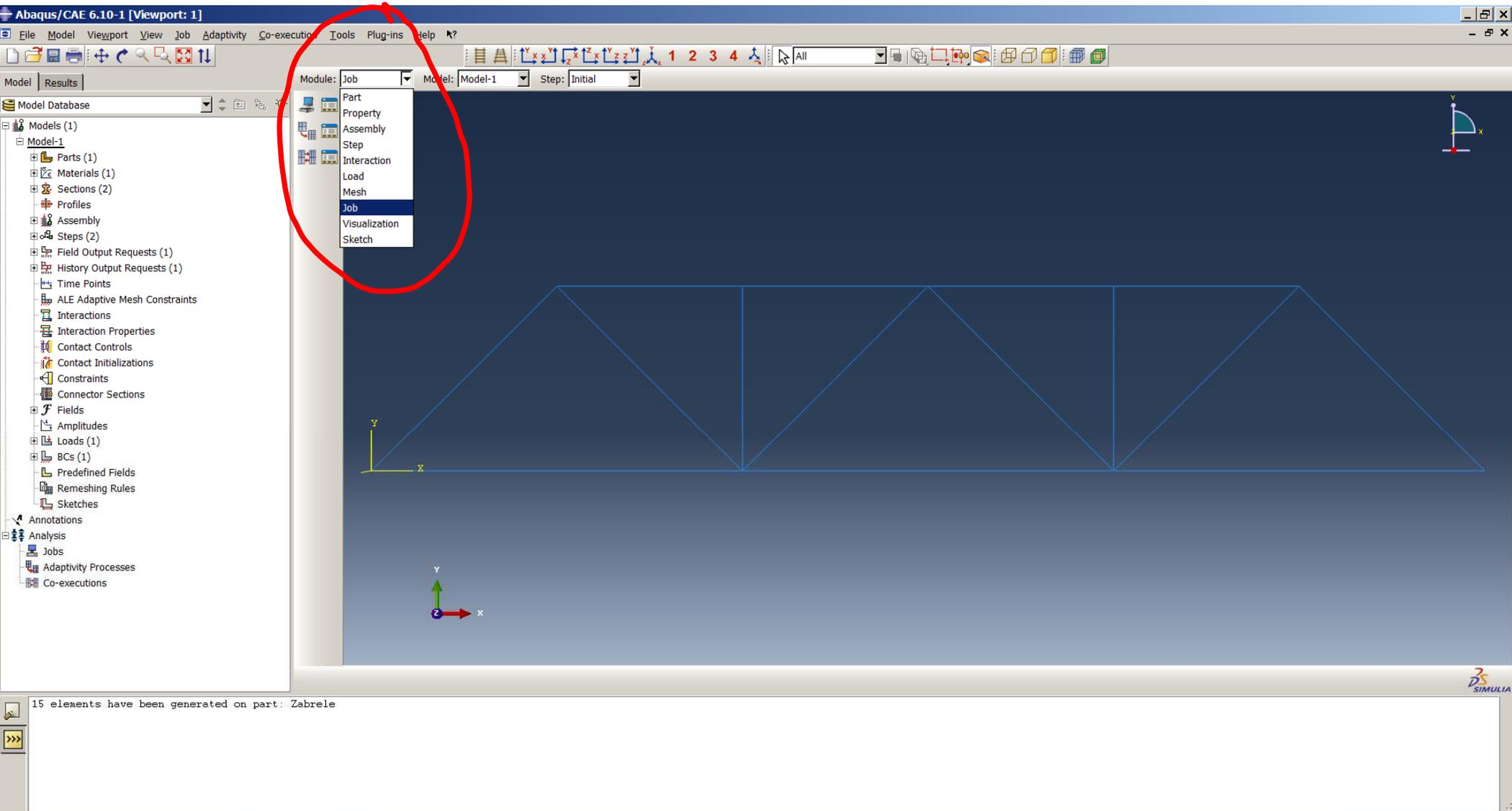
Discretizarea parti (geometriei) zăbrele



Discretizarea parti (geometriei) zabrele



Modul Job



Managerul Job – Crearea analizei

The screenshot displays the Abaqus/CAE 6.10-1 interface. The 'Job Manager' dialog box is open, showing a table with columns for Name, Model, Type, and Status. The 'Create...' button at the bottom left of the Job Manager is circled in red. A red arrow points from this button to the 'Create Job' dialog box. In the 'Create Job' dialog, the 'Name' field contains 'GZabrele', the 'Source' is set to 'Model', and 'Model-1' is selected in the list below. The 'Continue...' button at the bottom left of the 'Create Job' dialog is also circled in red. A red arrow points from the 'Continue...' button back to the 'Create...' button in the Job Manager. The background shows the 'Model Database' tree on the left and a 3D model of a part in the viewport. The status bar at the bottom indicates '15 elements have been generated on part: Zabrele'.

Name	Model	Type	Status
------	-------	------	--------

Job Manager Buttons: Write Input, Data Check, Submit, Create, Monitor..., Results, Kill

Create Job Dialog Fields: Name: GZabrele, Source: Model, Model-1

Create Job Dialog Buttons: Continue..., Cancel

Status Bar: 15 elements have been generated on part: Zabrele

Parametri analizei

The screenshot displays the Abaqus/CAE 6.10-1 software interface. The main window shows a 3D model of a part, which is a triangular structure. The Job Manager dialog box is open, showing the following details:

- Name:** GZabrele (circled in red)
- Model:** Model-1
- Analysis product:** Abaqus/Standard
- Description:** [Empty field]
- Submission:** General, Memory, Parallelization, Precision (tabs)
- Job Type:**
 - Full analysis
 - Recover (Explicit)
 - Restart
- Run Mode:**
 - Background Queue: [Dropdown] Host name: [Text] Type: [Text]
- Submit Time:**
 - Immediately
 - Wait: [Text] hrs, [Text] min.
 - At: [Text] Tip...

The OK button is also circled in red. The background shows the Job Manager table with columns for Name, Model, Type, and Status. The status bar at the bottom indicates: "15 elements have been generated on part: Zabrele. The job "GZabrele" has been created."

Trimiterea spre analiza

The screenshot displays the Abaqus/CAE 6.10-1 interface. The Job Manager dialog box is open, showing a table with the following data:

Name	Model	Type	Status
GZabrele	Model-1	Full Analysis	None

The 'Data Check' button in the Job Manager dialog is circled in red. The background shows a 3D model of a trapezoidal part. The status bar at the bottom indicates: "15 elements have been generated on part: Zabrele. The job "GZabrele" has been created."

Monitorizarea analizei

The screenshot displays the Abaqus/CAE 6.10-1 interface. The Job Manager dialog is open, showing a table with the following data:

Name	Model	Type	Status
GZabrele	Model-1	Full Analysis	Completed

The GZabrele Monitor dialog is also open, showing the job status as 'Completed'. It contains a table with the following data:

Step	Increment	Att	Severe Discon Iter	Equil Iter	Total Iter	Total Time/Freq	Step Time/LPF	Time/LPF Inc
1	1	1	0	1	1	1	1	1

The status bar at the bottom of the window displays the following text:

The job input file "GZabrele.inp" has been submitted for analysis.
Job GZabrele: Analysis Input File Processor completed successfully.
Job GZabrele: Abaqus/Standard completed successfully.
Job GZabrele completed successfully.

Rezultatele analizei

Abaqus/CAE 6.10-1 [Viewport: 1]

File Model Viewport View Job Adaptivity Co-execution Tools Plug-ins Help ?

Model Database

Models (1)

Model-1

- Parts (1)
- Materials (1)
- Sections (2)
- Profiles
- Assembly
- Steps (2)
- Field Output Requests (1)
- History Output Requests (1)
- Time Points
- ALE Adaptive Mesh Constraints
- Interactions
- Interaction Properties
- Contact Controls
- Contact Initializations
- Constraints
- Connector Sections
- Fields
- Amplitudes
- Loads (1)
- BCs (1)
- Predefined Fields
- Remeshing Rules
- Sketches

Annotations

Analysis

- Jobs (1)
- Adaptivity Processes
- Co-executions

Job Manager

Name	Model	Type	Status
GZabrele	Model-1	Full Analysis	Completed

Write Input
Data Check
Submit
Continue
Monitor...
Results
Kill

Create... Edit... Copy... Rename... Delete... Dismiss

15 elements have been generated on part: Zabrele
The job "GZabrele" has been created.
The job "GZabrele" has been created.
The job input file "GZabrele.inp" has been submitted for analysis.
Job GZabrele: Analysis Input File Processor completed successfully.
Job GZabrele: Abaqus/Standard completed successfully.
Job GZabrele completed successfully.

Modulul Visualisation - Rezultate

Abaqus/CAE 6.10-1 [Viewport: 1]

File Model Viewport View Result Plot Animate ... Options Tools Plug-ins Help

Primary S

Visualization

Session Data

- Output Databases (1)
- Spectrums (7)
- XYPlots
- XYData
- Paths
- Display Groups (1)
- Free Body Cuts
- Movies
- Images

$U_{max} = ?$

ODB: GZabrele.odb - Abaqus/Standard 6.10-1 - Thu Oct 20 16:42:26 GMT Daylight Time 2011

Step: Step-1 | Step Time = 1.000
Increment: 5 | 5 Hours
Deformed Var: U | Deformation Scale Factor: +1.644e+02

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