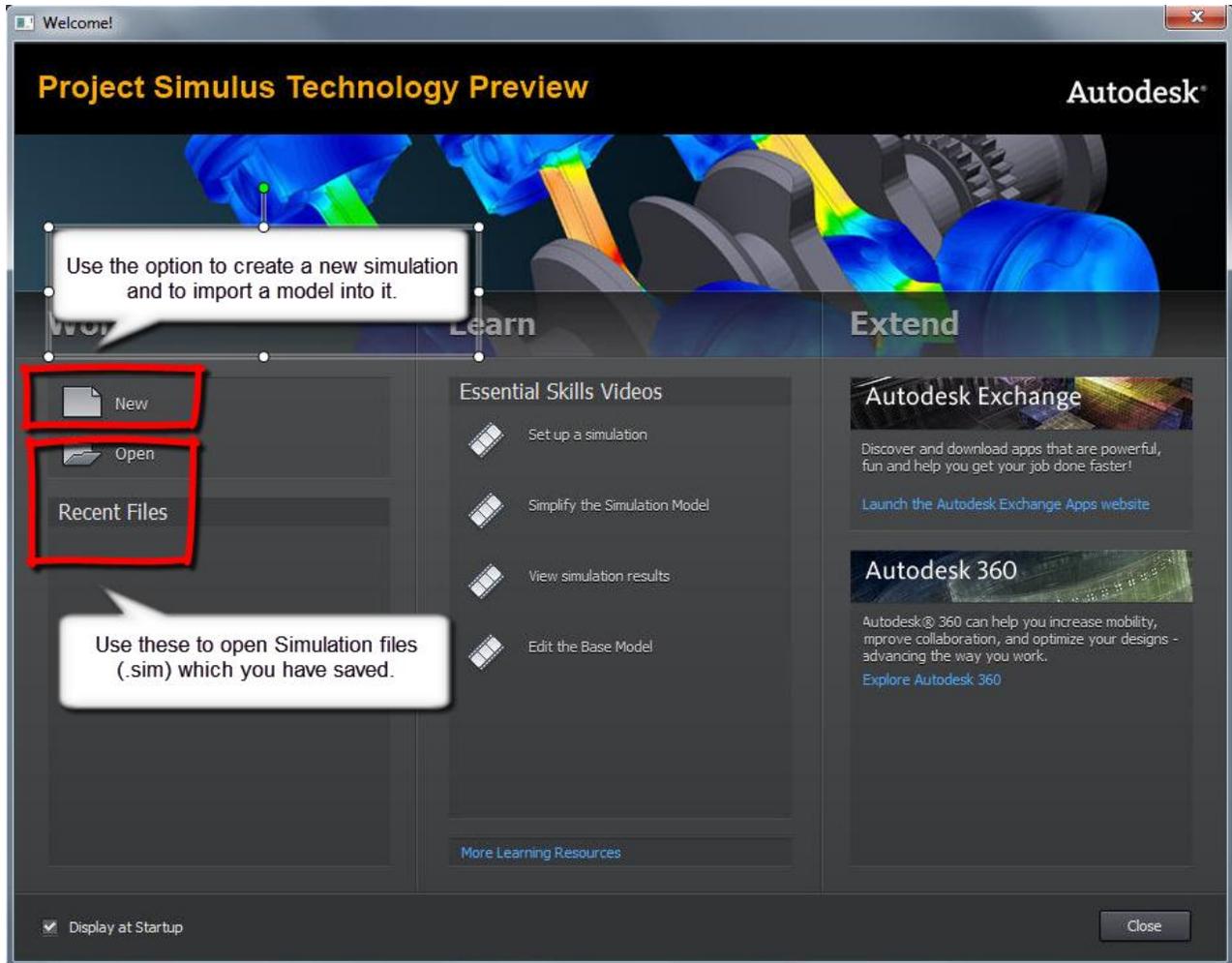**Project Simulus** "How To" Document

Autodesk

First Use

A Welcome Screen opens when you first start the application. You can use it to start a new simulation, open recently worken on files, and it also contains links to Essential Skill Videos.
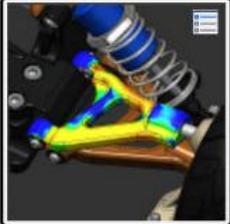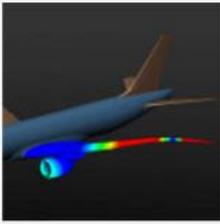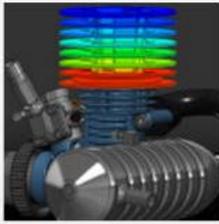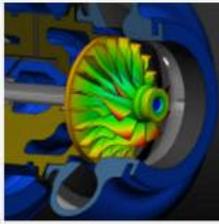

Select a Simulation Type

Next, select a type of the simulation, and set the simulation options.

Options dialog box where you modify the initial settings for the simulation:
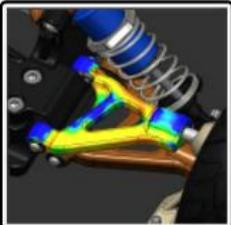
Supported file types

Project Simulus currently supports following types of files: DWG, Inventor Files (IPT, IAM), SAT, STEP

Setup Environment

The Setup environment opens by default. It contains commands for adding constraints and loads, setting the analysis parameters, editing the materials, and more.

Setup Environment Toolbar

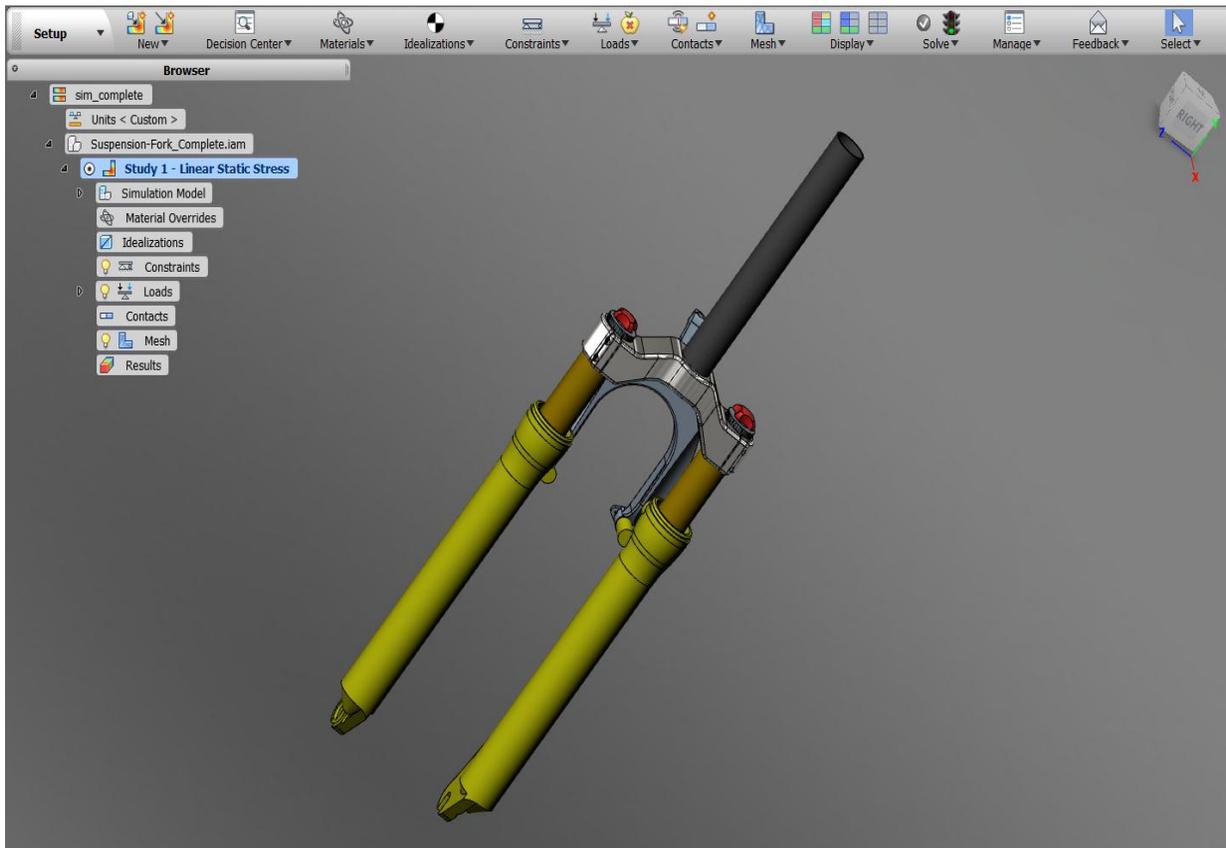 Environment chooser – enables you to switch between environments (Simplify, Idealize, Design Edit, Results, Compare, Options). You can also double-click browser nodes to activate environments.

 Create a new simulation study for the current model, or import a new model.

 Once you run the simulation, you can use the Decision Center to manage various compare criteria and detect if selected study passes them, or not.

 Override component materials, or display material properties.

 Create point mass to represent the components not modeled in the simulation.

 Apply structural constraints.

 Apply structural loads (force, moment, pressure, bearing load) and a gravity load.

 Apply automatic or manual contacts.

 Set mesh settings.

 Display mode toggles. Indicates components degree of freedom or bonded group.

 You can check your simulation prior the actual solve, or you can check and solve simultaneously. Also, you can reconnect to cloud, if needed.
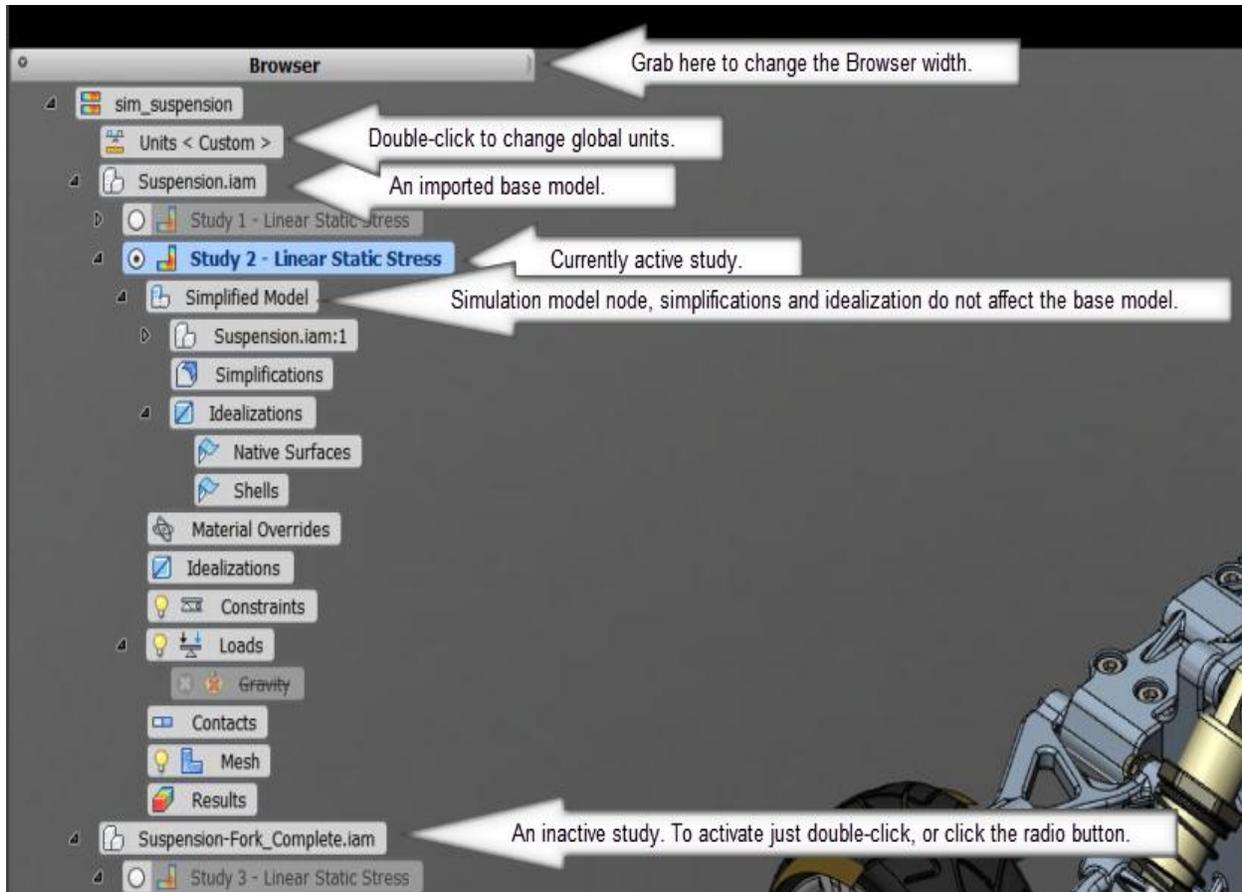
 Settings for the active simulation.

 Let us know what you think about Project Simulus.

Setup Environment Browser

Simplify Environment Toolbar

 Select faces or bodies to find desired features.

 Selects components based on the size you specify.

 Reverses the current selection set to include only the components not previously selected.

 Tools to help to select multiple features (Autodesk Inventor features are recognized automatically, other file types require manual feature recognition).
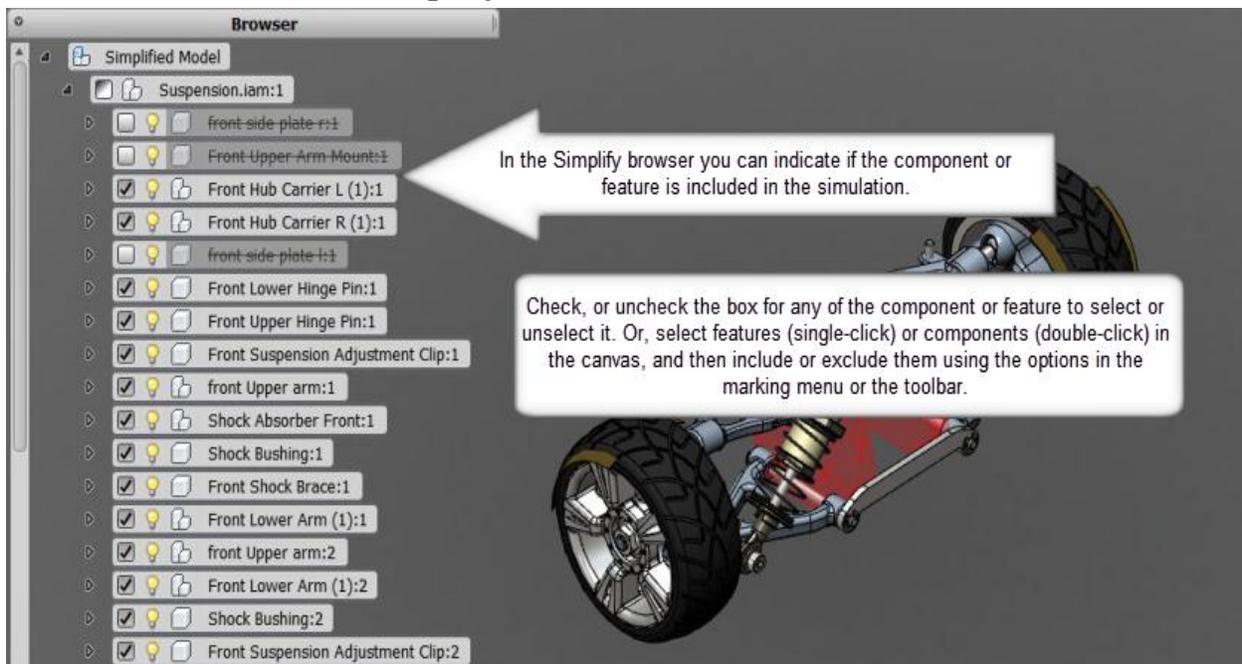
 Select the desired option to suppress or unsuppress any selected components or features.

 Controls whether the excluded components and features become invisible or opaque.

Simplify Environment Browser

Idealize Environment Toolbar

 Select a surface, and specify the thickness. Component of defined thickness is considered in the simulation.

 Inspects the selected bodies and automatically builds a midsurface based on the geometry.

Running a Simulation

When you set all simulation criteria, run the simulation. Click the Pre-check command to check the simulation before it is actually run on the cloud.

Also, during the simulation setup, the Cloud Solve icon changes indicating if all data necessary for correct simulation are valid (materials, loads, constraints, contacts. A red state indicates your simulation cannot run properly. A green state indicates you can successful run the simulation.

Simulation is performed on cloud using the Simulation Job Manager.
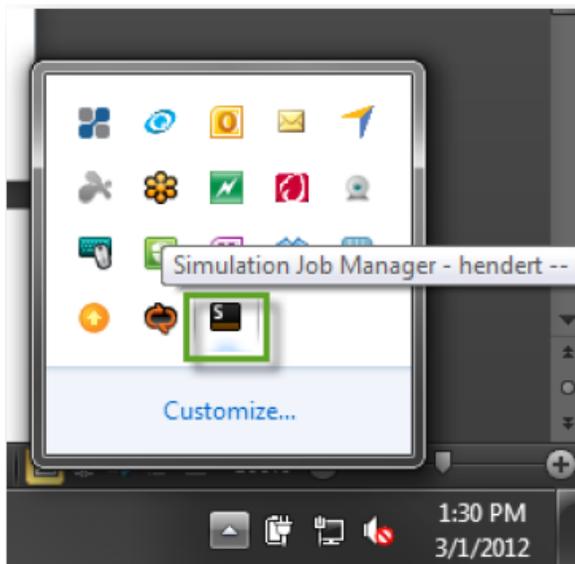
Results Environment Toolbar

Decision Center ▼ Once you run the simulation, you can use the Decision Center to manage various compare criteria and detect if selected study passes them, or not.

Legend Min/Max ▼ Controls the minimum and maximum values on the legend.

360 Viewer ▼ Define options of your simulation file when you export it to web or mobile viewing

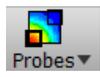**Animate** ▼ Plays the animation.

Convergence ▼ Displays the convergence plot for your simulation.

Critical Points ▼ Use to focus on the areas of extreme of your simulation.

Deformation Scale ▼ Enhances model deformation for graphical representation.

Probes ▼ Displays maximum and minimum probe annotation in the graphics window

Options ▼ Set more options for legend, such as its share or size.
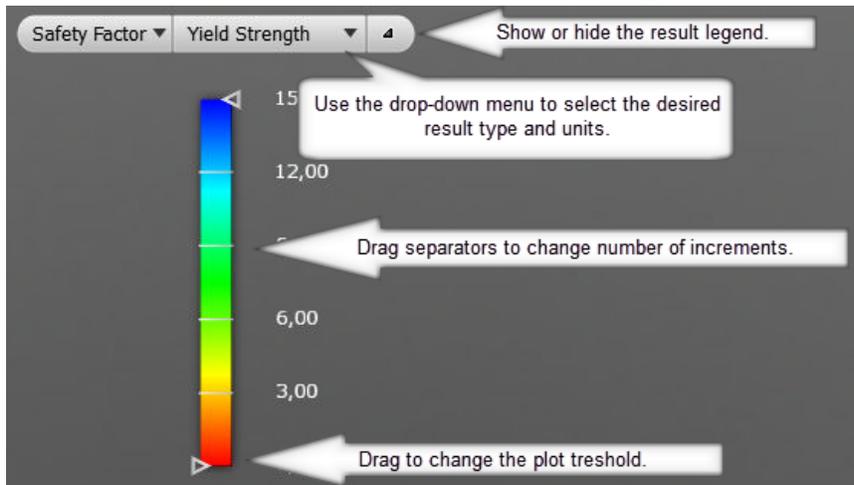
Mesh ▼ Toggle the visibility of created meshes.

Clipping ▼ Select a face or plane to clip result view to be able to see results inside the component

The Legend

Safety Factor ▼ | Yield Strength ▼ | ◢ → Show or hide the result legend.

15 — Use the drop-down menu to select the desired result type and units.

12,00

← Drag separators to change number of increments.

6,00

3,00

← Drag to change the plot treshold.

Compare Environment Toolbar

Compare ▼ | Decision Center ▼ | Synchronize Navigation ▼ | Legend Min/Max ▼ | Animate ▼ | Deformation Scale ▼ | Options ▼ | Mesh Display ▼

Synchronize Navigation ▼ Toggles the synchronization of the camera navigation in the graphics window.