

PC Courseware Editor User Manual



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PC Courseware Editor User Manual

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PC Courseware Editor User Manual

The PC Courseware Editor helps you create lab descriptions and instructions on a PC and upload the material directly onto a TBS1000B-EDU oscilloscope. Your students can then perform their lab work directly on the oscilloscope and record their progress in a report file consisting of oscilloscope screen captures.

Your students can access the content on their TBS1000B-EDU oscilloscope by pushing the oscilloscope's dedicated, front-panel **Course** button. Using the oscilloscope's soft keys and the multipurpose knob, they can access up to eight courses which can have up to 30 labs each. To accommodate situations where and instrument is used for several classes, up to 100 MB of course material can be stored on the oscilloscope. Once the students choose a lab, they can review the overview section, perform the lab using the step-by-step procedure, collect data, check and save the data results and generate reports that show the waveforms created for each step in the procedure. They perform all of this work directly on the oscilloscope.

The associated Tektronix Courseware Web Page lets you exchange course material or get inspired by reviewing ideas from your peers. You can share courseware materials between different labs, fellow professors at the your institution or between educators from around the world.

This document describes how to:

- Install the PC Courseware Editor on a PC from the CD that came with your TBS1000B-EDU
- Create lab courseware
- Export, import and edit existing lab courseware
- Create course and associate labs
- Create a courseware package for viewing on a TBS1000B-EDU oscilloscope

Launching the PC Courseware Editor

To launch the PC Courseware Editor on your PC, copy the Courseware Editor folder from Tektronix Education CD, which came with your TBS1000B-EDU oscilloscope, to your computer. You can also download a copy from www.tektronix.com/manuals. Start using the tool by double clicking on “courseeditor.exe” file. You can launch the PC Courseware Editor without having to run any special installation routines on your computer.

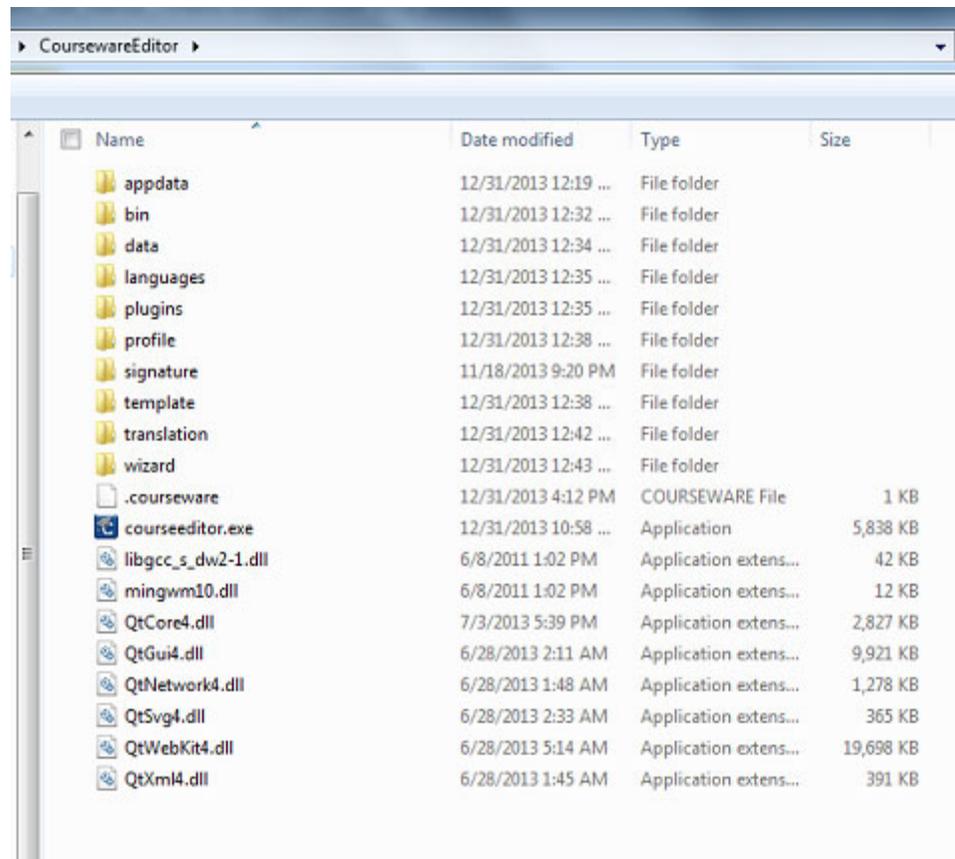


Figure 1: Start by clicking on the “courseeditor.exe” file item

The PC Courseware Editor lets you:

- Create new labs
- Edit labs
- Export labs as PDF document
- Create courses
- Add labs to different courses
- Create lab packages

- Put courses into packages
- Export packages for viewing the labs on the TBS1000B-EDU oscilloscope
- Import an existing package to revise it
- Create and save a workspace
- Create an author profile and add it to the courseware

Double clicking on “courseeditor.exe” will launch the Editor in the default workspace.

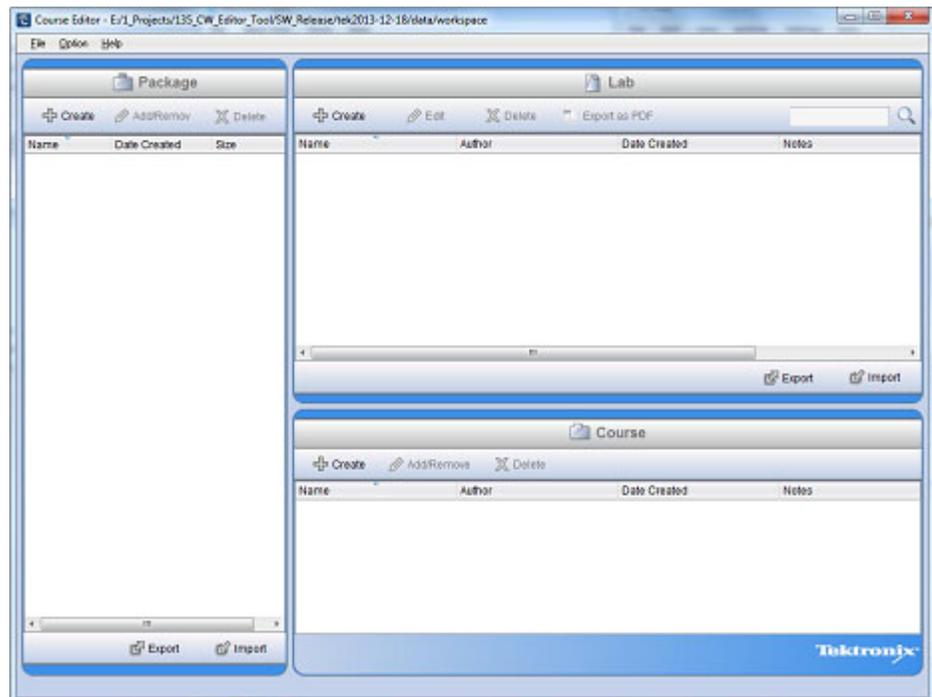


Figure 2: Work from the PC Courseware Editor main screen

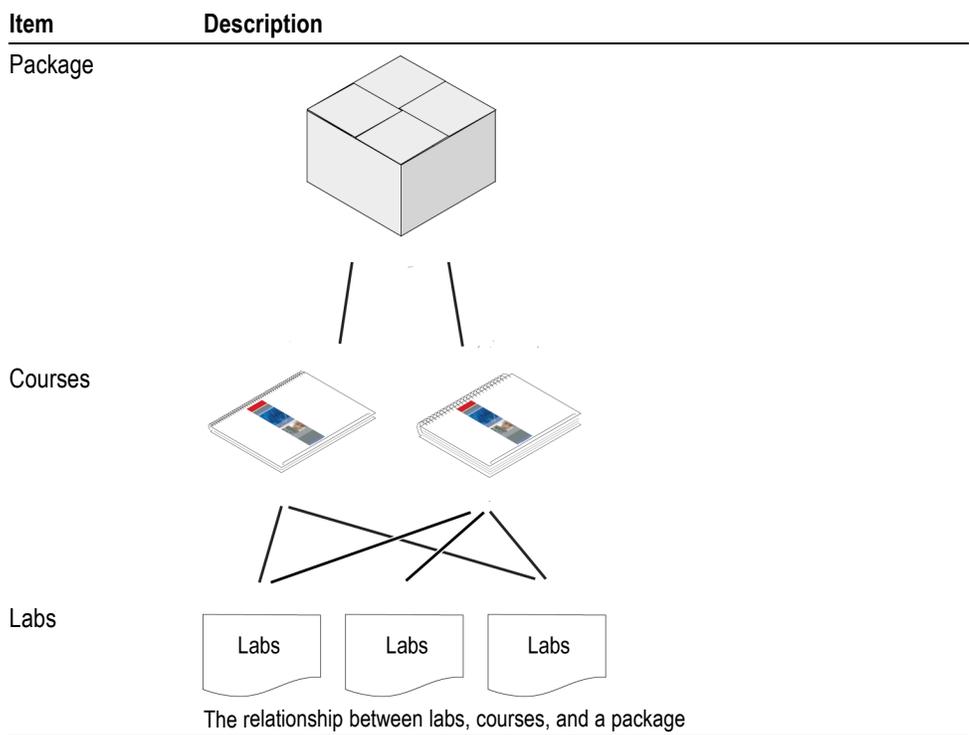
The three panes of the Editor workspace window help you to manage labs, courses and packages.

A lab is the basic module of the courseware. It can provide an overview of the objectives and equipment needed, as well as the step-by-step detailing of an experiment, which students will perform in the laboratory.

A course is collection of labs that typically share a common theme. Use courses to organize labs that support a specific class, such as EE102, Basic Electronics or Linear Integrated Circuits. To provide flexibility when creating a curriculum, the PC editor tool also allows labs to be assigned to multiple courses.

A package is collection of courses. Up to eight courses can be bundled into a package and uploaded onto a TBS1000B-EDU oscilloscope. The combination of the eight courses along with the associated labs cannot exceed 100 MB. To help you keep your package within the 100 MB limit, the PC editor displays a counter that indicates how large the package file will be. The PC Courseware Editor Tool provides added flexibility by allowing courses to be associated with multiple packages. When completed, a package can be exported onto a USB memory drive for uploading onto a TBS1000B-EDU oscilloscope.

Table 1:



Understanding the workspace

When creating, saving and opening files, the PC Courseware Editor Tool uses a .xwsp or workspace format. All of the lab, course and package information is saved in this format and is accessed using the typical Windows Save and Open functions.

Using the common MS-Windows-based file-menu structure, you can:

- Create a new workspace
- Open an existing workspace
- Save the current workspace

- Save the current workspace under another name
- Exit the Editor

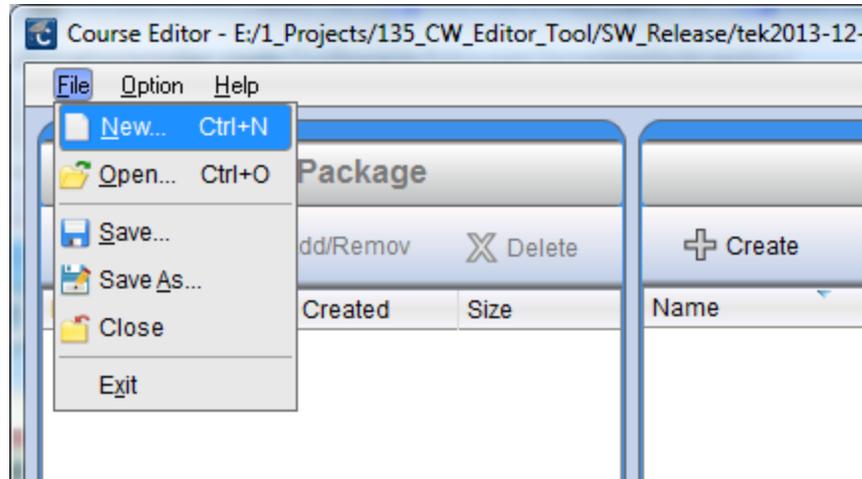


Figure 3: Use the File menu to create, open, and save workspaces

Opening a new workspace

To create a new workspace, navigate to the **File ► New** option from the top menu. The program will ask for a confirmation on closing the current workspace and creating a new one.

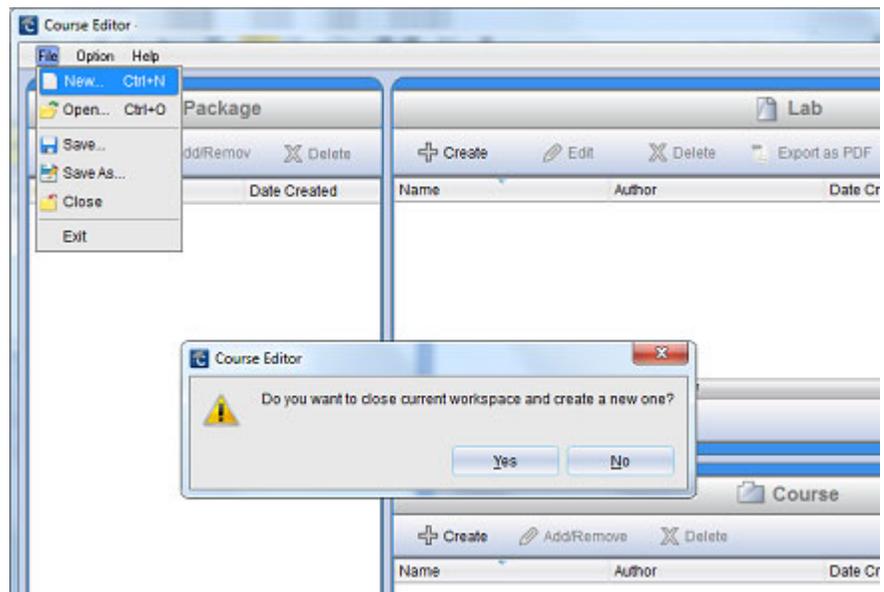


Figure 4: Create a new workspace

Click **Yes** to open a dialogue box, prompting you to fill in the details for the new workspace name and location.

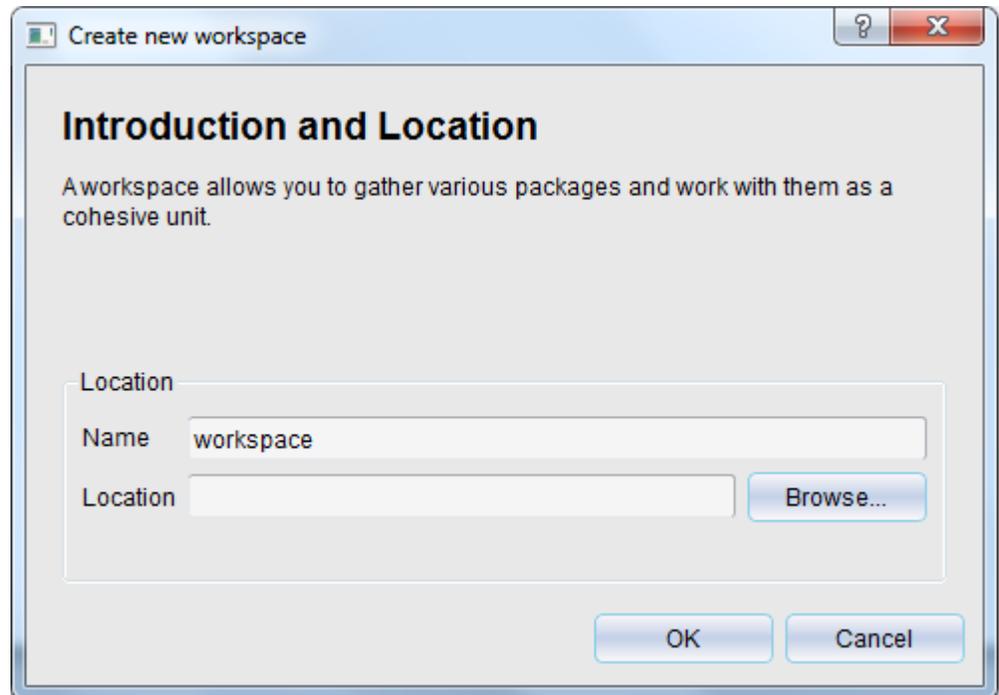


Figure 5: Specify a new workspace name and path

After filling in the details, press **OK** to create the new workspace. The program will display the workspace name and path in the title bar.

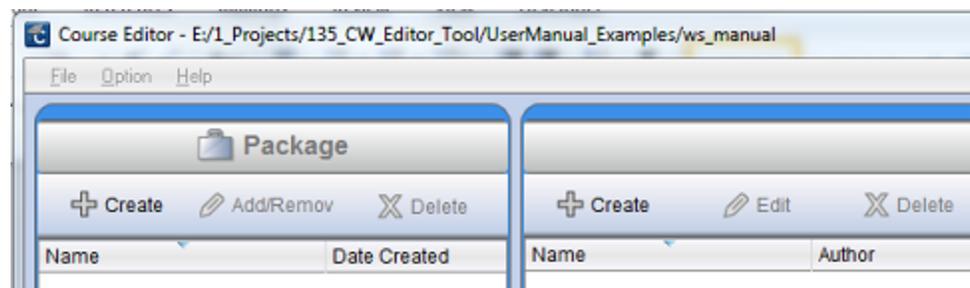


Figure 6: View the workspace path in the title bar

Opening an existing workspace

To open an existing workspace, navigate to the **File ► Open** option. The program will ask for confirmation on closing the existing workspace and opening a new one. You can browse for the desired workspace file (.xwsp) and click **Open**.

Creating a lab experiment

To create a new lab experiment, you need to click on the **Create** button in the “Lab” area. This opens up a dialogue box where you can enter a lab name, instructor information, and notes about the lab.

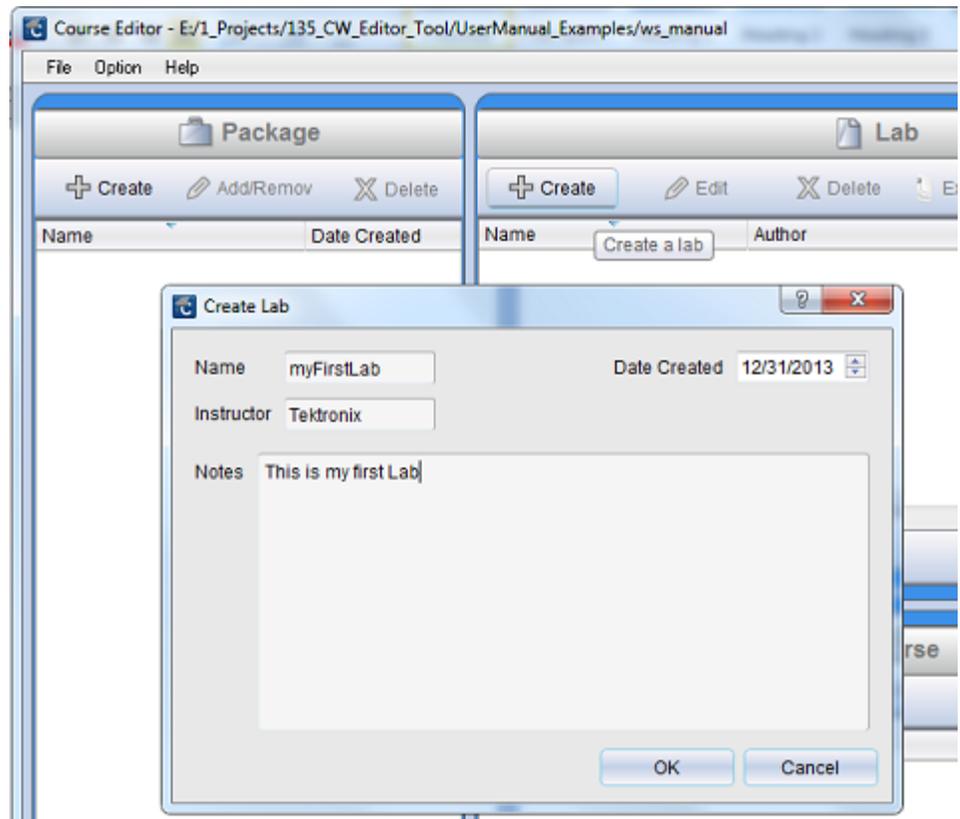


Figure 7: Use the Create Lab dialogue box to specify lab properties

After entering the details, click **OK**. This will create a lab experiment, which will be added to the list in the “Lab” area.

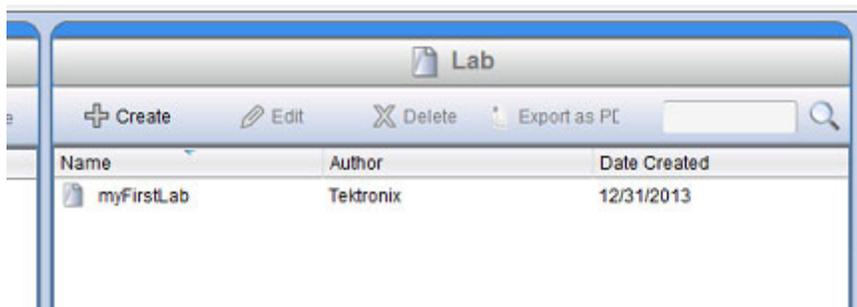


Figure 8: View available labs in the workspace lab area

After you create a lab, you can use the edit function or double-click on the lab. In this example, the name is “myFirstLab”. A window will open and allow you enter details.

Lab content is organized in two sections called **Overview** and **Procedure**. The **Overview** section describes the lab experiment. For example, it may contain:

- The experiment’s objectives
- Equipment and instruments required to carry out the experiment
- Theory and technical background, which students should know to perform this experiment

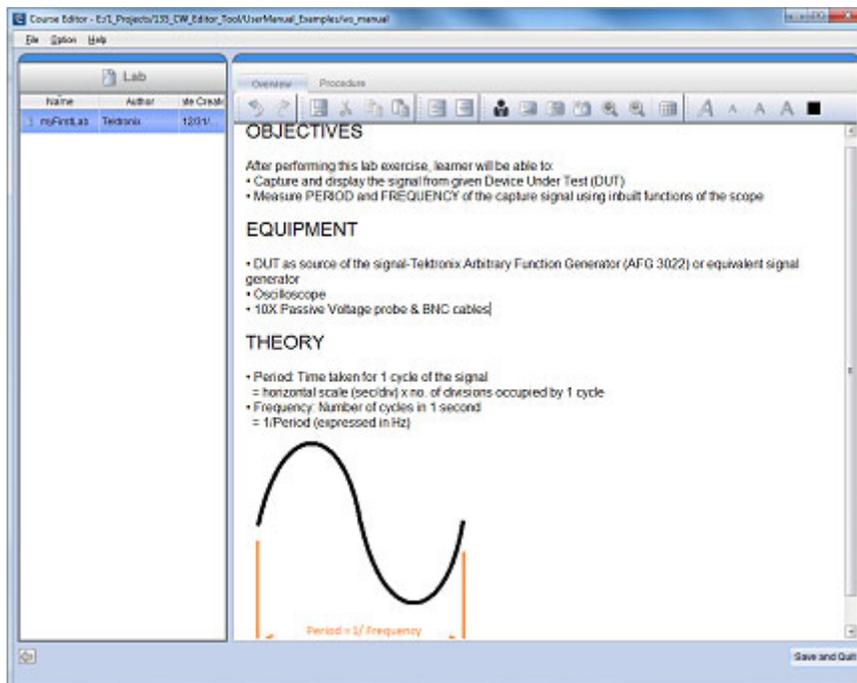


Figure 9: Click the Overview tab to record lab objectives, equipment, and theory

The content editor allows you to enter text, images, (pictures from files or screen captures), equations and an author profile.

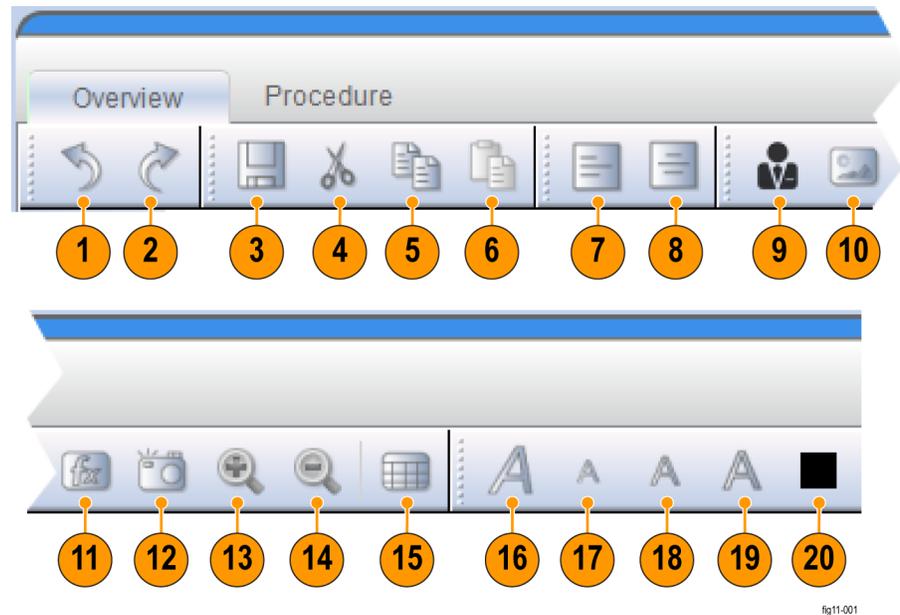


fig11-001

Figure 10: Use the tool bar after pushing the lab overview and procedure tabs to access multiple editing tools

- | | | |
|-----------------|--------------------|-----------------------|
| 1. Undo | 8. Right justify | 15. Insert table |
| 2. Redo | 9. Add profile | 16. Italics |
| 3. Save | 10. Insert picture | 17. Text size: small |
| 4. Cut | 11. Insert formula | 18. Text size: medium |
| 5. Copy | 12. Grab screen | 19. Text size: large |
| 6. Paste | 13. Image zoom | 20. Text color |
| 7. Left justify | 14. Re-size in/out | |

The **Procedure** section provides a way to create the step-by-step instructions needed to perform the experiment. You can add steps and create content for each step. Lab experiments can include:

- Instructions on how to set up the device or circuit under test
- Instructions on how to set up the oscilloscope or other instruments
- Directions on how to take the desired measurements
- Instructions on which signals to analyze or measure

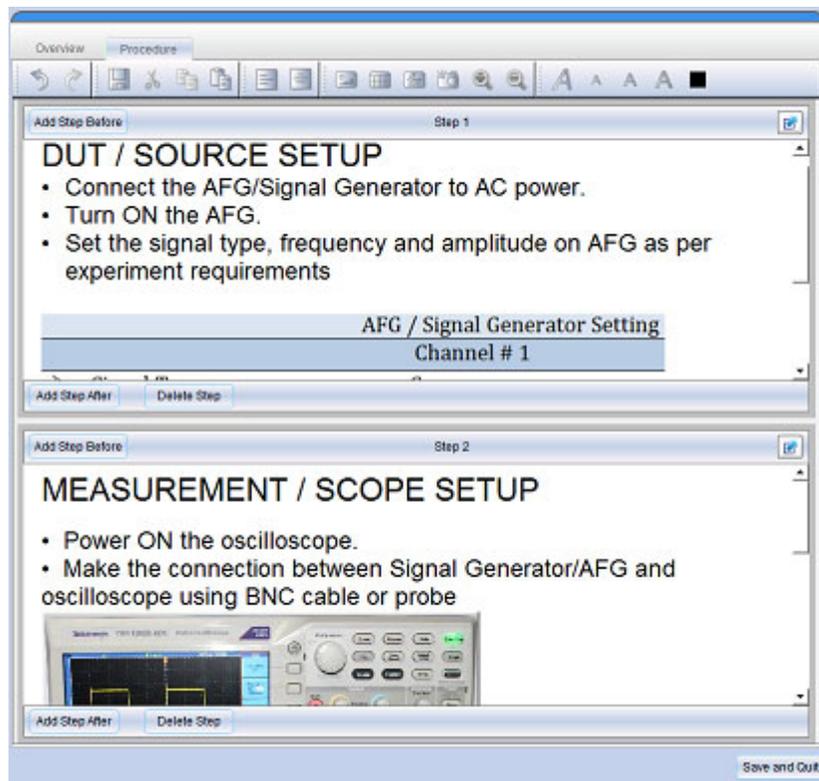


Figure 11: Click the procedure tab to specify step-by-step instructions to perform the experiment

After completing the step-by-step instructions needed to perform the experiment, you can press the **Save and Quit** button to go back to main window (workspace).

Performing other operations with labs

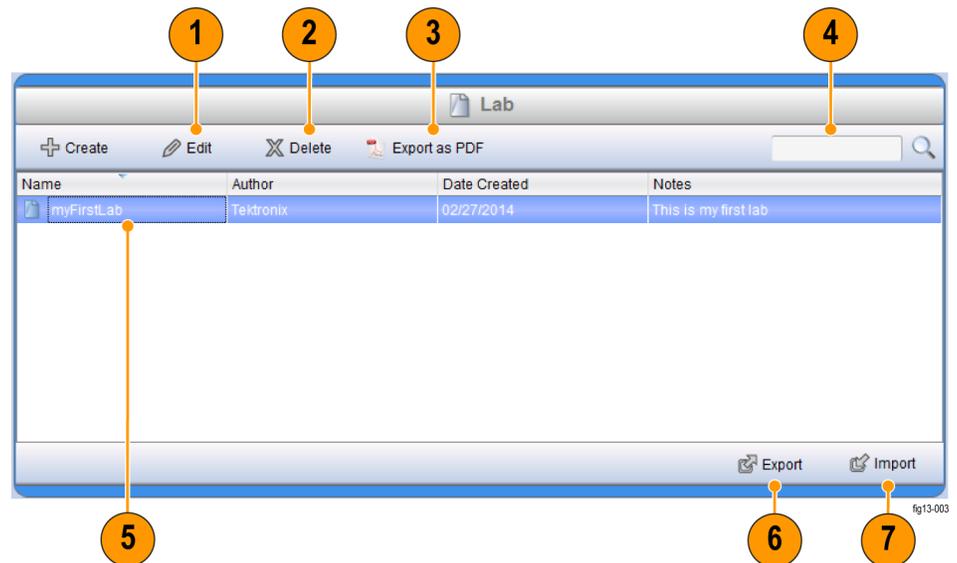


Figure 12: Use the menu items in the lab area to manage the available labs

1. Edit the lab contents (overview and procedures)
2. Remove the lab from the workspace
3. Create a PDF version of the lab
4. Search for a lab by entering a keyword of the lab name, the author, or notes
5. Select the lab and click on the right mouse button
6. Export the lab as a .xlab file. You can then open it in another workspace
7. Import a .xlab file into your workspace and repackage it or revise it for this workspace

Exporting a lab

You can save a lab as a PDF document to create a hard copy of the lab. To create the PDF version, select a lab and click the **Export as PDF** button on the toolbar in the lab pane of the workspace window. This opens up a PDF file save dialogue box.

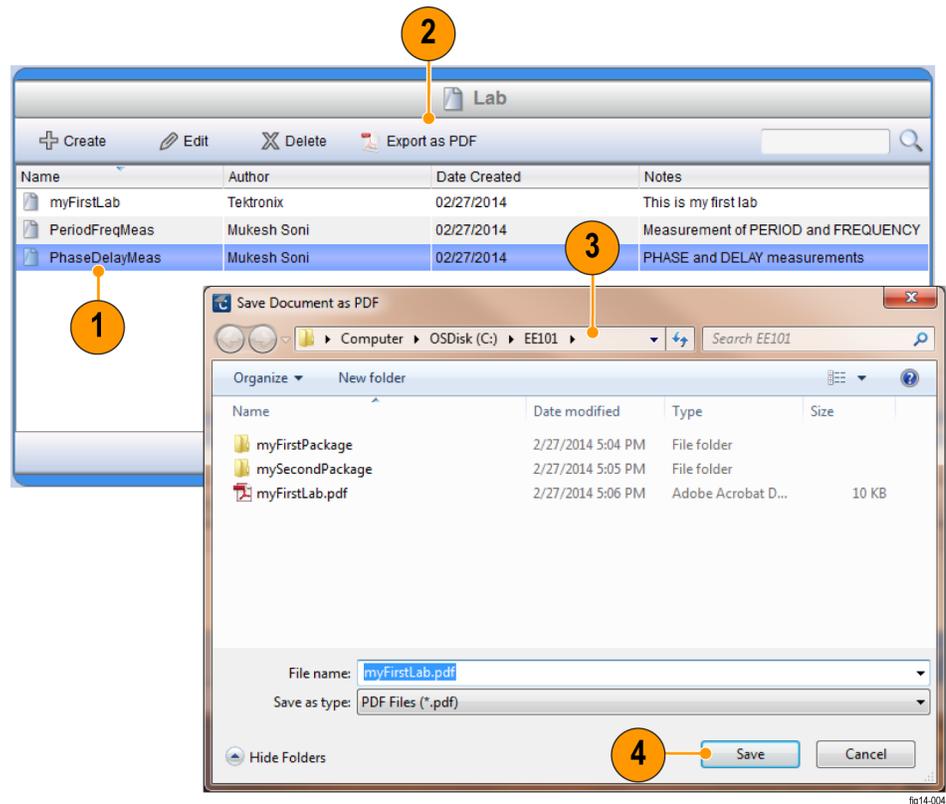


Figure 13: Save a lab as a PDF document

1. Select a lab from the list of available ones
2. Click **Export as PDF**
3. Enter the name and location to save the PDF version of the lab
4. Click **Save**

You can export (save) labs as an .xlab file using the **Export** button in the lab pane. You can bring labs that are in .xlab format into the workspace using Import function. This allows:

- The sharing of labs across workspaces – you can export the labs created in one workspace and import them into another workspace
- The sharing of labs across different computers – you can create labs on one computer open them on another, using .xlab files

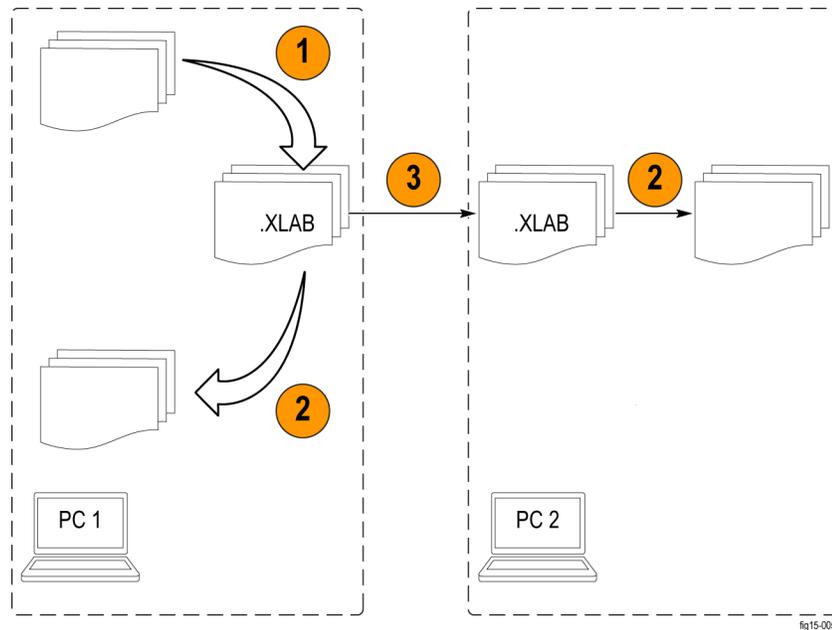


Figure 14: Export and import labs to and from the workspace (as an .xlab file)

1. Export labs in the .XLAB format
2. Import your .XLAB file as a lab
3. Share your .XLAB lab files with others. Use E-mail, the Web, or a USB memory device

Clicking the **Export** button opens up a dialogue box where you can select the labs to export and the destination folder.

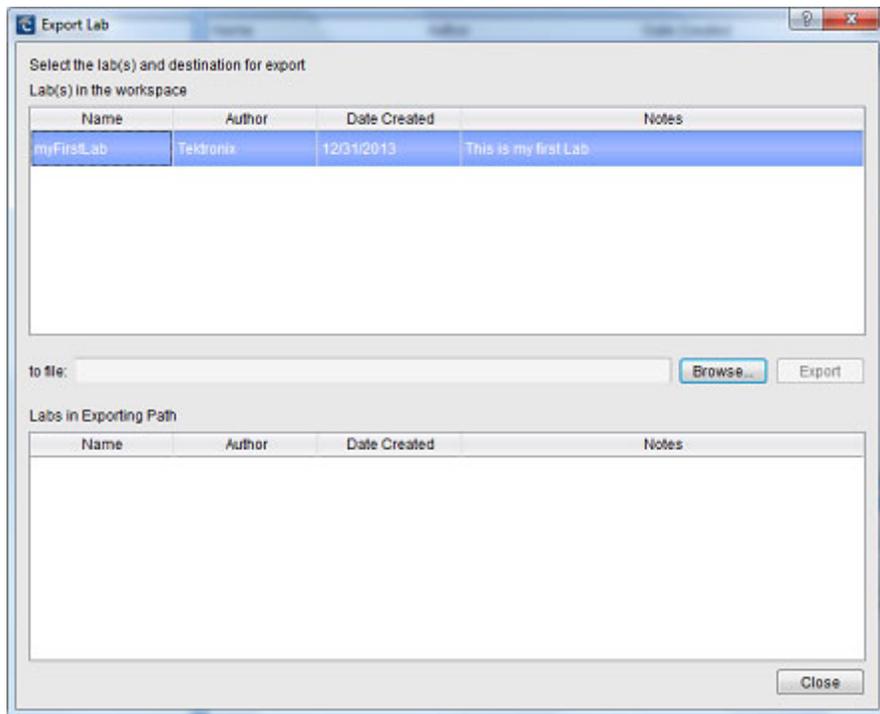


Figure 15: Export labs from your workspace with the Export Lab dialogue box

Similarly, clicking on the **Import** button in the lab area opens a dialogue box where you can browse for the .xlab file you want to bring into the current workspace.

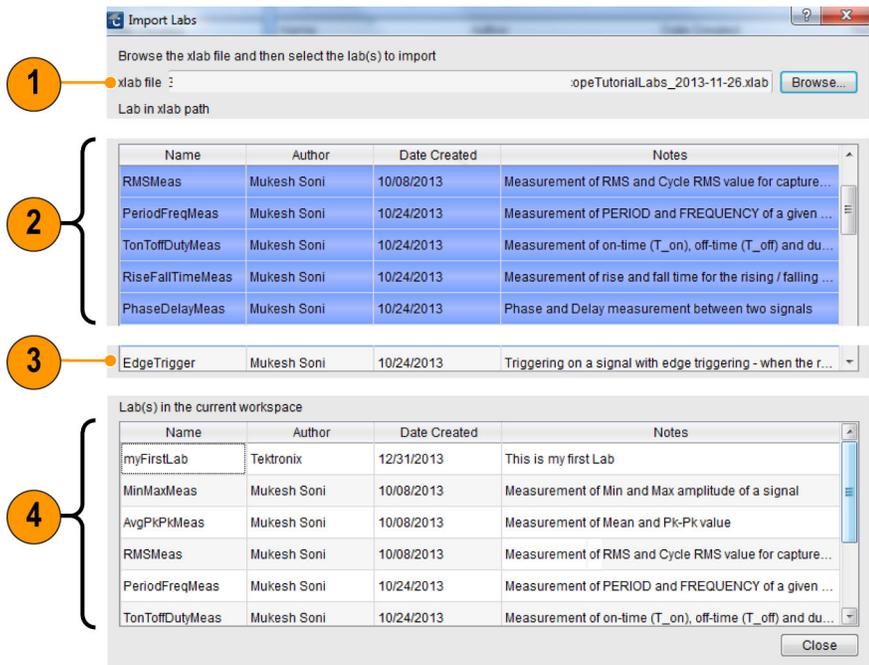


fig33-013

1. Field to enter the file path from which to import the .XLAB file to the workspace
2. The labs selected to import to the workspace
3. Labs available but not selected to import
4. Labs in the current workspace

Setting up an author profile

To identify the original author or creator of a lab, the PC Courseware Editor has the ability to create an author profile. It can be automatically added to every lab. The “Profile Creator” dialogue box can be opened from the option menu: **Option ► Profile**.

The profile can include the author’s picture and an organization logo. Once the profile is created, it can be added in the lab by clicking on the **Insert profile** button on the text editor toolbar in the “Lab” section.

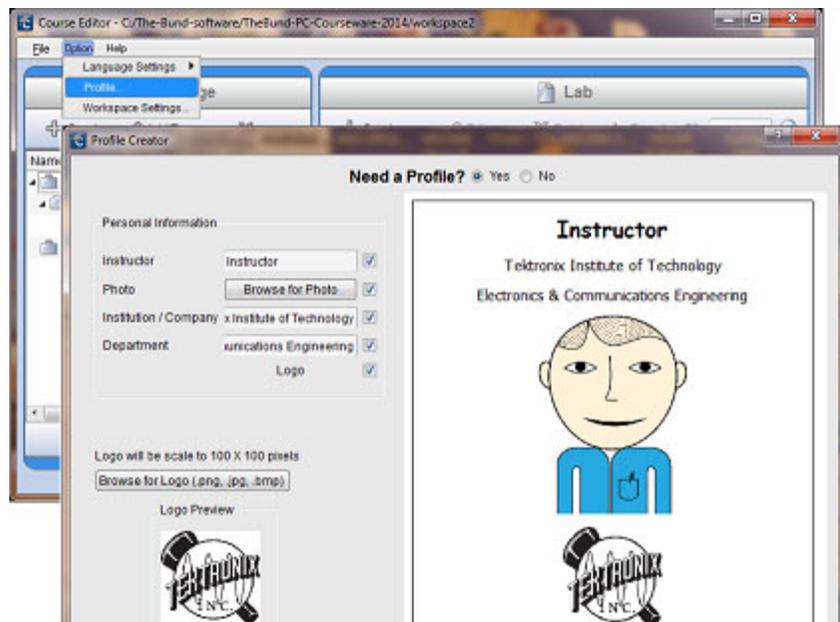


Figure 16: Create an author profile

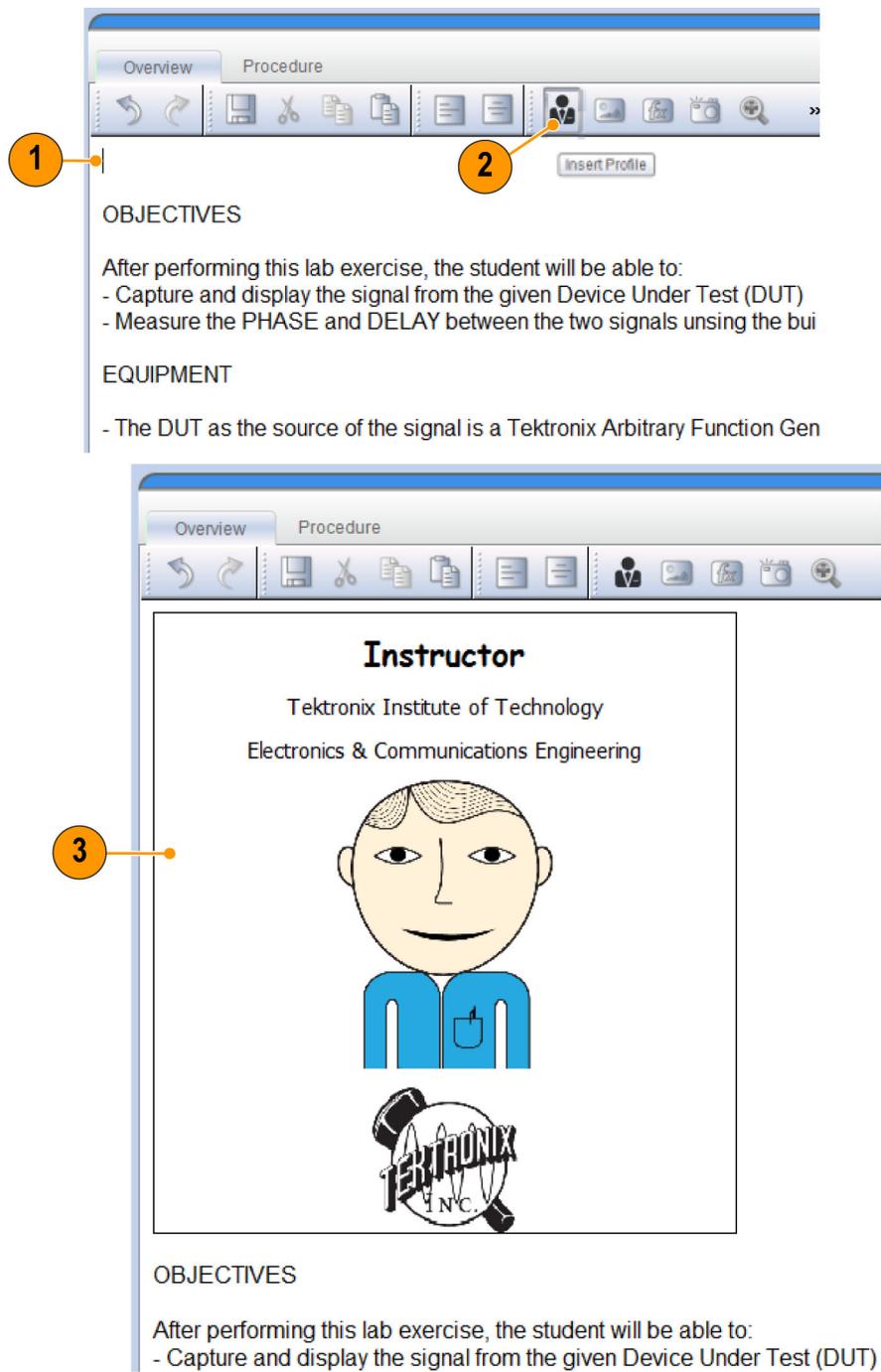


Figure 17: Add an author profile to a lab

1. Click on the text editor and specify the place to insert the profile
2. Click on the Insert Profile button from the toolbar. 
3. The Editor will insert the profile in the selected location

Developing a course

A workspace course is a collection of labs that generally follow a common theme. A course is a means to group one or more labs together as part of a class or special assignment. A lab's contents is not changed if it is associated or disassociated with one or more courses.

Creating a course

You can create a course by clicking on the **Create** button on the Course Toolbar. This opens up a dialogue box for entering course details.

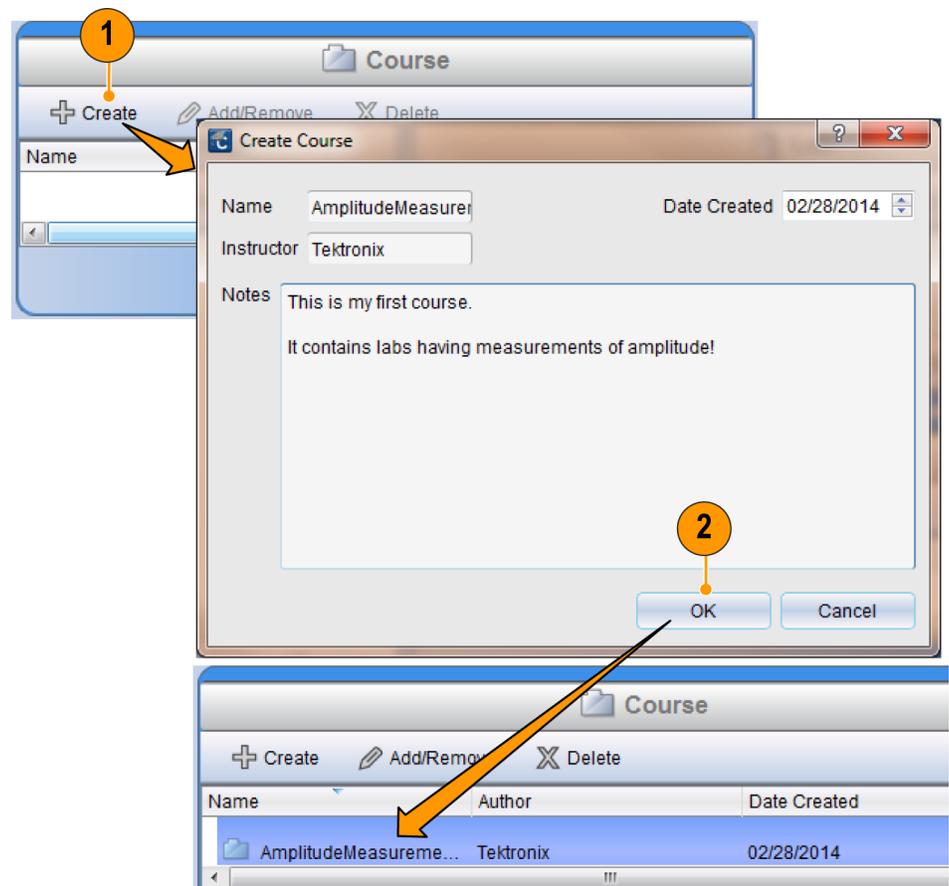


Figure 18: Create a course

1. Click on the **Create** button to bring up the **Create Course** window
2. Click on **OK** in the **Create Course** window. View the new course listing in the course pane of your workspace window

Adding labs to a course

Once you create a course, you can include/associate labs with it by:

- Dragging labs from the “Lab” area and dropping them onto the course name.
- Clicking on the **Add/Remove** button. This will open up a dialogue window for adding or removing labs from a given course.

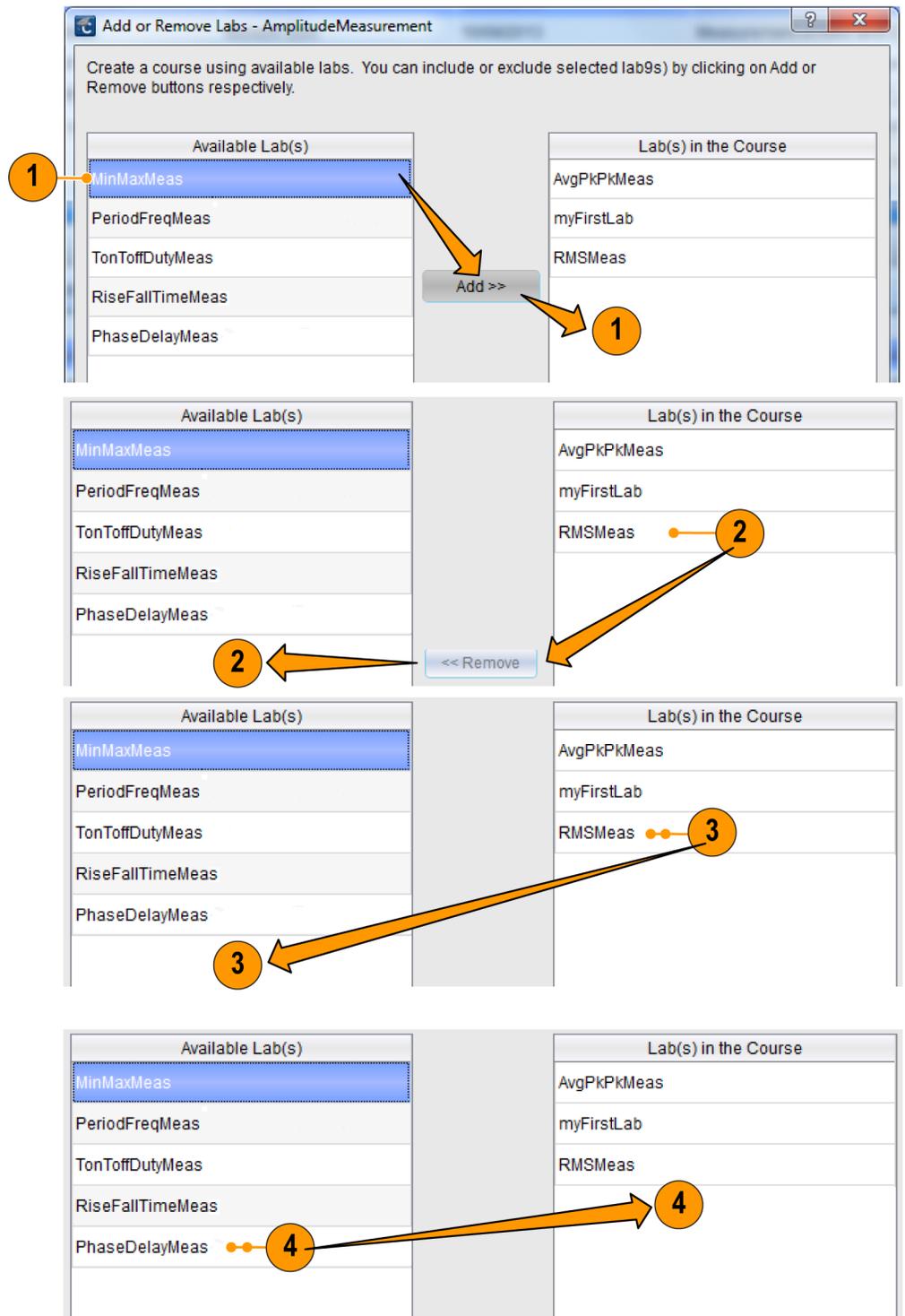


Figure 19: Add or remove labs using the "Add or Remove" dialogue box.

1. To add a lab: Select the available lab and click the **Add** button
2. To delete a lab: Select the course lab and click the **Remove** button
3. To delete a lab (alternative method): Click on the course lab listing twice
4. To add a lab (alternative method): Click on the available lab listing twice

When labs are added to a course, they are shown in the course section. Each course will have a list of all of the labs assigned to it. Any changes made to the contents of a lab (editing of a lab from the “Lab” area) will automatically update each course the lab is associated with.

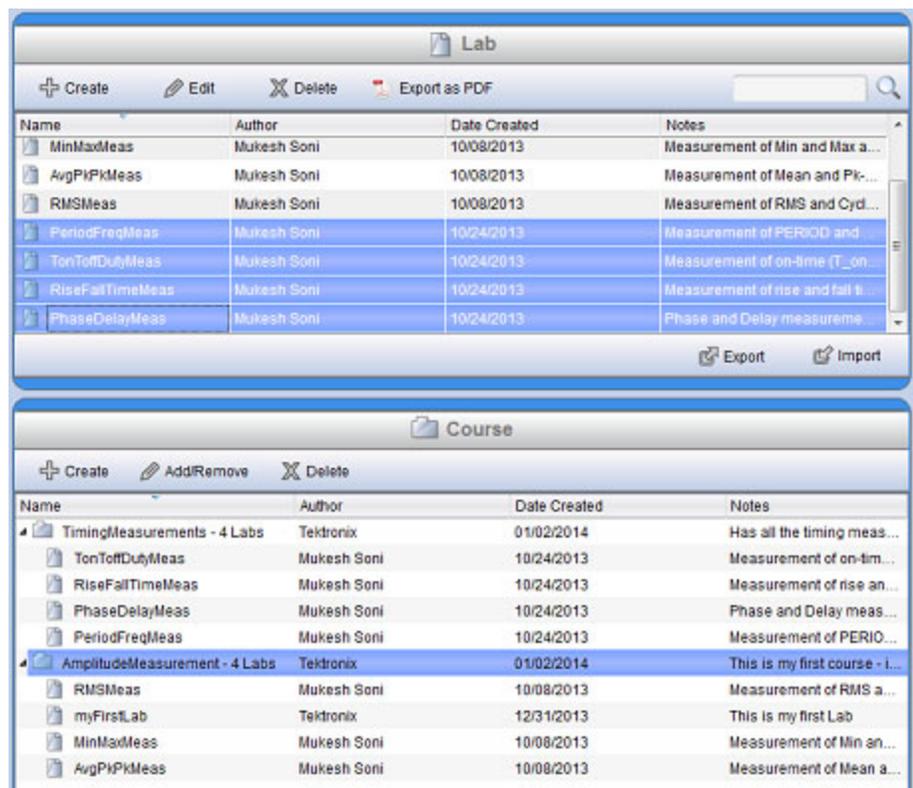


Figure 20: Create courses and add labs

Working with packages

A workspace package is a collection of courses. Once you add the appropriate courses to the package, you can use the package to create a file (.xplg file) to upload onto a TBS1000B-EDU oscilloscope.

Creating a package

You can create a package by clicking on the **Create** button on the Package toolbar and filling in the details of the package dialogue box.

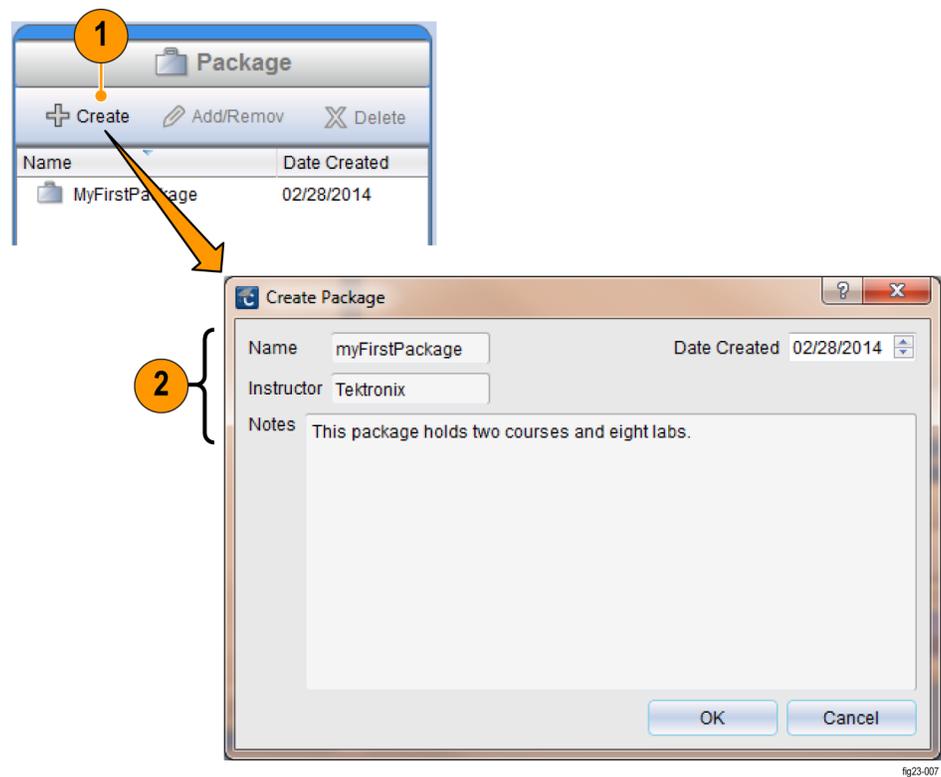


Figure 21: Create a package

1. Click on **Create** in the package pane of your workspace window
2. Type in the package name, the instructor name and notes in the resulting window

Adding courses to a package

You can add courses to a package, either by dragging a course onto a package name or by opening the Add/Remove course dialogue box. The dialogue box is opened by clicking the **Add/Remove** button on the toolbar or by double clicking a package name.

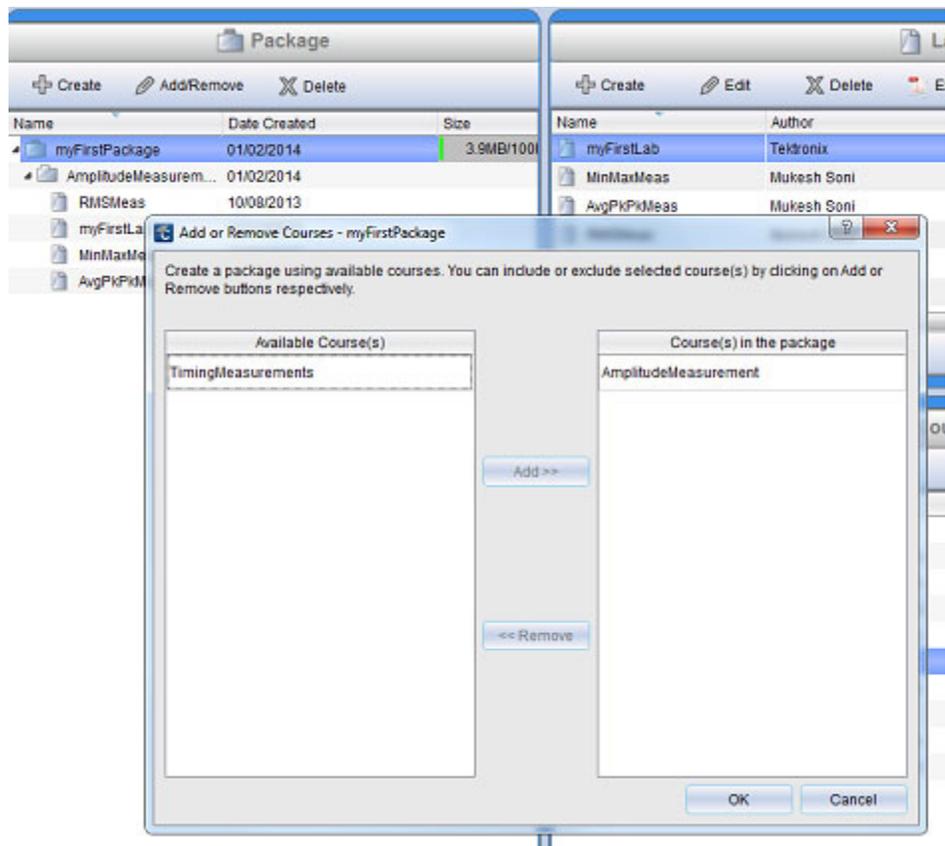


Figure 22: Add courses to a package

Package Export / Import — .XPKG format

A package can be exported (saved) as a .xpkg file using the **Export** button located at the bottom of the package pane. Packages in .xpkg format can be brought back into the workspace using import function. This allows:

- The sharing of courses across workspaces – you can export a package created in one workspace and import (recall) it into another workspace
- The sharing of packages between multiple computers

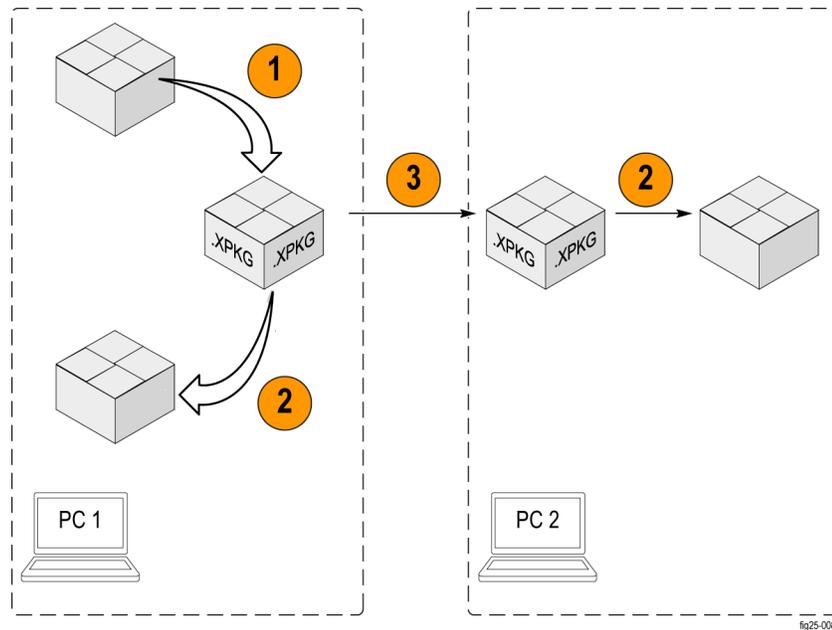


Figure 23: Use the Export / Import function for a package of courses (as an .xpkg file)

1. Export the package in the .XPKG format
2. Import an .XPKG file as a package
3. Share your .XPKG file with others. Use E-mail, the Web, or a USB memory device

Clicking on the **Export** button opens up a dialogue box where you can select the package you need to export and the destination folder.

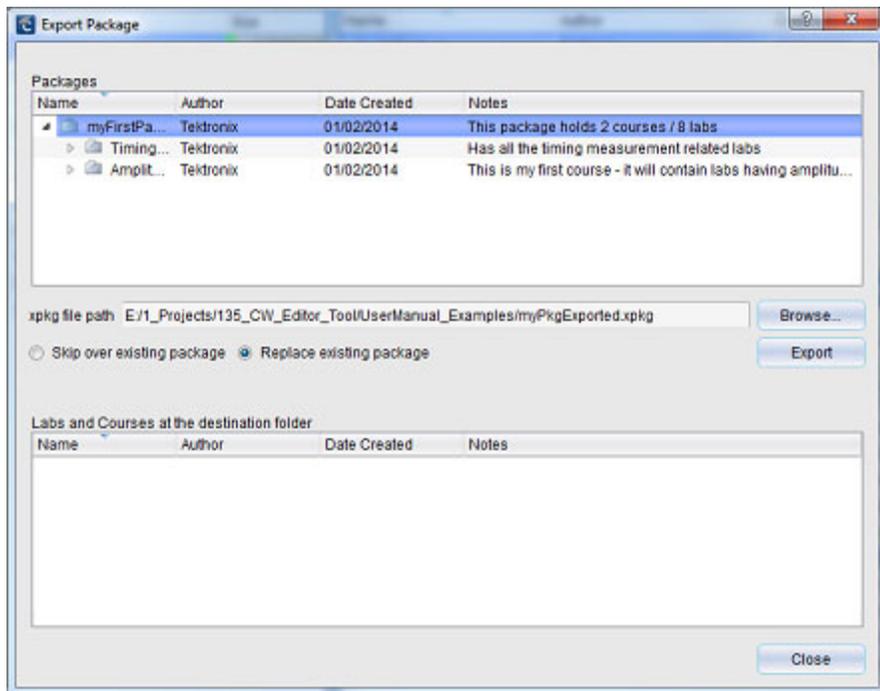


Figure 24: Export packages with the Export Package dialogue box

Similarly, clicking on the **Import** button at the bottom of the package pane opens up a dialogue box where you can browse for the .xpkg file that you want to bring into the current workspace.

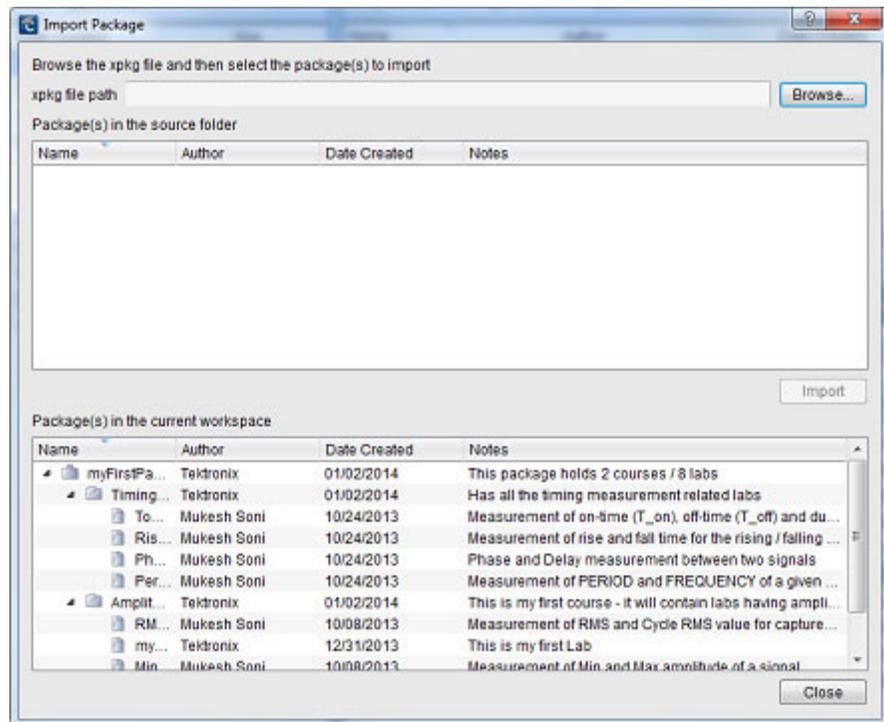


Figure 25: Import packages to your workspace with the Import Package dialog box

Sending the lab package to a TBS1000B-EDU oscilloscope

After you export a package file from the PC Courseware Editor, you should put all the files and the folder onto a USB memory drive, to load the package onto the TBS1000B-EDU oscilloscope.



fig31-010

Figure 26: Sample contents of a package to export

1. The package to export
2. The workspace information
3. The package file, as specified during the export operation

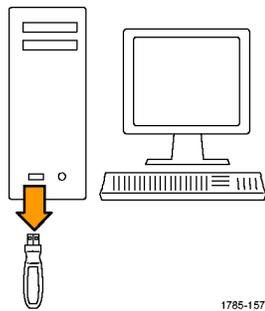


Figure 27: Export the package from your PC to your USB memory device



Figure 28: Import the package from your USB memory device into your TBS1000B-EDU oscilloscope

To create labs to update the courseware on the oscilloscope:

1. Start the PC Courseware Editor Tool on a PC.
2. Create a workspace and develop labs.
3. Create courses and associate labs with them.
4. Create a package and add courses to it.
5. Export the package. Put the files on a USB memory drive.
6. Connect the USB memory device to a TBS1000B-EDU, and update the courseware on the oscilloscope

Making miscellaneous settings

You have the option of setting the default language of the PC Courseware Editor Tool and setting the default location of a new workspace.

Changing the Editor language

To change the user interface language, use: **Option ► Language Settings**. You must restart the Editor in order for the language change to take effect.

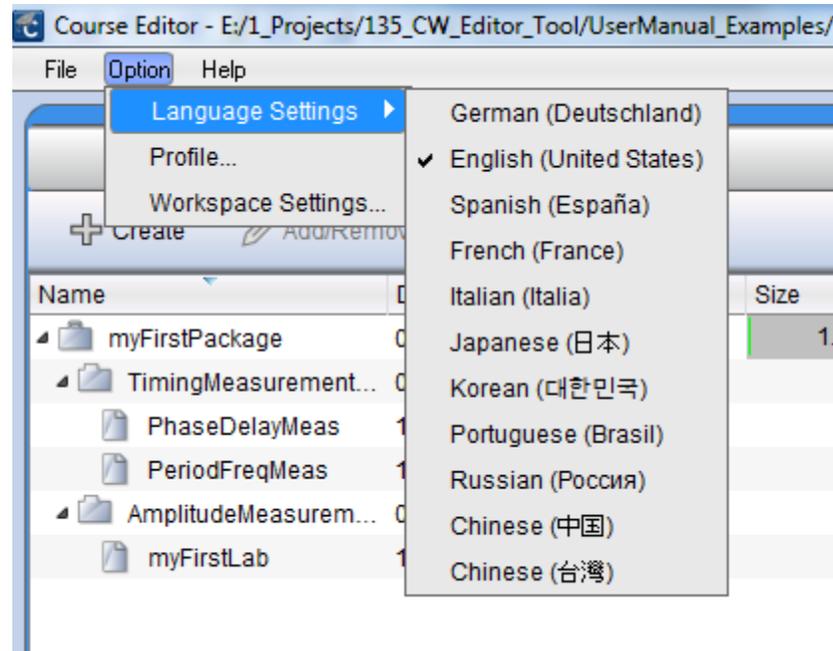


Figure 29: Change the default language

Setting up a default location for the workspace

To change the default location for new workspace files, go to **Option ► Workspace Settings** and choose the new location using the dialogue box.

Use the **Browse** button to find the desired workspace location or simply type it in.

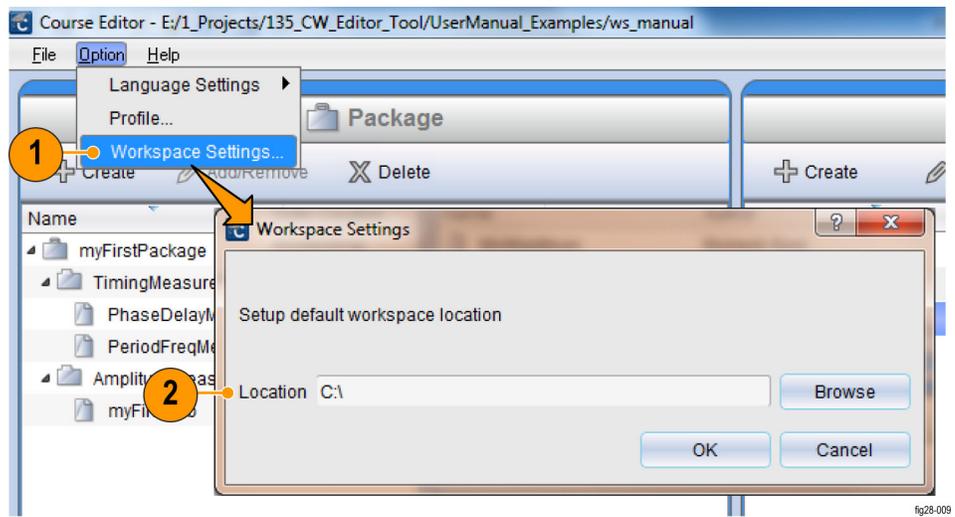


Figure 30: Specify a default location for a workspace