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Pre-installation Checklist

To install the zSpace STEM Lab, make sure you have the following before you begin:

- Sufficient power for the zSpaces. Each zSpace requires one outlet.
- Internet connectivity either wired or wireless. This is required for updates and software activation.
  
  **Note:** If the school wants to connect the STEM Lab to a local Windows domain, the following is needed:
  
  - The school’s systems administrator or IT personnel must be present to provide the admin password and connect to the Windows domain.
  - All systems in the STEM Lab will need unique names. By default, each system has the same name.

  **Note:** If the school wants to use the zSpace Education Server, all zSpace systems must be on the same subnet.

- License keys for the software.
- Administrator logins and passwords for both AnswerWeb and the zSpace STEM applications.
- zView kit, which includes the armature, mount, webcam, and an HDMI/VGA adapter.
  
  **Note:** If the secondary display or projector requires a DisplayPort or CVI connection, you will need to provide another adapter.

- A projector and cable for zView setup (not included with the zSpace STEM Lab or zView kit).
Step 1: Set up the STEM Lab

This section describes how to connect the hardware and update the zSpace System Software and firmware on each zSpace.

Connect the Hardware

You will need one electrical socket for each station (120 VAC supply for zSpace display).

1. For each zSpace, connect the power supply, stylus, mouse, and keyboard. Refer to the illustrated Quick Start Guide that was included in the original packaging for your zSpace.

2. On the designated zView station, assemble the zView armature and attach it to the back of the display. Go to http://zspace.com/setup for instructions.

3. Plug the webcam into the USB 2.0 port on the back of the zSpace.

Rename the System

If the STEM Lab is connecting to a Windows domain, rename each zSpace with a unique name.

1. Open the Windows Control Panel and type rename in the Search field.

2. Click the Change button to change the Computer name.

3. Enter a new name in the Computer name field and click on OK.

4. Click on Apply, close the Control Panel, then reboot the computer as prompted.
Check for Updates to System Software

To check for updates to the System Software, you will need an Internet connection. Follow these steps:

1. In the Windows Start menu, select the zSpace folder, then choose zSpace Control Panel.
2. Check the version number in the upper right corner of the zSpace Control Panel.

Checking the Version Number

3. In a browser window, go to http://zspace.com/downloads and click on the zSpace 300 System Software link.

4. If the latest version is newer than the one on your zSpace Control Panel, download the installer. Do not run it at this time.
   a. Before you install the new version, uninstall the current version of the System Software through the Windows Control Panel.
   b. Next, run the downloaded installer and follow the on-screen prompts.

5. If you already have the latest version, then check whether you have the latest firmware. (This step is not necessary if you downloaded and installed updates to the System Software and firmware.)
   a. Open the zSpace Control Panel on each zSpace.
   b. Click on the Firmware Updater button (shown below). You must be connected to the Internet.
   c. Wait for the firmware check to complete.
Step 2: Set up Applications

This section describes how to update and activate the applications.

Check for Application Updates

1. Launch the zSpace App Manager from the desktop.
2. A message will indicate if updates are available. You can click on either Update All or the Update button for individual applications.

Activate Applications

You will need an Internet connection to activate the applications.

1. On each zSpace, launch Zone.
2. Click on the Play button on the zSpace Studio tile to launch Studio.
3. When prompted, enter the license key, then exit the application.
4. Repeat the above steps for Newton’s Park.

Note: Franklin’s Lab uses the same license key as Newton’s Park, so you do not need to activate Franklin’s Lab separately.
Step 3: Set up zView

zView will project zSpace applications to a secondary screen.

Configure zView Station

1. On the designated zView station, connect the zSpace to a projector or other secondary display.
   The zView kit includes an HDMI/VGA adapter, if you need it. For DVI or DisplayPort, you will need to provide another adapter.
2. Open the Windows control panel for Screen Resolution for two displays.
3. Set Multiple Displays to Extend the display.
4. Make sure the zSpace display is set as the main display.
Install and Activate zView

1. On the designated zView station, open App Manager.
2. Click on the Install button for zView.
3. Follow the prompts to complete the installation.
4. Launch zView from the desktop shortcut.
5. At the prompt, enter the license key.

Configure zView

1. Make sure the zView window appears on the projector or second display.
   If the zView window is not on the second display, drag the window from the primary zSpace display to the second display.
2. Follow the instructions on the zView Setup Wizard to make sure it is correctly placed.
   To run the zView Setup Wizard, select Tools -> Setup from the menu.
3. Exit zView.

The next time the teacher launches zView, it will appear on the correct display.
Step 4: Set up Education Server

You can designate one or more zSpace stations to run the zSpace Education Server. For more information on the Education Server, refer to STEM Lab Network Layout on page 14.

If the STEM Lab will be run entirely offline, you can skip this section.

Tip: We recommend you use the designated zSpace for zView so the teacher has easy access to both zView and AnswerWeb on the same zSpace.

Connect to the Network

The STEM Lab network can include connections to the Internet (recommended). It can be part of a larger school or school district network, or it can stand alone. You can use wired or wireless network connections. Ultimately, each machine must be able to connect and ping each other on the network, regardless of the network topology. It is beyond the scope of this document to describe how to set up the network connections.

For the zSpace running the Education Server, do the following:

1. Assign a static IP address to the zSpace. Note that this must be on the same subnet as the other zSpaces that will connect to it.

2. Make a note of this IP address for future use:
   a. In the Windows Start Menu’s Search field, type cmd to open a Command Prompt window.
   b. Type ipconfig in the Command Prompt window.
   c. Locate the Default Gateway field that has an IP address.

You will use the IPv4 Address in this section to connect to the Education Server. The following example shows the Default Gateway that identifies which IP address to use.
Install the Education Server

Important: The Education Server requires that .NET Framework 3.5 be enabled. If you are installing the STEM Lab on zSpace-provided hardware, it is already enabled. If you are installing on your own system, you can download it from the Microsoft website.

1. On the desktop of the designated zSpace, click on the Education Server’s installer. When prompted, accept the Microsoft IIS 8.0 license agreement.

2. In the Windows Control Panel, change both the computer name and description.
   a. Open the Windows Control Panel and type rename in the Search field.
   b. Click on Rename this computer.
   c. Enter a new name in the Computer Description field.
   d. Click the Change button to change the Computer name.
   e. Enter a new name in the Computer name field and click on OK.
   f. Click on Apply, close the Control Panel, then reboot the computer as prompted.

Tip: If the STEM Lab is running multiple Education Servers, make sure each zSpace is named clearly to distinguish between them.

The teacher can use the computer name to connect to AnswerWeb. The computer description identifies the Education Server.
Create a Bookmark for the AnswerWeb

On the zSpace to be used by the teacher, create a bookmark for AnswerWeb. Use the following URL:

http://computer-name:4000/

where computer-name is the name assigned to the zSpace running the Education Server.

Connect to the Education Server

Follow these steps for each zSpace STEM application on each zSpace:

1. Launch the zSpace STEM application.
2. Click on Login as Guest.
3. Use the Home icon on the left to open the Control Bar.

4. Click on the Settings icon. The Settings dialog appears.
5. Click on Select Server.

6. If the Education Server appears in the list, select it. Otherwise, do the following:
   a. Click on Manually connect to the server.
   b. When prompted, enter the IP address of the zSpace running the Education Server, then click on Connect.

7. Exit the STEM application by opening the Control Bar again. Click on the Exit icon.
Step 5: Create Accounts

If the STEM Lab includes the Education Server, you can import a .csv file to create logins in a batch. Otherwise, you must create logins one at a time in the STEM applications.

Create a Single Login in STEM Application

If the STEM Lab does not include the Education Server, create offline logins on each zSpace station.

**Important:** Offline The logins only work on the STEM application and zSpace on which they are created.

1. Open a zSpace STEM application in offline mode.
2. Open the Control Bar and click on the Login/ Switch User button, then login as the Admin.
   
   **Tip:** This is not the same Admin login used for AnswerWeb.
3. Open the Control Bar again and click on Login/Switch User. Select Create User from the submenu.
4. To create a student login, add the username and password in the Create User Account dialog, then click on Create.
   
   To create a teacher login, press Ctrl + Alt + T, then enter the username and password. Click on Create. The teacher account can create logins and publish new activities.
5. Repeat steps 3 and 4 to create more logins.

Import Logins

This approach requires the Education Server.

1. Create a csv file in the format of the sample file. See the following example.

   **Note:** Alternatively, you can edit the Sample.csv file, located in C:\zSpace\EduServer.
2. Open AnswerWeb on the zSpace running the Education Server. Use the bookmark you created earlier.

3. Click on Create Account to create a teacher login. Only teacher logins can import files.
   
   **Tip:** You will need the administrator password to create a teacher login.

4. Click on Accounts in the AnswerWeb menu bar.

5. Click on the Import Accounts button.

6. In the dialog that appears, select the CSV file you saved in step 2. Click on Open.

7. The Accounts page will refresh when the file is loaded. Depending on the number of accounts, this may take a few minutes. For example, importing 5000 accounts will take about 25 minutes.

8. To complete the import process, click on the Import button one more time.

9. Optionally, delete the teacher login you created in step 3 as follows:

   a. On the Accounts page, click on Edit for the “teacher” login.

   b. Click the Delete check box, then click on Submit.

The import process does not create passwords. When users login to the STEM applications for the first time, they are prompted to create their passwords. They can leave the passwords blank if desired.

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**Sample Import File**

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<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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<td><strong>First Name</strong></td>
<td><strong>Account Type</strong></td>
<td><strong>Username</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
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<tr>
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<td>Teacher</td>
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<tr>
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</tr>
</tbody>
</table>
Step 6: Verify Installation

Follow these steps to verify that the installation is complete and correct:

1. Launch Zone.

2. Click the Play button on an application’s tile and complete the following steps.

3. For each 3D application, verify it runs in 3D. Make sure you are wearing the 3D glasses.
   If the application does not launch correctly or does not run in 3D, refer to the zSpace Support Site (https://support.zspace.com/hc/en-us).

4. If you have not activated the application, do so now.

5. For the zSpace STEM applications only, do the following:
   a. Use one of the logins that you created to verify the login was created correctly.
   b. Click on the Activities link in the center of the window. Make sure you can see the zSpace-provided activities.

6. Exit the application and repeat steps 2-5 for each application in Zone.
STEM Lab Network Layout

You can run a STEM Lab with a central Education Server that acts as a repository for the students’ and teachers’ data. In this scenario, one of the zSpace stations runs the zSpace Education Server. The student stations will send all student information – student-created logins, student answers, student-created sandbox activities – to this zSpace.

STEM Lab Network

The Education Server starts automatically when the zSpace boots up. This service manages all teacher-created and student-created information. The Education Server also hosts AnswerWeb, which is the website instructors will use to view the student’s answers to the activities within the applications. In addition, AnswerWeb provides account management features.

Important: The zSpace that runs the Education Server must be running whenever the STEM Lab is in use in order for user accounts and activities to be accessible.

The STEM Lab network can use wired or wireless network connections, as long as each machine can connect and ping each other on the network. Alternatively, you can use the STEM Lab without network connections. In that case, you would not use the Education Server or AnswerWeb at all. For more information, refer to https://support.zspace.com/hc/en-us for information about using the STEM Lab in offline mode.