# Canvas Conferencing for Moderators

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Minimum Requirements for Conferencing for Conferencing Moderators

A laptop or desktop computer with (at least) 2G of memory and a 1Ghz processor.

A web browser running Flash 11.2 (or above). Any web browser capable of viewing YouTube should be able to run Conferencing (BigBlueButton).

The recommended browsers are Google Chrome (as Chrome has Flash built-in and is always up-to-date) and Mozilla FireFox.

An internet connection must be at least least 500 Kbits/second upstream bandwidth and 1Mbits/second downstream bandwidth. (If you suspect a bandwidth issue, test your bandwidth speed at http://speedtest.net/)

If teachers intend to do desktop sharing, they must have the latest Java plugin installed (Java SE 7). They can test with http://www.java.com/testjava/
If teachers intend to do desktop sharing (which is the most bandwidth intensive part of BigBlueButton), the minimum recommended upstream bandwidth is 1 Mbits.

Teachers and Students are strongly recommended to use a headset. A headset will ensure you can participate with minimum audio problems, have your voice heard clearly, and not inject ambient noise into the session if you are in a noisy environment.
A laptop with a built-in webcam and microphone is sufficient, but must be used in a quiet area.

Two key points if you do not use a headset:
1. If two users are sitting next to each other and connect to the same session without headphones it can cause an echo.
2. You will get feedback when doing the built-in audio test.

Where possible, it is recommended that you connect through a wired network; connecting from a wireless network may cause periodic wireless disconnects.

Note: Conferencing (BigBlueButton) will disconnect you anytime it detects the network connection has dropped. The image below shows the confirmation you have been disconnected from the conference.
Troubleshooting Audio problems

Unable to hear audio in the session

1. Did you initially hear audio?

Sometimes Conferencing (BigBlueButton) will disconnect a user’s audio. If this occurs, click the headset icon to log back into the audio bridge.

![Join/leave audio and mute/unmute icons]

2. Can you hear audio outside of Conferencing (BigBlueButton)?

Can you hear audio when playing a YouTube video or a music/sound file? Every operating system (Mac, Unix, and PC) has a default audio playback device. Flash uses the default audio playback device for sound. The most common problem is that the user’s default audio playback device is set to mute. In Windows, this is visible in the lower right-hand corner.

![Default audio playback device settings]
To unmute the speakers, click on the speaker icon. Select your sound level with the vertical audio slider that appears, by moving the slider up or down to increase or decrease the sound level. Click the **speaker button** to enable the speaker.

If the volume control is not in the taskbar, you can access it through the Windows Control Panel under the tool **Adjust System Volume**.
If your audio is interrupted, but your call is still connected you can click the headset icon to rejoin the audio.

If you do not hear audio in Conferencing (BigBlueButton), check the default audio device. In windows, select **Control Panel > Sound**

![Sound Settings](image)

There should be a default playback device, it has a check mark as shown above. Do the other devices show activity? If so, make that device the default device (select it, then click **Set Default**).

Return to the browser, refresh the window and try joining the audio conference again. The user should now hear sound.

**Unable to transmit audio**

1. **Do you have a microphone?**

You need to have a microphone, either built into your laptop, a webcam with a built in microphone, or a headset (headset is preferred).

If Conferencing (BigBlueButton) fails to detect *any* microphone, it will still join you into the session, but your voice audio will not be heard. Furthermore, you will not be prompted for permission to access a microphone.
2. Choose a different microphone

If you are no longer in the Listeners window, click the headset twice. The first time is to leave and the second time is to rejoin so you can test your audio. You should see the Microphone or Listen Only Dialogue box (shown below).

Click the Microphone button and choose a different microphone from the dropdown menu.
3. Confirm that you can be heard

To make sure your audio is working correctly, complete the audio test. Speak a few words and click the Yes button [1] if you hear audio. If you need help with your hardware, click the Question Mark button [2].

If your microphone is not highlighted, leave the audio conference (click the headset icon), then rejoin (click the headset icon again) and choose a different microphone.
4. Check if Chrome is asking for access to microphone

If you are using Chrome and cannot be heard after clicking Join Audio in the Audio Settings dialog box, there may be a popup window above the session requesting access to use the microphone.

Click Allow.

5. Check that the operating system detects a working microphone

Before you begin, make sure your headset or microphone is connected. In Windows, if your operating system does not detect a functioning microphone, right-click on the speaker icon in the system tray and choose recording devices.
This will display the list of recording devices that Windows detects. Next to each valid recording device, there will be a series of stacked bars.

Say a few words to test if Windows detects energy. You should see the green energy bars move as you are talking.

If no energy bars display, then Windows is not getting any energy from the microphone, and thus neither will (Conferencing) BigBlueButton. This indicates that you do not have a working microphone, or that the drivers for your current built-in microphone are not working.
You can also adjust your microphone by selecting the microphone; click **Properties**, then click the **Levels** tab.

From here you can increase the sensitivity of the microphone to make it louder.

![Microphone Properties](image)

**If there is a lot of background noise in the session**

This occurs when someone has connected to the conference, but has not muted their microphone. The recommended approach to manage the audio in a class, once it has started, is to do the following:

**Note:** These steps assume the teacher has logged in with an account that has moderator status. Clicking **Mute All** will mute all unlocked users and new users who join the audio conference.

There are three ways to mute a user:

1. **Have the student mute themselves**
   Each user has a Mute/Unmute button. Clicking the button when it reads 'Mute' will mute the user’s microphone. When their microphone is muted, there is a red slash through the icon to the left of their name.
2. **Moderator can mute users**
The moderator can mute any user any time. This is done by clicking on their microphone icon to the right of their name.

To quickly locate the student causing noise when there are many students in a room, look for those students that have an **active speaker icon** (it is always on or frequently flashing) to the right of their name.

3. **Mute all users**
If the teacher is unable to determine which microphone is causing audio problems, the teacher can mute all users.
Audio for speaker is crackling, has gaps, or cuts out

If other listeners comment that the speaker’s audio is poor, it is usually a result of poor network connections.

1. Have the speaker disconnect/reconnect
   Have the speaker click their headset icon twice; the first click will disconnect them, the second click will reconnect them to the audio bridge.

2. Reduce bandwidth usage
   Have the speaker turn off other applications (remote desktop, netflix, etc.) which may be consuming bandwidth.
   Have the speaker do a bandwidth usage check by going to http://speedtest.net/, wait a moment for the page to load, then click Begin Test.
   After a few moments, the test will give an accurate estimate of their upstream and downstream bandwidth.

   ![Speedtest](image)

   If the upload speed is less than 0.5 mbps (megabytes per second), the user’s upload speed may be insufficient for BigBlueButton.

The speaker is hard to hear

The speaker can increase the sensitivity of their microphone.

1. Increase microphone sensitivity
   1. Click the headset icon to leave the audio conference.
   2. Click the headset icon again to join; this will show the audio settings dialog.
   3. Click Test or Change Microphone button and in the Adobe Flash Player Settings dialog, have the user increase the Record Volume.
   4. Click Close button.
5. Click **Join Audio** button. The speaker’s audio should now be louder in the voice conference. If it is unchanged, use the operating systems audio settings to increase the sensitivity of the microphone.

In Windows:
1. Right-click on the **speaker icon** in the system tray and choose **Recording Devices**.
2. In the **Sound dialog box** under the **Recording** tab, choose the active microphone and click the **Properties** button.

3. Click the **Levels** tab, (1) in the diagram below.
4. Increase sensitivity of microphone, (2) in the diagram below.
5. Click **OK** button.

Have them speak into the audio conference again and confirm if other users can hear them better.
Troubleshooting Usage Problems

Presenter is unable to share their desktop

A presenter needs Java 7u51 (or later) installed to run BigBlueButton’s desktop sharing applet. Only the presenters need Java installed (not the viewers). Problems desktop sharing are usually caused by one (or more) of the following configuration issues with:

- not having Java runtime installed
- not giving their browser permission to run Java
- not having Java 7u51 (or later) installed.

To help the presenter resolve the above issues quickly, BigBlueButton now presents the following message and link at the bottom of the Presenter Preview dialog:

![Desktop Sharing: Presenter's Preview](image)

The message now informs the presenter that desktop sharing “Requires Java 7u51 (or later) to run.” If the presenter is unsure of their version of Java, they can click the link Test Java to visit [http://www.java.com/testjava/](http://www.java.com/testjava/), which is Oracle’s test page for checking/upgrading Java.

The following steps will help you diagnose and resolve these issues with desktop sharing.

1. **Check if user is running Chrome on Mac OS X**

On Mac OS X, Chrome cannot run Java applets as Chrome is a 32bit application and Java is 64bit. If the presenter is running on Mac OS X and they need to share their desktop, recommend they use FireFox or Safari.

    *Note:* Viewers can use Chrome on Mac OS X to view the shared desktop.
2. Make sure you are running Java 7u51 (or later)

Click the Test Java link to test Java.

This will take you to the Java test page at Oracle.

If you are running FireFox, you must give FireFox permission to run a Java applet. FireFox will prompt you twice for permission (see next step). Click Run.

If the presenter does not have Java installed, or has an older version installed that will not run, the Java test page will show a message prompting the user to update their Java, such as:
Update your version of Java. You should be able to share your desktop.

**If you are running Safari (Mac OS X),** the first time you visit the Java test page you will be prompted to unblock Java.
Having clicked **Java blocked for this website**, Safari will prompt them to trust Java.

Once you click “Trust”, Safari will then detect if your version of Java is up-to-date. If your Java is out-of-date, Safari will prompt you to update.

Update your Java to the latest version, quit Safari, then enter into **Conferencing (BigBlueButton)** again. After clicking **Test Java** in the desktop sharing panel, you should now be prompted to accept the Java Certificate for the Java Detection program.
After clicking **Run**, the Java Detection applet will test that their version of Java is up-to-date (as did Safari). If the Java version is out-of-date (this is a second test), you will see a message to upgrade.

Click the **Download Java Now** button.

**3. Make sure you have given Java permission to run**

**If you are using FireFox**, as of October 18, 2013, Mozilla now requires the user to explicitly give permission to run any Java applet.

FireFox will prompt the user twice.

**The first prompt** will be in a popup banner bar.

Here’s how it appears in **Windows**:

And here it is on **Mac OS X**:
Click **Allow**…

**The second prompt** will be to allow the applet to run.

Here’s how it looks on **Mac OS X**:

![Mac OS X dialog]

Here’s how it looks in Windows (it’s the same UI):

![Windows dialog]

To run the desktop sharing applet, the user must:

1. Select choose **Allow** (or **Allow and Remember**)
2. Click **OK**

With FireFox, if you click anywhere within the main window before making a choice, the above dialog will disappear, but **Java will not run until you give it permission**. You must click the **block icon** to the left of the address bar and give Java permission to run.
Why all the steps? Due to recent security vulnerabilities in Java, Mozilla now disables Java by default in their browser. For more information, see https://addons.mozilla.org/enUS/firefoxblocked/p463

Once you have clicked **OK**, the desktop sharing applet will run. You should be able to share your desktop.

If you are using Safari (Mac OS X), you will get prompted to **Trust Java for the site**.

![Trust Java for the site](image)

**Note:** Even if you had previously clicked ‘Trust’, you may be asked again. Why? The reason is that your meetings may not always start on the same Conferencing (BigBlueButton) server. Blindside Networks uses a load balancer front-end BigBlueButton (this way meetings are started on the least loaded BigBlueButton servers in a pool).

4. **Java version is out-of-date**

If you attempt to run an older version of Java (earlier than Java 7u51), your OS will warn you not to proceed without updating.

![Java version is out-of-date](image)
If you attempt to proceed, the BigBlueButton applet will display an alert that you are required to run Java 7U51 (or later).

If this occurs, you must upgrade your Java runtime. To do so, click the Test Java link.

![Test Java Link](image)

And proceed through the steps to test and upgrade Java. After the upgrade is finished, you should be able to share your desktop.

**Note:** Why does BigBlueButton desktop sharing applet now require Java 7u51 (or later)? Oracle changed how a Java applet can receive JavaScript events from a browser. To prevent the scenario where a presenter attempts to stop desktop sharing (from within BigBlueButton) but the applet did not receive the event, the applet now checks to ensure the user has Java 7u51 (or later).

### Desktop sharing is slow

The speed of desktop sharing depends on three items:

- How large is the screen area.
- How complex is the screen update.
- How fast is the users upstream bandwidth.

To increase the speed of desktop sharing, the presenter can do the following:

1. **Reduce the size of the screen area being shared**

   Have the presenter restart desktop sharing, but choose region instead of full-screen. This will reduce the amount of screen area to send.
2. Reduce the complexity of the screen update

If you have a 32bit background image and choose to show the desktop, then BigBlueButton will faithfully transmit your image to remote users.

To reduce the complexity of the screen update, the following is recommended:

- Create a solid color for background images.
- Minimize scrolling.
- Don’t share an area of the screen displaying video (the effort to keep the video updated will consume most of the CPU and bandwidth).

3. Increase the bandwidth available to desktop sharing

If you are sharing your webcam while desktop sharing, turn off your webcam. Check your current bandwidth with http://speedtest.net/. The key value to check is your upstream bandwidth and make sure you have at least 500kbps upload stream and 1mbps download stream.

If you are repeatedly disconnected

If you are periodically disconnecting, it’s usually caused by an unreliable internet connection.

1. Check your network connection

If you are on wireless connection try a wired connection.

2. Are you connected by a Windows 7 computer

There is a known issue with Microsoft’s Toerodo protocol that will cause all Flash applications to periodically disconnect. The solution is to disable Toerodo on the user’s computer. See http://www.mydigitallife.info/howtodisabletcpipv6teredotunnelinginvista/

Here are the steps in Windows:

1. Click the Start Menu, click All Programs, click Accessories, right click Command Prompt and click Run as Administrator.
   - If the User Account Control dialog box appears, confirm that the action it displays is what you want and then click Continue.
2. At the command prompt, enter the following command:
   netsh interface teredo set state disabled

3. You may be behind a firewall and it is tunnelling through port 80

If you see the word Tunnelling in the lower righthand corner of BigBlueButton.

If so, it means your client isn’t able to connect directly to the Conferencing (BigBlueButton) server through port 1935. This usually occurs when you are behind a corporate firewall. The best solution is to join through a different network that doesn’t require tunnelling through port 80.
Fonts are not displaying correctly in the document

If you encounter formatting issues when uploading documents.

1. **Upload a PDF version of the document**
   In almost all cases, the best solution is to upload a PDF. If you are using any recent version of Microsoft Office (2007 or greater), you have the ability to save their PowerPoint or Word document as a PDF file.

   **Note:** If you upload a new PDF version of a document to correct formatting issues, the filename must be changed so the PDF version becomes the new document. If the file names are identical, BigBlueButton will only recognize the original file.

Trouble uploading a document

Document specs for uploading: **Limit 30 MB and 150 pages**
If either of these two limits are reached, the slides/document will not upload and process.

Unable to share your webcam

If you get the message, *The webcam is in use by another application*, make sure

1. **You have given permission for browser to access webcam and microphone**
   If you don’t give permission in Chrome *before* sharing your webcam, you will get this message. If this doesn’t resolve the issue, it’s often fastest to reboot your computer, as it clears all access to the webcam.

You are not able to view recordings

The BigBlueButton recordings are viewable as video files, specifically Theora video files (file type: mp4).

The recommended browsers are:
   - Windows: FireFox and Chrome
   - Mac OS X: Chrome

   FireFox does not play MP4 files on Mac OS X.

   1. **Are you using Mac OS X with FireFox?**
      Due to patent restrictions, Mozilla FireFox does not play MP4 files on Mac OS X. Recommend using Google Chrome.

   2. **Do you have Real Networks player installed?**
      If you’re using FireFox, check if you have the Real Networks Downloader plugin installed. If so, remove the plugin and restart the browser.