

## JIGSAW® SYSTEM REQUIREMENTS

Requirement	Apple® Macintosh®	Microsoft® Windows®
<b>Versions Supported:</b>	OS X El Capitan OS X Yosemite	Windows 10, 8.1, 8, 8.1, and 7 (8 in Desktop Mode)
<b>Browsers Supported:</b>	Chrome® Firefox® Safari™	Chrome® Firefox® Internet Explorer®
<b>Bandwidth (Facilitator):</b>	Upload: 1.5 mbps Download: 1.5 mbps Ping: 150 or less Jitter: Near zero as possible	Upload: 1.5 mbps Download: 1.5 mbps Ping: 150 or less Jitter: Near zero as possible
<b>Bandwidth (Participant):</b> <b>*No Camera / Camera</b>	Upload: .75 mbps - 1.0 mbps Download: .75 mbps or greater Ping: 150 or less Jitter: Near zero as possible	Upload: .75 mbps - 1.0 mbps Download: .75 mbps or greater Ping: 150 or less Jitter: Near zero as possible
<b>Native Data Transport:</b>	Ports 80, 443, and 1935	Ports 80, 443, and 1935
<b>Join Access, Audio, and Video</b>	Adobe® Flash Player® 11.1 or greater	Adobe® Flash Player® 11.1 or greater
<b>Internet Audio (VoIP)</b>	<ul style="list-style-type: none"> <li>• Full duplex sound card</li> <li>• Speakers</li> <li>• USB headset (optional)</li> <li>• Microphone with noise cancelling</li> </ul>	<ul style="list-style-type: none"> <li>• Full duplex sound card</li> <li>• Speakers</li> <li>• USB headset (optional)</li> <li>• Microphone with noise cancelling</li> </ul>
<b>Video</b>	<ul style="list-style-type: none"> <li>• Webcam (optional)</li> </ul>	<ul style="list-style-type: none"> <li>• Webcam (optional)</li> </ul>

## METHODS FOR JOINING VIA DESKTOP

Requirement	Join via VL App	Join via Browser
Adobe® Flash Player® 11.1 or greater	Yes	Yes
Adobe® Air	Yes	No
Java™ (Feature Specific: Desktop/Application Sharing and Screen capture tool)	No	No

## VIRTUAL LEARNING APP

The Virtual Learning App (VL App) is a desktop client that is compatible with MAC® or Microsoft® Windows®. This is the recommend method to join a session IF the participant will be using Desktop/ Application sharing or inserting screen shots on the Whiteboard. This desktop client seamlessly manages Java™, which is required for those features. For assistance on installing this desktop client please visit: <http://jigsawme.com/wp-content/uploads/Getting-Started-06-How-to-Install-the-Virtual-Learning-App.pdf>

## JIGSAW'S MOBILE APP

This is available for iPad® and Android™ facilitators and participants.

For more information please visit: <http://jigsawme.com/wp-content/uploads/Mobile-Training-Manual.pdf>



## **ADDITIONAL TIP: Bandwidth and Testing**

A proper Internet connection is required to successfully use Jigsaw. The bandwidth specs will vary based upon your role during the session, Presenter or Attendee, but should be within the ranges outlined. These base speeds are guidelines as there are many factors that determine a "good" connection. For optimal results, use a wired connection. Wireless/WiFi can vary in strength and may result in audio/video delays. And, Hotspots are very unstable in connectivity and will most likely result in audio and/or video delays.

**Measure ping and jitter rate at: [www.pingtest.net](http://www.pingtest.net)**

- Ping – determines the delay between your computer and your network provider’s server.
- Jitter – the variation in the time or fluctuation of the ping, or the “bouncy” Internet syndrome.

**Measure download and upload rates at: [www.speedtest.net](http://www.speedtest.net)**

- Download Speed – The rate at which your computer can pull data from the Internet.
- Upload Speed – The rate at which your computer can send data to the Internet.

## **ADDITIONAL TIP: Browser or Network Settings**

Jigsaw® is browser and firewall friendly, however, there may be times when personal or network settings require you to whitelist specific ports. Jigsaw has two types of traffic, general web page traffic, and streaming traffic for the live classrooms. Just like all other sites, our web pages use HTTP and HTTPS "protocols" (which just means the way in which the data being sent/received is organized). Our live classrooms use RTMP and RTMPT protocols. Typically, each protocol travels through pre-determined “ports” and these are:

### **HTTPS port 443 / TCP**

- stream.jigsawme.com
- websvcstream.jigsawme.com
- logstream.jigsawme.com

### **RTMPT port 80 / TCP or RTMP port 1935 / TCP**

- amsstream.jigsawme.com
- wowstream.jigsawme.com

Or, if your security settings do not recognize urls and will not accept rule entries, the following IP addresses can be whitelisted.

- 54.208.1.149 - https: 443/tcp
- 54.85.123.174 - http: 80/tcp
- 54.86.183.90 - rtmpt: 80/tcp (or rtmp: 1935/tcp)
- 52.22.183.0 - rtmpt: 80/tcp (or rtmp: 1935/tcp)
- 52.5.119.47 - rtmpt: 80/tcp (or rtmp: 1935/tcp)

Please note, if you are trying to join a Jigsaw® session and see the session attempting to “authorize, set up connection, load, or disconnect” this is indicative of browser or network settings blocking the ports or IP addresses above.