

Virtual Classroom Minimum Requirements

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Here's a summary of the technical requirements for using BrainCert's web-based HTML5 [virtual classroom](#).

For the best BrainCert experience, leverage the following specs listed below. There are no software downloads or installations necessary to use the virtual classroom.

System Requirements

System	Description
Headset	Headsets with microphone for improved sound quality is recommended.
Camera	Any compatible with your operating system with latest device drivers installed.
Operating System	Microsoft Windows, Mac OS, Linux, Android and iOS. Make sure you are using one the compatible browsers listed below.
CPU	<ul style="list-style-type: none">• Desktop - Intel or AMD processors with 2.0 GHz or above. Note that lower-end CPU types may result in poor (lower video resolution) quality.• Mobile/Tablet - Latest models with a fast CPU clocked at 1.4 GHz or above is recommended.
RAM	Minimum 1 GB. 4GB or more is recommended. At-least 100MB of free memory should be available.
Bandwidth	<ul style="list-style-type: none">• Video - minimum 300 kbps per stream, Max 1 Mbps (All attendees)• Audio - minimum 50 kbps per stream, Max 100 Kbps (All attendees)• Recording - minimum 3 Mbps, Max 5 Mbps (Instructor/Presenter only)• Screen Sharing - minimum 2 Mbps, Max 3 Mbps (Instructor/Presenter only)
Compatible Browsers	<ul style="list-style-type: none">• Desktop - Google Chrome (latest release version) - Recommended• Desktop - Firefox (latest release version) - Recommended• Desktop - Microsoft Edge (latest release version) - Not Recommended• Android - Google Chrome (latest release version) - Recommended• Android - Samsung Internet (latest release version) - Recommended• Android - Opera (latest release version) - Recommended• iOS - Safari (latest release version 11 or above) - Recommended
Screen Sharing	<ul style="list-style-type: none">• Chrome - No plugins necessary.• Firefox - No plugins necessary.
Video resolution	from 180p@30fps to 720p@30fps

Browser Specific Features Supported

Browser	Audio	Video	Recording	Screen Sharing	Whiteboard
Desktop - Google Chrome (latest release version)	Yes	Yes	Yes	Yes	Yes
Desktop - Firefox (latest release version)	Yes	Yes	Yes	Yes	Yes
Desktop - Microsoft Edge (latest release version)	Yes	Yes	No	No	Yes
Android - Google Chrome (latest release version)	Yes	Yes	Yes	Yes	Yes
Android - Samsung Internet (latest release version)	Yes	Yes	No	No	Yes
Android - Opera (latest release version)	Yes	Yes	No	No	Yes
iOS - Safari (latest release version 11 or above)	Yes	Yes	No	No	Yes

Network Ports

Connections made to BrainCert WebRTC cloud across all global regions use the following TCP and UDP ports. If UDP port is blocked then calls will connect over TLS rather than the more efficient protocol UDP, which can lead to quality issues with video, audio and content sharing. It is important that firewall ports are opened to BrainCert servers. We have implemented technology to work if you are behind strict corporate firewalls and NAT environments. If you can't get the audio/video working inside virtual classroom, then most likely our IP is blocked by your firewall. For specific IP ranges of BrainCert's global Virtual Classroom servers, contact [support](#).

Name	Ports
Whiteboard	<ul style="list-style-type: none">• TCP - 443
WebRTC - Audio/Video	<ul style="list-style-type: none">• TCP - 443• UDP - 30000-65535
STUN/TURN (Network traversal)	<ul style="list-style-type: none">• TCP - 443, 80, 3478, 5349• UDP - 80, 3478

System Test Tool

Virtual Classroom uses WebRTC technology for real-time audio and video conferencing. Use the following links to test your browser.

Name	URL
BrainCert	https://www.braincert.com/live/html5check.php
WebRTC Troubleshooter	https://test.webrtc.org/