



ELPA21 Field Test

Setup and Installation Guide

December 2014

Disclaimer: The contents of this document were developed under a grant from the U.S. Department of Education. However, those contents do not necessarily represent the policy of the U.S. Department of Education and you should not assume endorsement by the Federal Government.



ELPA21
English Language Proficiency
Assessment for the 21st Century

Workstation Readiness

All workstations (desktops, laptops, and tablets) intended for use in the administration of the ELPA21 Field Test must be set up and configured to test using Questar's student test delivery system. Specific instructions on installing the secure browser, verifying functionality, and installing caching (if needed) can be found in this Software Installation Guide. If you have any questions, you can contact Questar by phone or email at:

- Phone: 800-574-5583
- Email: ELPA21Support@questarai.com

System Requirements

The ELPA21 Field Test will support desktops, laptops, iPads, Android tablets, and Chromebooks that meet the following specifications:

- Windows XP/Vista/7/8/2003/2008 (latest service pack) (NOTE: Windows 8 RT is not supported)
- Mac 10.6/10.7/10.8/10.9
- Linux Ubuntu 11.10/Fedora 14 (NOTE: Debian 9 / OpenSUSE 11.1 are under review)
- Android Tablets 4.2, 4.3, 4.4 for the following supported devices:
 - Google Nexus 10
 - Samsung Galaxy Tab 2 (10.1)
 - Samsung Galaxy Note (10.1)
 - Motorola Xoom
 - Motorola Xyboard

An external keyboard is required for the field test.

- IOS iPad Tablets iOS 6, 7, 8

An external keyboard is required for the field test.

- Chrome OS Chromebooks Versions 29 through 37 (NOTE: Chrome OS manages and controls the upgrade process. We will review and confirm upgrades as they are released.)

See Appendix A for additional requirements and specifications.

Headsets

Compatible headsets with microphones are required. See Appendix B for more information on recommended headset features.

Network Bandwidth

Software Installation

Windows

Mac

Linux

Android Tablets

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Chromebooks

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Network Bandwidth

- A minimum of 100 Mbps LAN/802.11g Wireless 54 Mbps or greater is required. The minimum available LAN bandwidth at each workstation must be 1 Mbps. Questar recommends 1 Gbps LAN/802.11n Wireless 150 Mbps or higher, and the available LAN bandwidth at each workstation to be 2 Mbps.
- The minimum Internet speed per device is 150 kps (minimum with proctor caching 30 kps) with a recommended 300 kps. If more than 100 students are testing simultaneously, proctor caching will be required.

To test the Network Bandwidth for a workstation, click the **Network Bandwidth Test** button on the Site Setup tab of the admin site.

Network Bandwidth Test This feature may not work as expected for IE Versions less than 10

Network Bandwidth Test

Software Installation

The ELPA21 online student test is a browser-based application that requires Internet connectivity, as well as the installation of the Questar secure browser prior to the beginning of testing.

Any computer or tablet that will be used for testing requires setup before a student can take a test. This setup can be done at any time, but must be performed no later than two weeks in advance of a scheduled test session so not to interfere with the actual testing period.

For all setups, verify that content filters and/or firewalls whitelist *questarai.net and *questarai.com. Installation instructions for each different operating system are on the following pages:

Installation

- Windows — page 4
- Mac — page 7
- Linux — page 10
- Android Tablets — page 12
- iPads — page 13
- Chromebooks — page 15

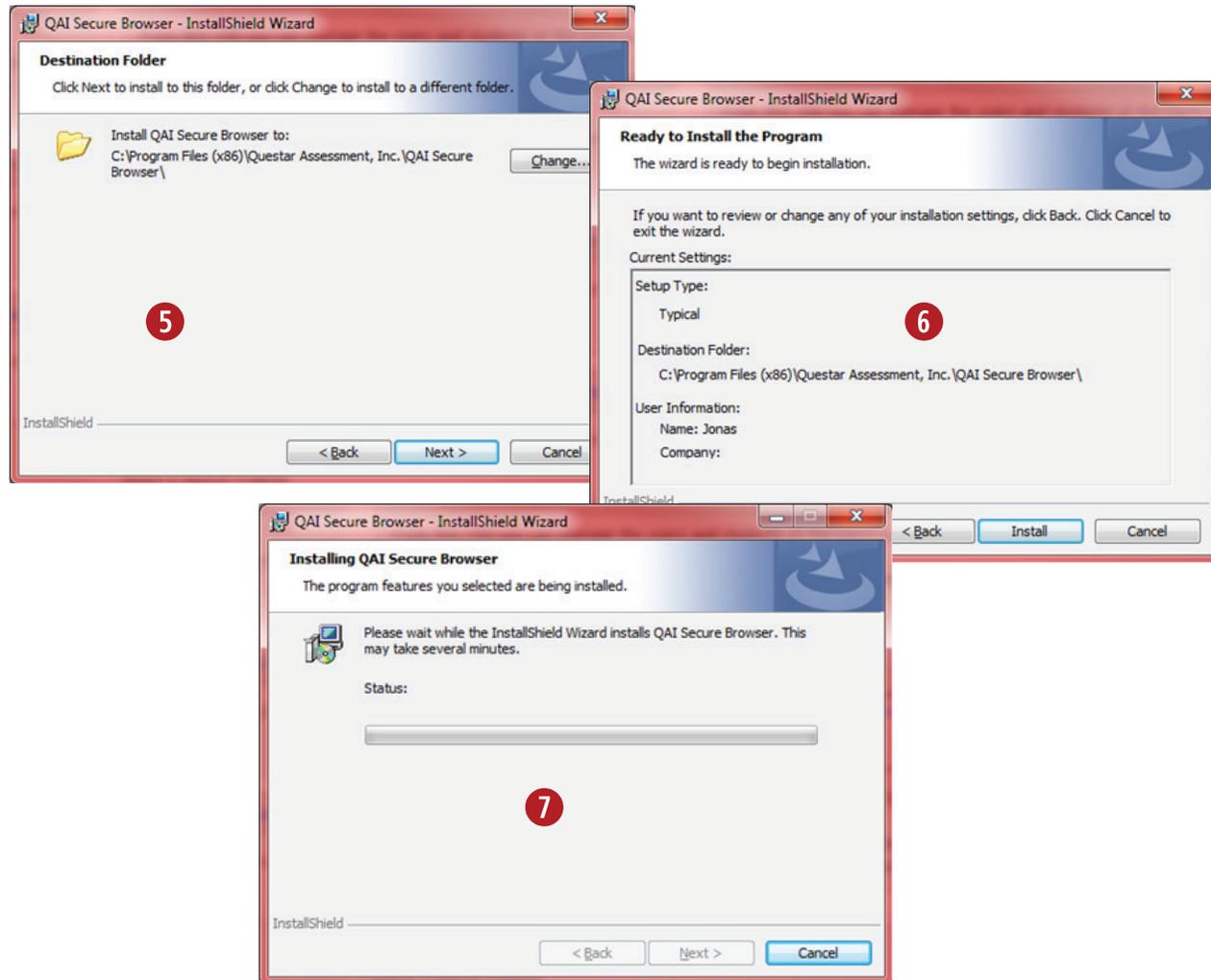
Verification — page 16

NOTE: You will need your admin site Username and Password to complete this installation. Questar will distribute these to designated Test Coordinators via email on December 17. If you do not receive a Username and Password, contact customer support by phone at 800-574-5583 or email at ELPA21Support@questarai.com.

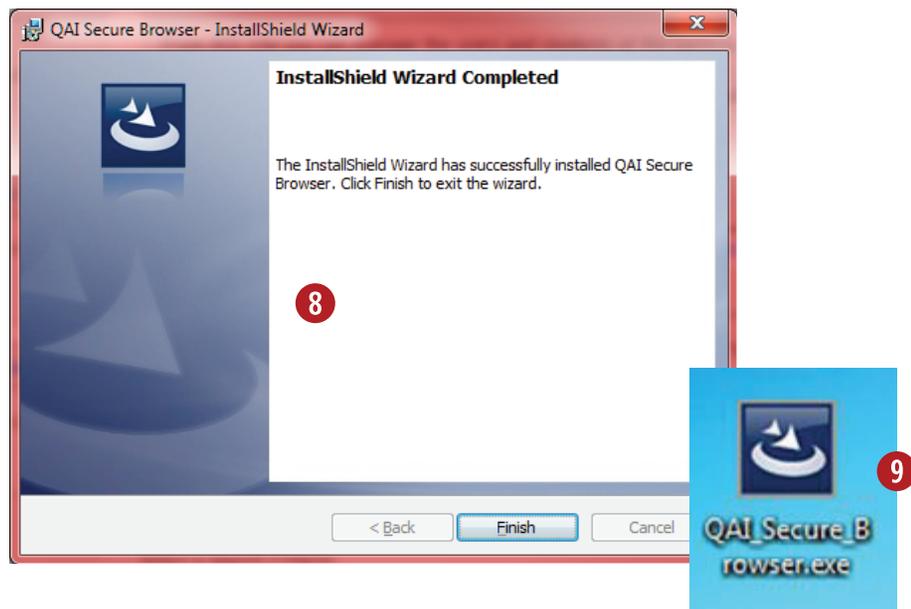
Desktops/Laptops – Windows

Preparing for Testing

- 1 Start a browser. Navigate to the following URL: elpa21ft.questarai.com/Admin.
- 2 Log in to ELPA21 Admin with the Username and Password that have been provided. If you did not receive a Username and Password, contact customer support by phone at 800-574-5583 or email at ELPA21Support@questarai.com.
- 3 Click the **Windows QAI Secure Browser** link on the ELPA21 Admin home page to install the QAI Secure Browser.
- 4 Wait for the file to download, then open/run it to launch the Installation Wizard.



- 5 Click Next and this popup appears.
- 6 Click Next or, if the location of the file needs to be changed, click Change. This popup box appears when clicking “Next.”
- 7 Click Install. This popup box appears.



- 8 Click Finish, when the files complete loading.
- 9 Ensure the QAI Secure Browser shortcut is on the desktop.

Once installation is complete, follow the instructions in the “Verifying Setup” section on page 16.

Silent Install Instructions

Below is how to create a silent script for installing the secure browser on one device. To do a silent install for multiple devices, use a program used for other mass installations.

- Silent install for one device
`QAI_Secure_Browser.exe /s /v" /qn"`
- Silent install to a specified directory
 Note: The included directory is the default install location for Windows 64-bit):
`QAI_Secure_Browser.exe /s /v"INSTALLDIR="C:\Program Files (x86)\Questar Assessment, Inc.\Questar Secure Browser\" /qn"`

Desktops/Laptops – Mac

DTC Checklist [Edit](#)

IMPORTANT DATES

- DTC/STC Online Admin Training #1: February 5, 2014 at 9:00-10:00am ET
- DTC/STC Online Admin Training #2: February 6, 2014 at 3:00-4:00pm ET
- Load Pre-ID File beginning February 7, 2014
- Testing Window: February 18, 2014- March 14, 2014

IMPORTANT REMINDERS

- Attendance to one of the two Online Admin Trainings is mandatory.
- Review the Online Test Coordinator's Manual posted to the Help Tab.
- Pre-ID files must be submitted one week prior to testing.

STC Checklist [Edit](#)

IMPORTANT DATES

- DTC/STC Online Admin Training #1: February 5, 2014 at 9:00-10:00am ET
- DTC/STC Online Admin Training #2: February 6, 2014 at 3:00-4:00pm ET
- Load Pre-ID File beginning February 7, 2014
- Testing Window: February 18, 2014- March 14, 2014

Welcome to the Questar Field Test Administration System [Edit](#)
[Edit Login Page](#)

Thank you for participating in the Questar Field Test administration. From this site you can upload your Pre-ID file and print student logins and passwords.

For information on how to prepare and load your school's Pre-ID file, please refer to the Pre-ID File Format Template and Quick Reference Guide located on the Help tab.

If you were not able to attend one of the two trainings, please view the recorded training available on the Help tab before proceeding.

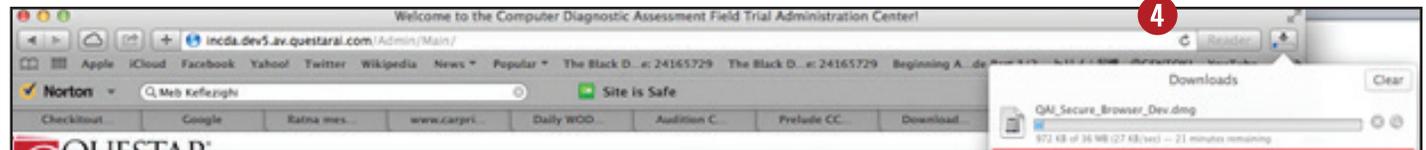
If you have any questions please contact Questar Customer Service at 1-866-997-0695 or by email at Fieldtest@questarai.com.

Before administering the operational test to students, please take the Student Practice Test (also referred to as Tutorial or Practice Session) to learn more about the student testing system. The username is (ccrf) and the password is (tutorial). Please see the Directions for Administration Manuals for more detailed information regarding the Practice Test.

The links below launch the installation of the secured browser. One link is for Windows based workstations and the other is for AppleMac based workstations. Refer to the Questar Workstation Readiness Guide for more information about workstation preparation.

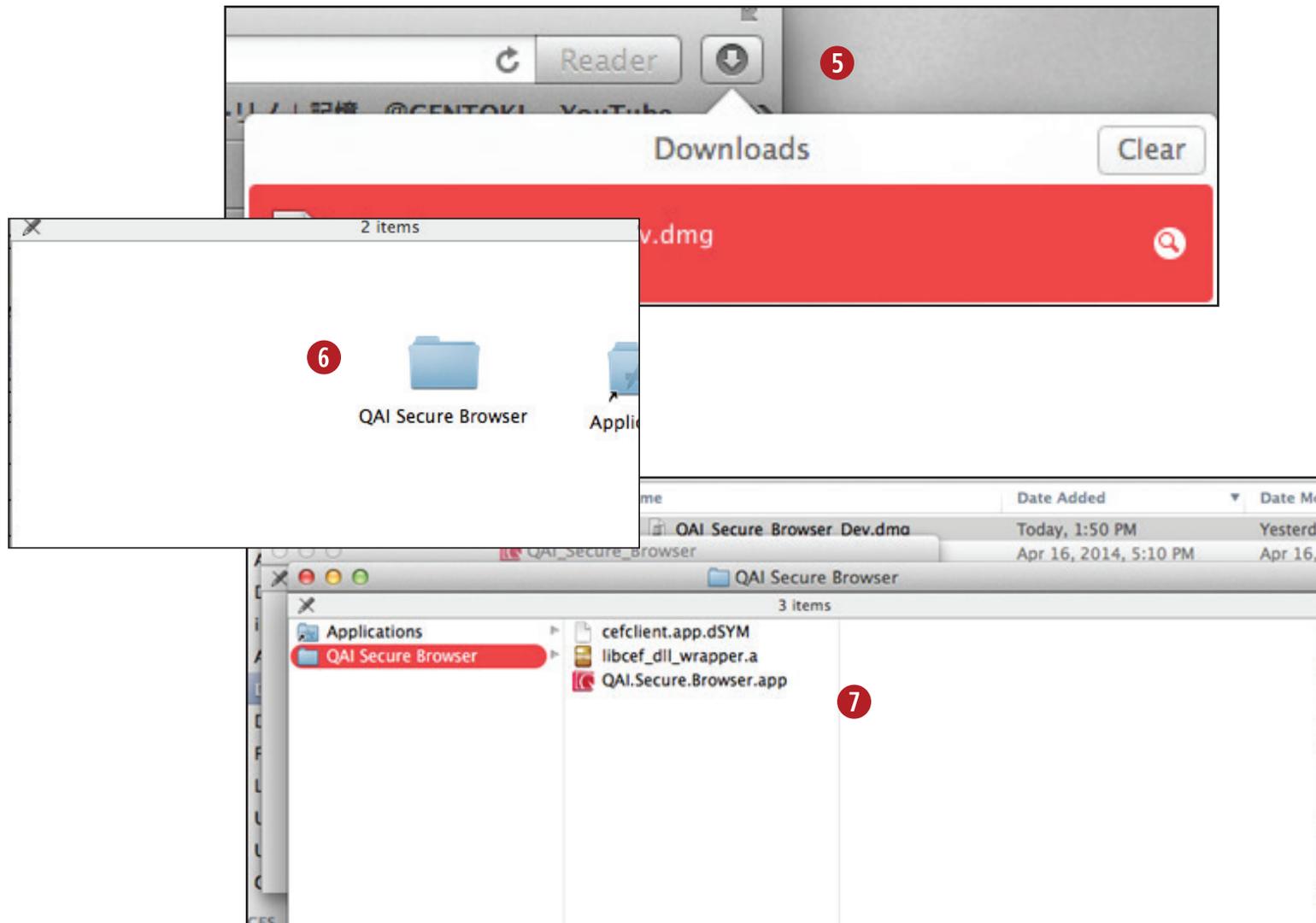
- [Questar Workstation Readiness Guide](#)

Operating System	
Windows	QAI Secure Browser
Mac	QAI Secure Browser
Linux	QAI Secure Browser
Android	QAI Secure Browser

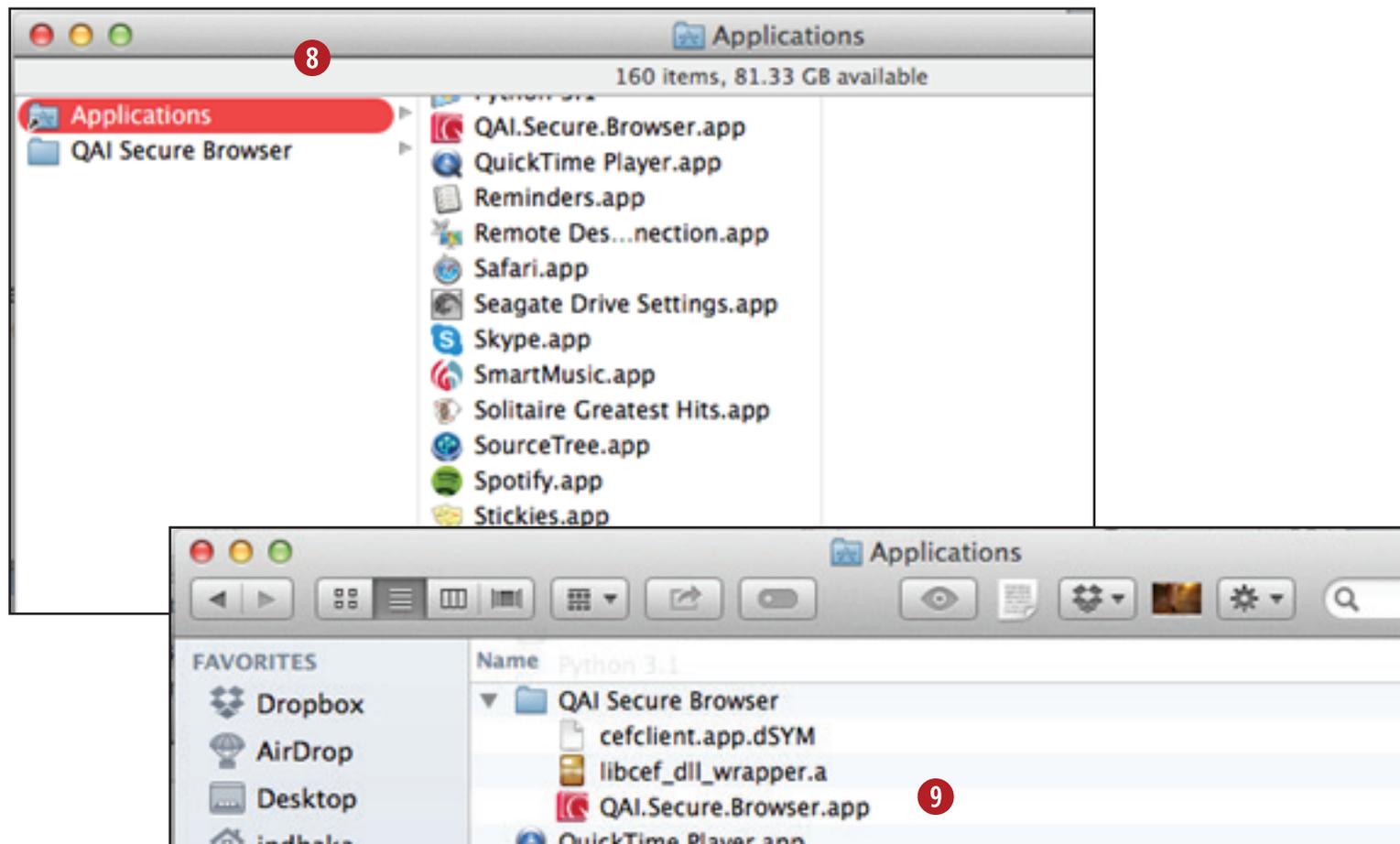


Preparing for Testing

- 1 Start a browser. Navigate to the following URL: elpa21ft.questarai.com/Admin.
- 2 Log in to ELPA21 Admin with the Username and Password that have been provided. If you did not receive a Username and Password, contact customer support by phone at 800-574-5583 or email at ELPA21Support@questarai.com.
- 3 Click the **Mac OS QAI Secure Browser** link on the ELPA21 Admin home page to install the QAI Secure Browser.
- 4 The download starts, and the progress bar appears in the upper right corner of the browser.



- 5 Click the down arrow in the upper right corner of the browser after the download is complete.
- 6 Click the **QAI_Secure_Browser_Dev.dmg** link to open this window.
- 7 Open the QAI Secure Browser folder.



- 8 Click and drag the QAI.Secure.Browser.app to the Applications folder.
- 9 Click and drag the QAI.Secure.Browser.app to the desktop and/or drag the icon to the desktop tray.

Once installation is complete, follow the instructions in the “Verifying Setup” section on page 16.

Linux

DTC Checklist [Edit](#)

IMPORTANT DATES

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IMPORTANT REMINDERS

- Attendance to one of the two Online Admin Trainings is mandatory.
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STC Checklist [Edit](#)

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Before administering the operational test to students, please take the Student Practice Test (also referred to as Tutorial or Practice Session) to learn more about the student testing system. The username is (ccrt) and the password is (tutorial). Please see the Directions for Administration Manuals for more detailed information regarding the Practice Test.

The links below launch the installation of the secured browser. One link is for Windows based workstations and the other is for Apple/Mac based workstations. Refer to the Questar Workstation Readiness Guide for more information about workstation preparation.

- [Questar Workstation Readiness Guide](#)

Operating System	QAI Secure Browser
Windows	QAI Secure Browser
Mac	QAI Secure Browser
Linux	QAI Secure Browser
Android	QAI Secure Browser

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Preparing for Testing

- 1 Start a browser. Navigate to the following URL: elpa21ft.questarai.com/Admin.
- 2 Log in to ELPA21 Admin with the Username and Password that have been provided. If you did not receive a Username and Password, contact customer support by phone at 800-574-5583 or email at ELPA21Support@questarai.com.
- 3 Click the **QAI Secure Browser** link on the ELPA21 Admin home page next to Linux icon and save the file to your desktop.

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- 4 Right-click the downloaded file (**QAI.Secure.Browser.tar.bz2**) and select “Extract Here” to expand the file. This creates the QAI.Secure.Browser folder on the desktop. Note: To expand the compressed image using command line, use “tar jxvf QAI.Secure.Browser.tar.bz2.”
- 5 Open the QAI.Secure.Browser folder.
- 6 Double-click the file “QAI.Secure.Browser.sh” and select “Run” from the prompt. * (Note: This will create the “QAI.Secure.Browser” icon on the desktop.)

Once installation is complete, follow the instructions in the “Verifying Setup” section on page 16.

Android Tablets

<p>DTC Checklist Edit</p> <p>IMPORTANT DATES</p> <ul style="list-style-type: none"> DTC/STC Online Admin Training #1: February 5, 2014 at 9:00-10:00am ET DTC/STC Online Admin Training #2: February 6, 2014 at 3:00-4:00pm ET Load Pre-ID File beginning February 7, 2014 Testing Window: February 18, 2014-March 14, 2014 <p>IMPORTANT REMINDERS</p> <ul style="list-style-type: none"> Attendance to one of the two Online Admin Trainings is mandatory. Review the Online Test Coordinator's Manual posted to the Help Tab. Pre-ID files must be submitted one week prior to testing. 	<p>Welcome to the Questar Field Test Administration System Edit</p> <p style="text-align: right;">Edit Login Page</p> <p>Thank you for participating in the Questar Field Test administration. From this site you can upload your Pre-ID file and print student logins and passwords.</p> <p>For information on how to prepare and load your school's Pre-ID file, please refer to the Pre-ID File Format Template and Quick Reference Guide located on the Help tab.</p> <p>If you were not able to attend one of the two trainings, please view the recorded training available on the Help tab before proceeding.</p> <p>If you have any questions please contact Questar Customer Service at 1-866-997-0695 or by email at Fieldtest@questarai.com.</p> <p>Before administering the operational test to students, please take the Student Practice Test (also referred to as Tutorial or Practice Session) to learn more about the student testing system. The username is (ccrt) and the password is (tutorial). Please see the Directions for Administration Manuals for more detailed information regarding the Practice Test.</p> <p>The links below launch the installation of the secured browser. One link is for Windows based workstations and the other is for Apple/Mac based workstations. Refer to the Questar Workstation Readiness Guide for more information about workstation preparation.</p> <ul style="list-style-type: none"> Questar Workstation Readiness Guide <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Operating System</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Windows</td> <td style="text-align: center;">QAI Secure Browser</td> </tr> <tr> <td style="text-align: center;">Mac</td> <td style="text-align: center;">QAI Secure Browser</td> </tr> <tr> <td style="text-align: center;">Linux</td> <td style="text-align: center;">QAI Secure Browser</td> </tr> <tr> <td style="text-align: center;">Android</td> <td style="text-align: center;">QAI Secure Browser</td> </tr> </tbody> </table>	Operating System		Windows	QAI Secure Browser	Mac	QAI Secure Browser	Linux	QAI Secure Browser	Android	QAI Secure Browser
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Preparing for Testing

- 1 Start a browser. Navigate to the following URL: elpa21ft.questarai.com/Admin.
- 2 Log in to ELPA21 Admin with the Username and Password that have been provided. If you did not receive a Username and Password, contact customer support by phone at 800-574-5583 or email at ELPA21Support@questarai.com.
- 3 On your Android tablet, click the **QAI Secure Browser** link in admin next to Android icon.
- 4 Tap or select the [Install] button.
- 5 The mobile secure browser will download and install onto your Android tablet. Look for the QAI.Secure.Browser icon.

Note: A physical keyboard must be available for students to use while taking the field test.

Once installation is complete, follow the instructions in the “Verifying Setup” section on page 16.

iPads

Preparing for Testing

- 1 Please ensure the following steps have been completed:
 - Disable Auto-Correction by going to “General > Keyboard > Auto-Correction > **Off** on the device.
 - Disable Speech to Text (SIRI) by going to “General > Siri > **Off** on the device. When prompted, select “Turn Off”. This will not affect any accessibility or accommodation.
- 2 Setting up iPads using Apple Configurator or a Mobile Device Manager (MDM)

All iPads should be setup in **Supervision** mode.

 - Download and install the free Questar Application for Students iPad app from the iTunes store (pictured to the right).
 - Deploy **Guided Access/Single App** mode with the following settings:
 - Hardware Buttons > Always **OFF**
 - Touch > **ON**
 - Motion > **OFF** (All iPads must be locked in Landscape mode)
- 3 If Apple Configurator and/or an MDM is not available:
 - Download and install the free Questar Application for Students iPad app from the iTunes store.
 - Enable Guided Access/Single App mode by going to Settings > General > Accessibility > Guided Access.
 - Triple-click the Home button to bring up the Guided Access/Single App feature.
 - With the iPad displaying in Landscape mode, set the following parameters:
 - Hardware Buttons > Always **OFF**
 - Touch > **ON**
 - Motion > **OFF** (this will lock further operation in landscape mode)
 - Select **Start** to enter Guided Access/Single App mode.

iPad Apps



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Note: iPads should be 100% charged or plugged into a wall socket during the test. A physical keyboard must be available for students to use while taking the field test. It is necessary to activate Guided Access within the app. If a student attempts to log in to the test and guided access is not activated, the system will not allow the test to start.

Once installation is complete, follow the instructions in the “Verifying Setup” section on page 16.

Chromebooks

Chromebooks

Preparing for Testing

1 Set up Chromebooks

Chromebooks used for administering the assessments require additional setup before a student can take the test. Setup needs to be completed in advance of the school's scheduled test window.

Managed Chromebooks will have sign-in restrictions enabled. If students are using managed Chromebooks, your Chromebook administrator will need to authorize the secure domain.

- As the Chromebook administrator, log into your Chrome OS management console.
- Select the **Settings** tab.
- Select the **Device Settings** tab and scroll down to the Sign-in Restriction section.
- In the text box, enter the following text: *@questarai.net,*@questarai.com.
- Select **Enter**.
- The secure domain has been authorized.

2 Please ensure the following steps have been completed:

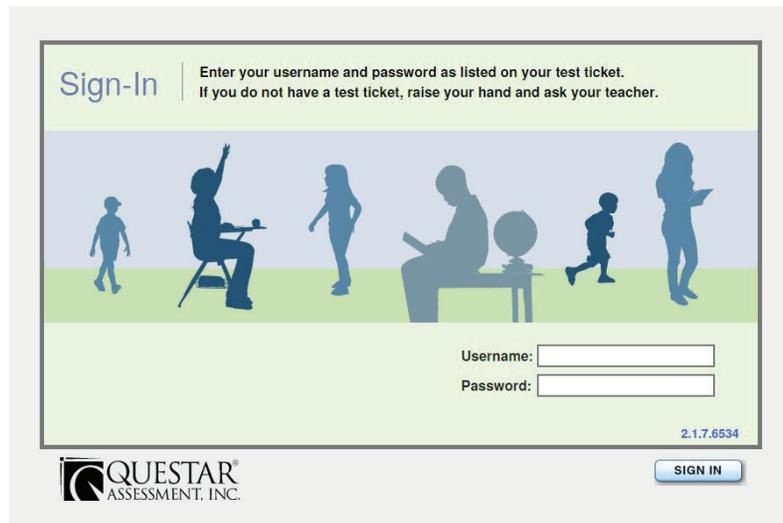
- IT Coordinators (ITCs) need to add a unique Chromebook secure account to each Chromebook that will be used for testing. The account only needs to be requested once per Chromebook and can be used for the duration of the field test. The secure device accounts must be requested from Questar at least two weeks prior to testing. If additional accounts are needed, please contact Questar Assessment Customer Support.
- Once logged in to the secure device account, open Google Chrome. The log in page for the secure browser should now display. Note: If it does not, click the "Home" button to refresh.
- Chromebooks should be 100% charged or plugged into a wall socket during the test.
- The ITC must log the Chromebook into the Questar-provided Chromebook secure device account.
- Start the Chrome browser. In doing so, the Questar Assessment System login screen will be automatically displayed.

Once installation is complete, follow the instructions in the "Verifying Setup" section on page 16.

Verifying Setup

Verifying Setup (for all platforms)

- Open the QAI Secure Browser, and the ELPA21 Web Testing Client displays.



- Take the Workstation Readiness (WSR) test by logging in with the information below.
Username: ELPA21
Password: demo
If it takes more than 30 seconds for the demo to load, close the browser and try again.
If the problem persists, contact Customer Support by phone at 800-574-5583, or by email at ELPA21Support@questarai.com.
- Read and follow the instructions on the screen for one question per type of sample item in the Workstation Readiness Test. Confirm all buttons and tools function correctly. For example, the highlighter tool should highlight text and the zoom button should enlarge the screen.
To test the functionality of the voice recorder, click the Microphone button and start speaking. When you are finished, click the red Stop button. To listen to your recording click the Sound button.
- Setup is now complete. The student uses the QAI Secure Browser to access the login page and take the test.

Proctor Caching Server — For Windows Only

Pre-Installation Planning

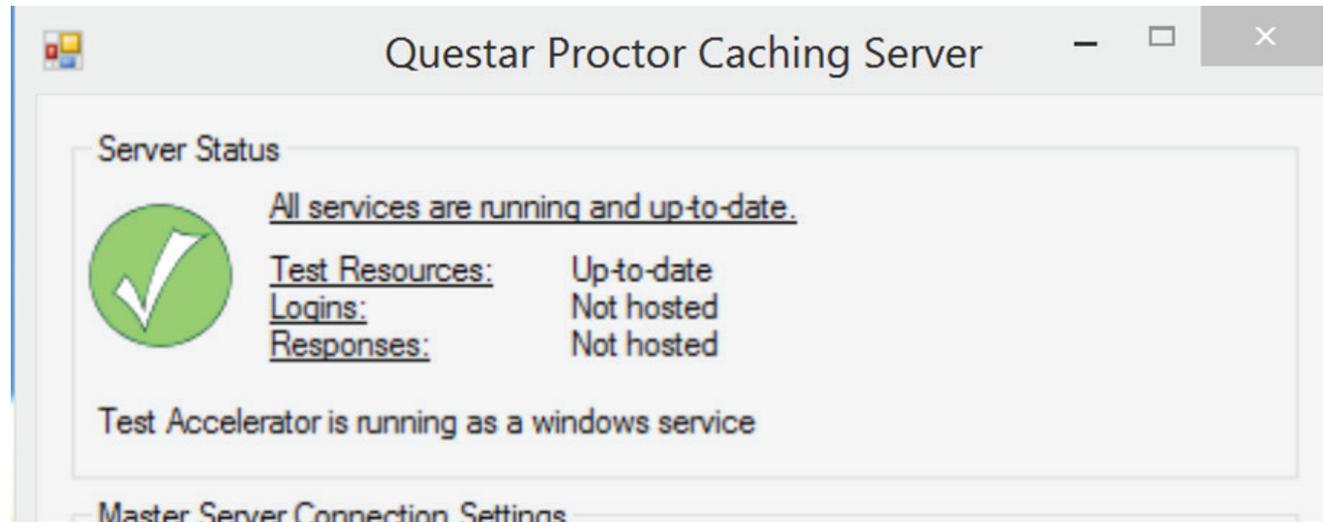
- Ensure the Proctor Caching Server is installed on the same local area network (LAN) as the students' testing computers.
- Ensure the Proctor Caching Server is installed on a computer that will not be used for testing.
- Local administrator access is required to install the Proctor Caching Server.
- A working understanding of networking may be needed to configure the Proctor Caching Server. The computer with the Proctor Caching Server needs to have a fixed IP address and must be on during testing time.
- The computer with the Proctor Caching Server must have the specified port (default is 9000) set as open on the computer's firewall.

Installation Steps

- Download the Questar Proctor Caching Server installation package from the ELPA21 Admin home page (elpa21ft.questarai.com/Admin/Main) and save the MSI installer on the desktop.
- From the desktop, right click on the installation package, Questar.Proctor.Server.msi and select "Run as Administrator."
- Follow the installation wizard to finish the installation process.
- Launch Questar.Proctor.Caching.Server.exe from the Start Menu under "Questar Assessment, Inc." or launch Questar.Proctor.Caching.Server.exe from the desktop (shortcut shown below).



- Type in the provided username and password to log into the Proctor Caching Server.
- Press “Synchronize Content” to initialize the Caching process.
- The Proctor Caching Server will display a green status indicating it has been synced with Questar’s server (displayed below).



- If a green status cannot be display, for further troubleshooting, please contact Questar Assessment Customer Support by phone at 800-574-5583, or by email at ELPA21Support@questarai.com.

Workstation Lockout Applications

- If you have any scripts or applications, such as DeepFreeze™ or CleanSlate™, that clear out student profiles, the local profile needs to be set to “not purged” when the workstation is rebooted or logged out. This will help to reduce/eliminate possible issues if there are connection issues while testing, or if the student pauses a test and returns to finish at a later point.

Troubleshooting Tips

IMPORTANT: Please have the following information available prior to reporting an issue:

- Which test account(s) is having the issue?
- What OS is running on the computer?
- What time did the issue occur (if possible)?
- How many incidences occurred?
- Did the school run the Workstation Readiness (WSR) test prior to the start of testing?

Issues during installation of the secure browser

- Ensure the account logged on to the computer has proper administrator access to install the program.
- Ensure antivirus software is temporarily turned off if exhibiting issues during installation.
- If the problem persists, write down the error messages and/or take a screenshot of the error.
- Contact customer support to have Questar technical support remote-diagnose the issue.

Issues during Workstation Readiness (WSR)

- Minimum DSL connectivity requirement is 1,500 Kbits/sec.
 - Based on a 1,500 Kbits/sec bandwidth, the number of students (x) that can simultaneously start testing within a timeframe (y) of 60 seconds can be calculated.
 - Bandwidth available in 60(y) seconds = 1,500 Kbits/sec x 60 seconds = 90,000 Kbits.
 - Average test resource size = 1,216 Kbits/min (may vary by test).
 - Number of students (x) = $90,000 / 1,216 = 74$.
 - Wireless network capacity and coverage should also be taken into consideration.

Workplace Readiness

System Requirements

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- Ensure both the firewall and content filter (if applicable for the district) have *.questarai.com and *questarai.net entered as a whitelist, as well as the IP address published in the WSR, if possible.
- If possible, try running the WSR test outside of the firewall to verify there is no access issue with Questar and the problem is local due to LAN settings.
- If the problem persists, write down the error messages and/or take a screenshot of the error, record the OS type, and contact customer support to have Questar technical support remote-diagnose the issue:
 - Email: ELPA21Support@questarai.com
 - Phone: 800-574-5583 from 6:00 AM – 8:00 PM CT during the test window, and from 6:00 AM – 5:00 PM outside of the test window.

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Appendix A: Minimum System Requirements

Operating System	OS Version	Processor	System Memory/ Hard Disk Space	Screen Size Resolution	LAN Network	Internet Speed
Windows	XP/Vista/7/8/ 2003/2008 (latest service pack) (NOTE: Windows 8 RT is not supported)	Intel Pentium 4 1.0 GHz equivalent or higher CPU Recommended Intel Core 2 Duo 1.6 Ghz equivalent or higher performing CPU or higher performing CPU	Minimum 256MB Free Ram Recommended 512 MB Free Ram / Minimum 1 GB Free Storage Space	Minimum 10" class screen size (10" class is 9.5 to 10.5 inches) Minimum 1024 X 768 screen resolution Recommended 12" or larger screen size	Minimum 100 Mbps LAN/802.11g Wireless 54 Mbps or greater Minimum available LAN bandwidth at each workstation: 1 Mbps Recommended 1 Gbps LAN/802.11n Wireless 150 Mbps or higher Recommended available LAN bandwidth at each workstation 2 Mbps	Minimum per device: 150 kps (Minimum with proctor caching 30 kps) Recommended: 300 kps A secure browser will be used. If more than 100 students testing simultaneously, proctor caching will be required.
Mac	10.6/10.7/ 10.8/10.9	Intel Core 2 Duo 1.6 GHz equivalent or higher performing CPU / Minimum 1 GB Free Storage Space	Minimum 256MB Free Ram Recommended 512 MB Free Ram / Minimum 1 GB Free Storage Space	Minimum 10" class screen size (10" class is 9.5 to 10.5 inches) Minimum 1024 X 768 screen resolution Recommended 12" or larger screen size	Minimum 100 Mbps LAN/802.11g Wireless 54 Mbps or greater Minimum available LAN bandwidth at each workstation: 1 Mbps Recommended 1 Gbps LAN/802.11n Wireless 150 Mbps or higher Recommended available LAN bandwidth at each workstation 2 Mbps	Minimum per device: 150 kps (Minimum with proctor caching 30 kps) Recommended: 300 kps A secure browser will be used. If more than 100 students testing simultaneously, proctor caching will be required.
Linux	Ubuntu 11.10/ Fedora 14 (NOTE: Debian 9 / OpenSUSE 11.1 are under review)	Intel Pentium 4 1.0 GHz equivalent or higher performing CPU Recommended Intel Core 2 Duo 1.6 Ghz equivalent or higher performing CPU	Minimum 256MB Free Ram Recommended 512 MB Free Ram / Minimum 1 GB Free Storage Space	Minimum 10" class screen size (10" class is 9.5 to 10.5 inches) Minimum 1024 X 768 screen resolution Recommended 12" or larger screen size	Minimum 100 Mbps LAN/802.11g Wireless 54 Mbps or greater Minimum available LAN bandwidth at each workstation: 1 Mbps Recommended 1 Gbps LAN/802.11n Wireless 150 Mbps or higher Recommended available LAN bandwidth at each workstation 2 Mbps	Minimum per device: 150 kps (Minimum with proctor caching 30 kps) Recommended: 300 kps A secure browser will be used. If more than 100 students testing simultaneously, proctor caching will be required.

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Operating System	OS Version	Processor	System Memory/ Hard Disk Space	Screen Size Resolution	LAN Network	Internet Speed
Android Tablets	4.2, 4.3, 4.4 for the following supported devices: <ul style="list-style-type: none"> • Google Nexus 10 • Samsung Galaxy Tab 2 (10.1) • Samsung Galaxy Note (10.1) • Motorola Xoom • Motorola Xyboard <p>An external keyboard is required for the field test.</p>	1.0 Ghz dual core equivalent or higher	Minimum 256MB Free Ram Recommended 512 MB Free Ram / Minimum 256MB Free Storage Space	Minimum 10" class screen size (10" class is 9.5 to 10.5 inches) Minimum 1024 X 768 screen resolution	Minimum Wireless 54 Mbps or greater Minimum available LAN bandwidth at each workstation: 1 Mbps Recommended 802.11n Wireless 150 Mbps or higher Recommended available LAN bandwidth at each workstation 2 Mbps	Minimum per device: 150 kps (Minimum with proctor caching 30 kps) Recommended: 300 kps A secure app will be used. If more than 100 students testing simultaneously, proctor caching will be required.
IOS iPad Tablets	iOS 6, 7, 8 An external keyboard is required for the field test.	1.0 Ghz dual core equivalent or higher	Minimum 256MB Free Ram Recommended 512 MB Free Ram / Minimum 256MB Free Storage Space	Minimum 10" class screen size (10" class is 9.5 to 10.5 inches) Minimum 1024 X 768 screen resolution	Minimum Wireless 54 Mbps or greater Minimum available LAN bandwidth at each workstation: 1 Mbps Recommended 802.11n Wireless 150 Mbps or higher Recommended available LAN bandwidth at each workstation 2 Mbps	Minimum per device: 150 kps (Minimum with proctor caching 30 kps) Recommended: 300 kps A secure app will be used. If more than 100 students testing simultaneously, proctor caching will be required.
Chrome OS Chromebooks	Versions 29 through 37 (NOTE: Chrome OS manages and controls the upgrade process. We will review and confirm upgrades as they are released.)	1.6 Ghz equivalent or higher	Minimum 256MB Free Ram Recommended 512 MB Free Ram / Minimum 256MB Free Storage Space	Minimum 10" class screen size (10" class is 9.5 to 10.5 inches) Minimum 1024 X 768 screen resolution	Minimum Wireless 54 Mbps or greater Minimum available LAN bandwidth at each workstation: 1 Mbps Recommended 802.11n Wireless 150 Mbps or higher Recommended available LAN bandwidth at each workstation 2 Mbps	Minimum per device: 150 kps (Minimum with proctor caching 30 kps) Recommended: 300 kps A secure app will be used. If more than 100 students testing simultaneously, proctor caching will be required.

Please Note: All devices need to have a compatible headset with a built-in microphone, with either standard headset plug(s) or a USB connection. These specifications are for the ELPA21 Field Test only.

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Appendix B: Headset Specifications

Recommended Features	Reason for Recommendation	Alternatives not Recommended
Device: Headset with attached microphone	Allows for recording and playback using the same device.	Separate headphones and microphone increase the need to ensure proper connection and setup on the computer and complicate the testing site set-up.
Headset Design: Over Ear Headphones	Comfortable to be worn for a longer period of time by students of different ages. Weight and size of headphones can be selected based on students' age. Portable headphones are smaller and lighter and hence may be suitable for younger students.	In ear headphones (ear buds) – for the general population – that are placed directly in the ear canal are more difficult to clean between uses. They may not be suitable for younger students. Ear bud microphones are attached to the cord, making capturing the students' voice more problematic.
Play Back Mode: Stereo	The sound files of the assessment are recorded and played back in stereo.	Mono headsets
Noise Cancellation Feature: None Needed	Noise cancellation often does not cancel out the sound of human voices.	Many headsets with a noise cancellation feature require a power source, this adds cost and complicates the testing set-up.
Type of Connector Plug: one 3.5 mm Plug, two 3.5 mm Plugs or USB connector	Headsets must be compatible with the computer used for testing. Headsets with two 3.5 mm plugs can be converted with a "Y" adaptor to a single plug and be used with tablets USB-connected headsets require driver installation and may need to be enabled as playback/recording device.	NOTE: USB-connected headsets for iPads and Android tablets are not available/supported. Bluetooth is not recommended.
Special Considerations	Alternative size headsets may need to be considered for smaller children, although not required. Ear buds with a microphone may be considered for students who wear head scarves or wraps, etc.	

*Questar recommends avoiding microphones with windscreens (e.g. foam covers), unless they are removable, to assist with cleaning between uses.

**Please note: These specifications are for the ELPA21 Field Test only.

