
Configurations and Troubleshooting for Linux

For Digital Tests in the SAT® Suite of Assessments

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Configurations and Troubleshooting for Linux

This document contains configurations and troubleshooting for your network and Linux workstations.

How to Configure Linux Workstations for Digital Testing

This section contains additional configurations for Linux.

Which Libraries & Packages Are Required

The following libraries and packages are required to be installed on all Linux workstations:

- GTK+ 3.14 or higher
- X.Org 1.0 or higher (1.7+ recommended)
- libstdc++ 4.8.1 or higher
- glibc 2.17 or higher

The following libraries and packages are recommended to be installed on all Linux workstations:

- NetworkManager 0.7 or higher
- Dbus 1.0 or higher
- GNOME 2.16 or higher
- PulseAudio

How to Add Verdana Font

Some tests have content that requires the Verdana TrueType font. Therefore, ensure that Verdana is installed on Linux machines used for testing. The easiest way to do this is to install the Microsoft core fonts package for your distribution.

- Fedora—Follow the steps in the “How to Install” section of the following website: <http://corefonts.sourceforge.net/>.
- Ubuntu—In a terminal window, enter the following command to install the msttcorefonts package:

```
sudo apt-get install msttcorefonts
```

How to Disable the On-Screen Keyboard

Fedora and Ubuntu feature an on-screen keyboard that should be disabled before Digital Testing. This section describes how to disable the on-screen keyboard.

1. Open **System Settings**.
2. Select **Universal Access**.

3. In the *Typing* section, toggle **Screen Keyboard** to **Off**.

How to Uninstall the Secure Browser on Linux

To uninstall a Secure Browser, delete the folder from the installation directory

How to Troubleshoot Linux Workstations

This section contains troubleshooting tips for Linux.

How to Reset Secure Browser Profiles on Linux

If the Help Desk advises you to reset the Secure Browser profile, use the instructions in this section.

1. Log on as a superuser or as the user who installed the Secure Browser and close any open Secure Browsers.
2. Open a terminal, and delete the contents of the following directories:

```
/home/username/.cai
```

```
/home/username/.cache/cai
```

where `username` is the user account where the Secure Browser is installed. (Keep the directories, just delete their contents.)

3. Restart the Secure Browser.

How to Configure Networks for Digital Testing

This section contains additional configurations for your network.

Which Resources to add to the Allowlist for Digital Testing

This section presents information about the URLs that CAI provides. Ensure your network's firewalls are open for these URLs. If your testing network includes devices that perform traffic shaping, packet prioritization, or Quality of Service, ensure these URLs have high priority.

Which URLs for Non-Testing Sites to add to the Allowlist

[Table 1](#) lists URLs for non-testing sites, such as the Test Information Distribution Engine.

Table 1. CAI and AIR URLs for Non-Testing Sites

System	URL
Portal and Secure Browser installation files	https://digitaltesting.collegeboard.org/
Single Sign-On System	https://sso3.cambiumast.com/auth/realms/collegeboard/account
Test Information Distribution Engine	https://cb.tide.cambiumast.com/
For 2021-2022, users should add both the Cambium and AIR URLs listed in this table to the Allowlist.	https://sso3.airast.org/auth/realms/collegeboard/account https://cb.tide.airast.org

Note: When you are accessing these sites, please use the Cambium URLs. Only use the AIR URLs when adding them to the Allowlist. More information below.

Which URLs for TA and Student Testing Sites to add to the Allowlist

Testing servers and satellites may be added or modified during the school year to ensure an optimal testing experience. As a result, CAI strongly encourages you to add to the Allowlist at the root level. This requires using a wildcard. CAI strongly encourages using wildcards when adding these URLs to your allowlist, as servers may be added or removed from the field without notice.

Table 2. CAI and AIR URLs for Testing Sites

System	URL
TA and Student Testing Sites Assessment Viewing Application	*.cambiumast.com *.tds.cambiumast.com *.cloud1.tds.cambiumast.com *.cloud2.tds.cambiumast.com
For 2021-2022, users should add to the allowlist both Cambium and AIR URLs listed in this table.	*.cambiumtds.com *.airast.org

	<ul style="list-style-type: none"> *.tds.airast.org *.cloud1.tds.airast.org *.cloud2.tds.airast.org
--	--

Which URLs for Online Dictionary and Thesaurus to add to the Allowlist

Some digital assessments contain an embedded dictionary and thesaurus provided by Merriam-Webster. The Merriam-Webster URLs listed in [Table 3](#) should be added to the Allowlist to ensure that students can use them during testing.

Table 3. CAI URLs for Online Dictionaries and Thesauruses

Domain Name	IP Address
media.merriam-webster.com	64.124.231.250
www.dictionaryapi.com	64.124.231.250

Which Domains for Email Exchange Server and Single Sign-On System

CAI systems send emails for password resets and login codes for the single sign-on system from cambiumast.com and from cambiumassessment.com. Add both domains to your Allowlist to ensure you receive these emails.

Which Ports and Protocols Required for Digital Testing

[Table 4](#) lists the ports and protocols used by the Test Delivery System. Ensure that all content filters, firewalls, and proxy servers are open accordingly.

Table 4. Ports and Protocols for Test Delivery System

Port/Protocol	Purpose
80/TCP	HTTP (initial connection only)
443/TCP	HTTPS (secure connection)

How to Configure Filtering Systems

If the school’s filtering system has both internal and external filtering, the URLs for the testing sites (see [Table 1](#)) must be added to the Allowlist in both filters. Ensure your filtering system is not configured to perform packet inspection on traffic to CAI servers. Please see your vendor’s documentation for specific instructions. Also, be sure to add these URLs to the Allowlist in any multilayer filtering system (such as local and global layers). Ensure all items that handle traffic to *.tds.cambiumast.com and *.tds.airast.org have the entire certificate chain and are using the latest TLS 1.2 protocol.

How to Configure for Domain Name Resolution

[Table 1](#) and [Table 2](#) list the domain names for CAI’s testing and non-testing applications. Ensure the testing machines have access to a server that can resolve those names.

How to Configure Network Settings for Digital Testing

Local Area Network (LAN) settings on testing machines should be set to automatically detect network settings.

To set LAN settings to auto-detect on Linux machines:

1. Open **System Settings**.
2. Open **Network**.
3. Select **Network Proxy**.
4. From the **Method** dropdown, select **None**.
5. Close the **Network** window.

How to Configure the Secure Browser for Proxy Servers

By default, the Secure Browser attempts to detect the settings for your network's web proxy server. However, users of web proxies should execute a proxy command once from the command prompt. This command does not need to be added to the Secure Browser shortcut. [Table 5](#) lists the form of the command for different settings and operating systems. To execute these commands from the command line, change to the directory containing the Secure Browser's executable file.

Note: Domain names in commands The commands in [Table 5](#) use the domain proxy.com. When configuring for a proxy server, use your actual proxy server hostname.

Table 5. Specifying proxy settings using the command line

Description	System	Command
Use the browser without any proxy	Linux	<code>./XXSecureBrowser.sh -proxy 0 aHR0cHM6Ly9jYi50ZHMuY2FtYm11bWFzdC5jb20vc3R1ZGVudA==</code>
Set the proxy for HTTP requests only	Linux	<code>./XXSecureBrowser.sh -proxy 1:http:proxy.com:8080 aHR0cHM6Ly9jYi50ZHMuY2FtYm11bWFzdC5jb20vc3R1ZGVudA==</code>
Set the proxy for all protocols to mimic the "Use this proxy server for all protocols" of Firefox	Linux	<code>./XXSecureBrowser.sh -proxy 1:*:proxy.com:8080 aHR0cHM6Ly9jYi50ZHMuY2FtYm11bWFzdC5jb20vc3R1ZGVudA==</code>
Specify the URL of the PAC file	Linux	<code>./XXSecureBrowser.sh -proxy 2:proxy.com aHR0cHM6Ly9jYi50ZHMuY2FtYm11bWFzdC5jb20vc3R1ZGVudA==</code>

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Auto-detect proxy settings	Linux	<pre>./XXSecureBrowser.sh -proxy 4 aHR0cHM6Ly9jYi50ZHMuY2FtYm11bWFzdC5jb20vc3R1ZGVudA==</pre>
Use the system proxy setting (default)	Linux	<pre>./XXSecureBrowser.sh -proxy 5 aHR0cHM6Ly9jYi50ZHMuY2FtYm11bWFzdC5jb20vc3R1ZGVudA==</pre>

Customer Service and Support

If this document does not answer your questions, please contact the College Board.

College Board School Day Customer Service

Phone: 855-373-6387

Follow the prompts for digital testing and listen to the options for your area of concern. Support options include the following:

- General College Board assessments questions and policies
- Technical support with CAIs digital testing systems, such as TIDE or TA Interface

Email: schooldayassessments@collegeboard.org

If you are calling for technical support, you will be asked to provide as much detail as possible about the issues you encountered.

Include the following information:

- Test coordinator name and IT/network contact person and contact information
- Registration numbers of affected students. Do not provide any other student information as doing so may violate FERPA policies.
- Test Session ID for the affected student tests
- Operating system and browser version information
- Any error messages and codes that appeared, if applicable
- Information about your network configuration:
 - Secure browser installation (to individual machines or network)
 - Wired or wireless Internet network setup

About College Board

College Board is a mission-driven not-for-profit organization that connects students to college success and opportunity. Founded in 1900, College Board was created to expand access to higher education. Today, the membership association is made up of over 6,000 of the world's leading educational institutions and is dedicated to promoting excellence and equity in education. Each year, College Board helps more than seven million students prepare for a successful transition to college through programs and services in college readiness and college success — including the SAT[®] and the Advanced Placement[®] Program. The organization also serves the education community through research and advocacy on behalf of students, educators, and schools.

For further information, visit www.collegeboard.org.