



**Hawai'i**

Statewide Assessment Program



# Configurations and Troubleshooting for Linux

For Technology Coordinators

2021-2022

Published July 8, 2021

Updated April 18, 2022

*Prepared by Cambium Assessment, Inc.*



## Configurations and Troubleshooting for Linux

<b>Configurations and Troubleshooting for Linux .....</b>	<b>1</b>
Configurations and Troubleshooting for Linux .....	3
How to Configure Linux Workstations for Online Testing .....	3
Required Libraries & Packages to Install .....	3
How to Add Verdana Font .....	3
How to Disable the On-Screen Keyboard .....	3
How to Uninstall the Secure Browser on Linux .....	4
How to Uninstall the Secure Browser on Linux .....	4
How to Troubleshoot Linux Workstations.....	5
How to Reset Secure Browser Profiles on Linux.....	5
How to Configure Networks for Online Testing .....	6
Resources to Add to your Allowlist for Online Testing.....	6
URLs for Non-Testing Sites to Add to your Allowlist .....	6
URLs for TA and Student Testing Sites to Add to your Allowlist.....	6
URLs for Online Dictionary and Thesaurus to Add to your Allowlist .....	7
Domains for Email Exchange Server and Single Sign-On System.....	7
Ports and Protocols Required for Online Testing .....	7
How to Configure Filtering Systems.....	7
How to Configure for Domain Name Resolution .....	7
How to Configure Network Settings for Online Testing .....	7
How to Configure the Secure Browser for Proxy Servers .....	8
User Support.....	9
Change Log .....	10

## Configurations and Troubleshooting for Linux

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

### How to Configure Linux Workstations for Online Testing

This section contains additional configurations for Linux.

#### Required Libraries & Packages to Install

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 online 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**

This section contains instructions to uninstall the Secure Browser for Linux.

### **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 Online Testing

This section contains additional configurations for your network.

### Resources to Add to your Allowlist for Online 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.

### URLs for Non-Testing Sites to Add to your Allowlist

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

Table 1. CAI URLs for Non-Testing Sites

System	URL
Portal and Secure Browser installation files	https://alohahsap.org
Single Sign-On System	https://sso1.cambiumast.com/auth/realms/hawaii/account
Test Information Distribution Engine	https://www.hitide.org
Reporting System	https://hi.reporting.cambiumast.com/

### URLs for TA and Student Testing Sites to Add to your 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 these URLs to your 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 URLs for Testing Sites

System	URL
TA and Student Testing Sites Assessment Viewing Application	*.cambiumtds.com *.tds.cambiumtds.com *.cloud1.tds.cambiumtds.com *.cloud2.tds.cambiumtds.com *.cambiumast.com *.tds.cambiumast.com *.cloud1.tds.cambiumast.com *.cloud2.tds.cambiumast.com

### URLs for Online Dictionary and Thesaurus to Add to your Allowlist

Some online assessments contain an embedded dictionary and thesaurus provided by Merriam-Webster. The Merriam-Webster URLs listed in [Table 3](#) should be added to your 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

### 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.

### Ports and Protocols Required for Online 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 your 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 your allowlist in any multilayer filtering system (such as local and global layers). Ensure all items that handle traffic to \*.cambiumtds.com and \*.tds.cambiumast.com 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 Online 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**.

## Configurations and Troubleshooting for Linux

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>./HISecureBrowser.sh -proxy 0 https://hi.tds.cambiumast.com/student</code>
Set the proxy for HTTP requests only	Linux	<code>./HISecureBrowser.sh -proxy 1:http:proxy.com:8080 https://hi.tds.cambiumast.com/student</code>
Set the proxy for all protocols to mimic the "Use this proxy server for all protocols" of Firefox	Linux	<code>./HISecureBrowser.sh -proxy 1:*:proxy.com:8080 https://hi.tds.cambiumast.com/student</code>
Specify the URL of the PAC file	Linux	<code>./HISecureBrowser.sh -proxy 2:proxy.com https://hi.tds.cambiumast.com/student</code>
Auto-detect proxy settings	Linux	<code>./HISecureBrowser.sh -proxy 4 https://hi.tds.cambiumast.com/student</code>
Use the system proxy setting (default)	Linux	<code>./HISecureBrowser.sh -proxy 5 https://hi.tds.cambiumast.com/student</code>



# User Support

If this document does not answer your questions, please contact the Hawaii Statewide Assessment Program Help Desk.

The Help Desk will be open Monday–Friday from 7:30 a.m. to 4:00 p.m. Hawaiian Standard Time (except holidays).

## Hawaii Statewide Assessment Program Help Desk

Toll-Free Phone Support: 1-866-648-3712

Email Support:

[hsaphelpdesk@cambiumassessment.com](mailto:hsaphelpdesk@cambiumassessment.com)

If you contact the Help Desk, you will be asked to provide as much detail as possible about the issues you encountered. You may choose to use the *Help Desk Intake Form*, available on the <https://alohahsap.org/> portal website in the **Resources >> Technology** section.

Include the following information:

- Test Administrator name and IT/network contact person and contact information
- SSIDs of affected students
- Results 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

# Change Log

This Change Log can be used to identify specific changes that are made to any of the information included in the original document throughout the current school year.

<b>Change</b>	<b>Section</b>	<b>Date</b>
Updated lists of required and recommended libraries and packages.	Required Libraries & Packages to Install	11/8/21
Updated list of URLs. Removed note about continuing to list AIR URLs for SY 21-22. Schools may now safely remove the airast.org domains from their allowlists.	Table 2. CAI URLs for Testing Sites	4/4/22
Updated URLs in the final sentence in the paragraph (added *.cambiumtds.com and removed *tds.airast.org).	How to Configure Filtering Systems	4/18/22
Updated the proxy setting command lines for all rows.	Table 5. Specifying proxy settings using the command line	4/18/22