



Configurations, Troubleshooting, and Advanced Secure Browser Installation Guide for Chrome OS For Technology Coordinators

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Prepared by the American Institutes for Research®



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Introduction to Configurations, Troubleshooting, and Advanced Secure Browser Installation for Chrome OS

This guide contains configurations, troubleshooting, and advanced Secure Browser installation instructions for your network and Chrome OS workstations.

Organization of the Guide

This document is color-coded for ease of reference and includes the following sections:

- **Section I. Configuring Networks for Online Testing**
- **Section II. Installing the Secure Browser for Chrome OS**
- **Section III. Configuring Chrome OS Workstations for Online Testing**

Section I. Configuring Networks for Online Testing

This section contains additional configurations for your network.

Which Resources to Whitelist for Online Testing

This section presents information about the URLs that AIR 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 Whitelist

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

Table 1. AIR URLs for Non-Testing Sites

System	URL
Portal and Secure Browser installation files	https://wyoassessment.org/
Single Sign-On System	https://sso2.airast.org
Test Information Distribution Engine	https://wy.tide.airast.org
Online Reporting System	https://wy.reports.airast.org

Which URLs for TA and Student Testing Sites to Whitelist

Testing servers and satellites may be added or modified during the school year to ensure an optimal testing experience. As a result, AIR strongly encourages you to whitelist at the root level. This requires using a wildcard.

Table 2. AIR URLs for Testing Sites

System	URL
TA and Student Testing Sites	*.airast.org
Assessment Viewing Application	*.tds.airast.org
	*.cloud1.tds.airast.org
	*.cloud2.tds.airast.org

Which URLs for Online Dictionary and Thesaurus to Whitelist

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

Table 3. AIR 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 Ports and Protocols are 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 whitelisted in both filters. Ensure your filtering system is not configured to perform packet inspection on traffic to AIR servers. Please see your vendor’s documentation for specific instructions. Also, be sure to whitelist these URLs in any multilayer filtering system (such as local and global layers). Ensure all items that handle traffic to *.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 AIR’s testing and non-testing applications. Ensure the testing machines have access to a server that can resolve those names.

How to Configure for Certificate Revocations

AIR’s servers present certificates to the clients. The following sections discuss the methods used to check those certificates for revocation.

How to Use the Online Certificate Status Protocol

To use the Online Certificate Status Protocol (OCSP), ensure your firewalls allow the domain names listed in [Table 5](#). The values in the Patterned column are preferred because they are more robust.

Table 5. Domain Names for OCSP

Patterned	Fully Qualified
*.thawte.com	ocsp.thawte.com
*.geotrust.com	ocsp.geotrust.com
*.ws.symantec.com	ocsp.ws.symantec.com

If your firewall is configured to check only IP addresses, do the following:

1. Get the current list of OCSP IP addresses from Symantec. The list is available at:

https://www.symantec.com/content/en/us/enterprise/other_resources/OCSP_Upgrade_-_New_IP_Addresses.txt.

2. Add the retrieved IP addresses to your firewall's whitelist. Do not replace any existing IP addresses.

Section II. Installing the Secure Browser for Chrome OS

This document contains additional installation instructions for installing the Secure Browser for Chrome OS.



Note: Chromebooks manufactured in 2017 or later must have an Enterprise or Education license to run in kiosk mode, which is necessary to run the Secure Browser.

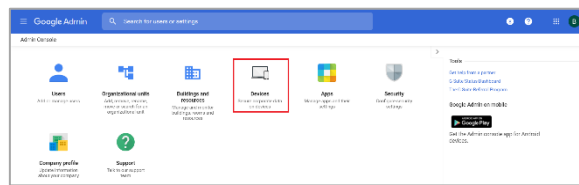
How to Install AIRSecureTest as a Kiosk App on Managed Chromebooks

These instructions are for installing the AIRSecureTest Secure Browser as a kiosk app on domain-managed Chromebook devices. The steps in this procedure assume that your Chromebooks are already managed through the admin console.

AIRSecureTest is not compatible with public sessions.

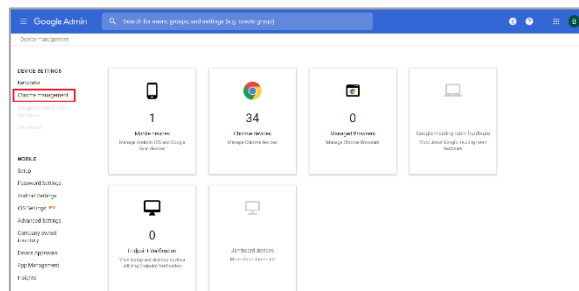
1. As the Chromebook administrator, log in to your admin console (<https://admin.google.com>)

Figure 1. Google Admin Console



2. Click **Devices**. The **Device management** page appears.

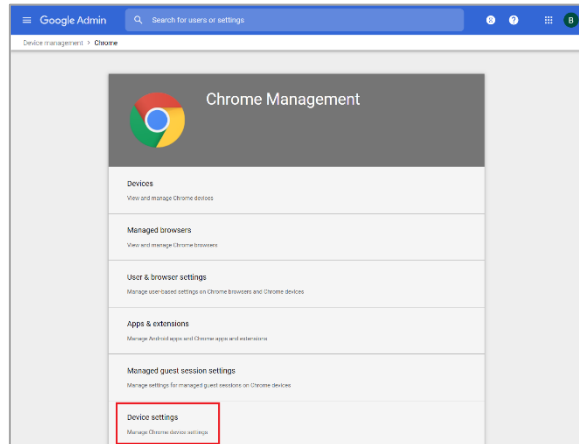
Figure 2. Device management Page



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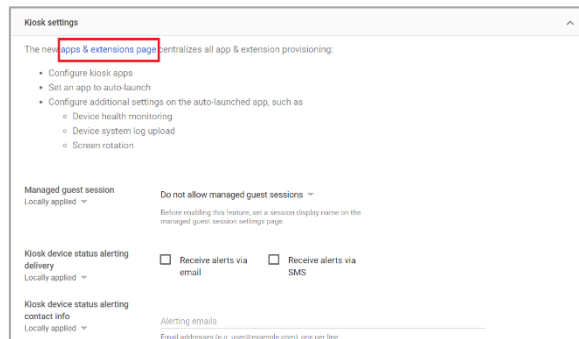
- Under **Device Settings**, click **Chrome management**. The **Chrome Management** page appears.

Figure 3. Chrome Management Page



- Click **Device Settings**. The **Device Settings** page appears.

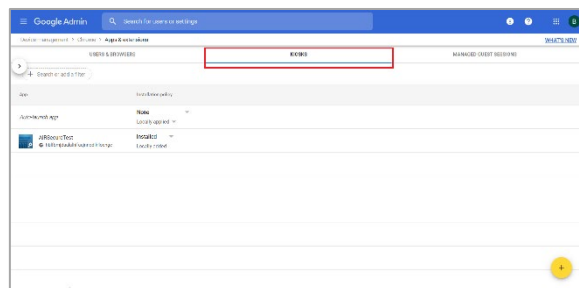
Figure 4. Kiosk Settings




- Scroll down to **Kiosk Settings**.

- Click **apps & extensions page**. The **Apps & extensions** page opens, displaying the **Kiosks** tab. If the **Kiosks** tab is not displayed, click **Kiosks** to display it.


Figure 5. Apps & extensions page – Kiosks tab




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- Remove any AIRSecureTest apps that appear by clicking the app name to display the app settings and then clicking .

- Click X to close app settings.

- Hover over  to display options to add a new app.

- Click  to add a Chrome app or extension by ID. The **Add Chrome app or extension by ID** window appears.

- Enter hblfbmjdaalalhifaajnnodlkiloengc in the *Extension ID* field.

- Ensure **From the Chrome Web Store** is selected from the drop-down list.

- Click **Save**. The AIRSecureTest app appears in the app list.

- Ensure **Installed** is selected from the *Installation Policy* drop-down list.

The AIRSecureTest app will be installed on all managed devices the next time each managed device is turned on.

Figure 6. App Settings

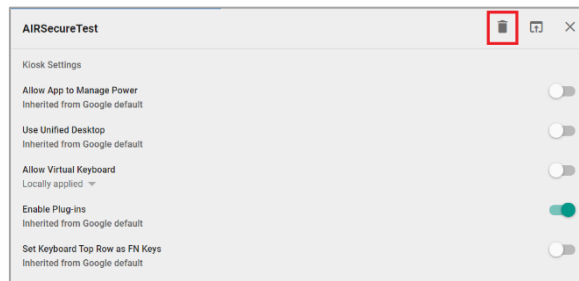
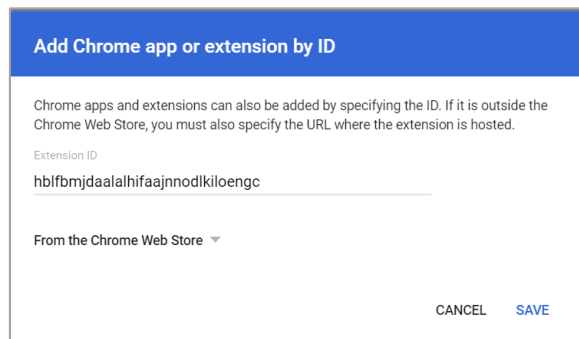


Figure 7. Add Chrome app or extension by ID



Section III. Configuring Chrome OS Workstations for Online Testing

This section contains additional configurations for Chrome OS.

How to Manage Chrome OS Auto-Updates

This section describes how to manage Chrome OS auto-updates. AIR recommends disabling Chrome OS auto-updates or limiting updates to a specific version used successfully before summative testing begins.

How to Disable Auto-Updates for Chrome OS

This section describes how to disable auto-updates for Chrome OS.

1. Display the Device Settings page by following the procedure in *Manage device settings*, <https://support.google.com/chrome/a/answer/1375678>. The steps in that procedure assume that your Chromebooks are managed through the admin console.
2. From the *Auto Update* list, select **Stop auto-updates**.
3. Click **Save**.

How to Limit Chrome OS Updates to a Specific Version

This section describes how to limit Chrome OS updates to a specific version.

1. Display the Device Settings page by following the procedure in *Manage device settings*, <https://support.google.com/chrome/a/answer/1375678>. The steps in that procedure assume that your Chromebooks are managed through the admin console.
2. From the *Auto Update* list, select **Allow auto-updates**.
3. From the *Restrict Google Chrome version to at most* list, select the required version.
4. Click **Save**.