



# Insight Student for Chromebooks - Auto Configuration

Technical Paper

**Last modified:** February 2017

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## Overview

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This document describes the method for automatically configuring Insight Student software for Chromebooks.

Before the Insight student for Chromebooks (Student) can connect to a Insight Teacher Console (Teacher) it must first be configured to connect to a Insight Connection Service (ICS). If deploying a large number of Chromebooks, this can be a daunting task.

It is now possible to configure a large number of Chromebooks at start up time automatically. There are two ways of accomplishing this. 1) Set an application based settings in the Google Admin Console (ie: <https://admin.google.com>). 2) Set hidden configuration parameters in a web page that opens at the start of each session on the Chromebook devices.

### Option #1 – Application specific settings in the Admin Console

To use this option, you will need to have a Google Apps account for Education, or a Google Apps account for Business. These accounts allow you to manage various applications and services for chrome devices and users. For more information on Google Apps accounts see:

<https://www.google.com/edu/products/productivity-tools/>



The “Chrome Application Management” feature in the Google admin console is current in the testing phase at Google. Most customers won't have access to this feature until Google publicly enables this feature for Apps account users.

If you already have an apps account set up with your users and devices configured, you can set up auto-configuration for Insight students by following the following steps.

1. Sign into your apps account at <https://admin.google.com>.
2. Setup up auto installation of the Insight Student and the Insight web helper:
  - From the Admin console Home, click on “Device Management”.
  - Click the “Chrome Management” link on the left side of your screen.
  - Choose “User Settings”, then select the target organization on the left side of your screen for which you want to configure the installing of applications.
  - Scroll down to “Force-installed Apps and Extensions”, and click the “Manage force installed apps” link.

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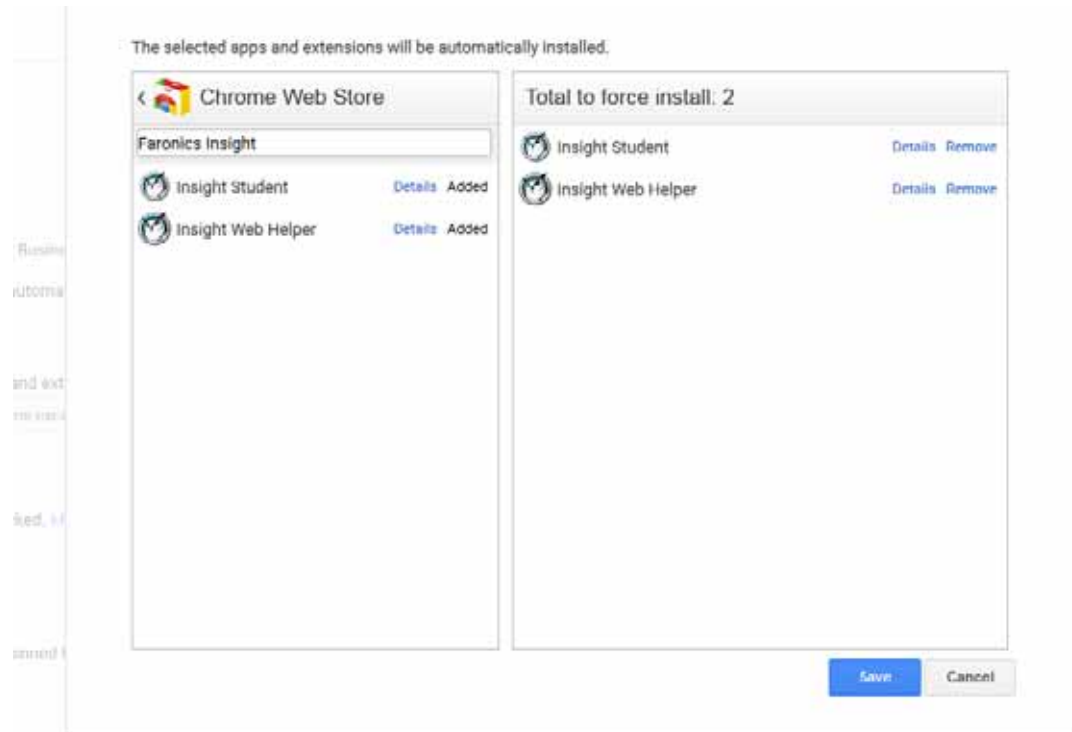
Force-installed Apps and  
Extensions  
Locally applied

Bulk install the Apps pack for Business for your organization. [Learn more](#)

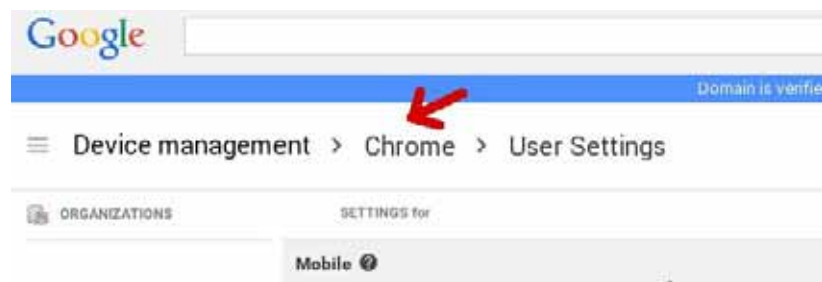
2 apps or extensions will be automatically installed. [Manage force-installed apps](#)



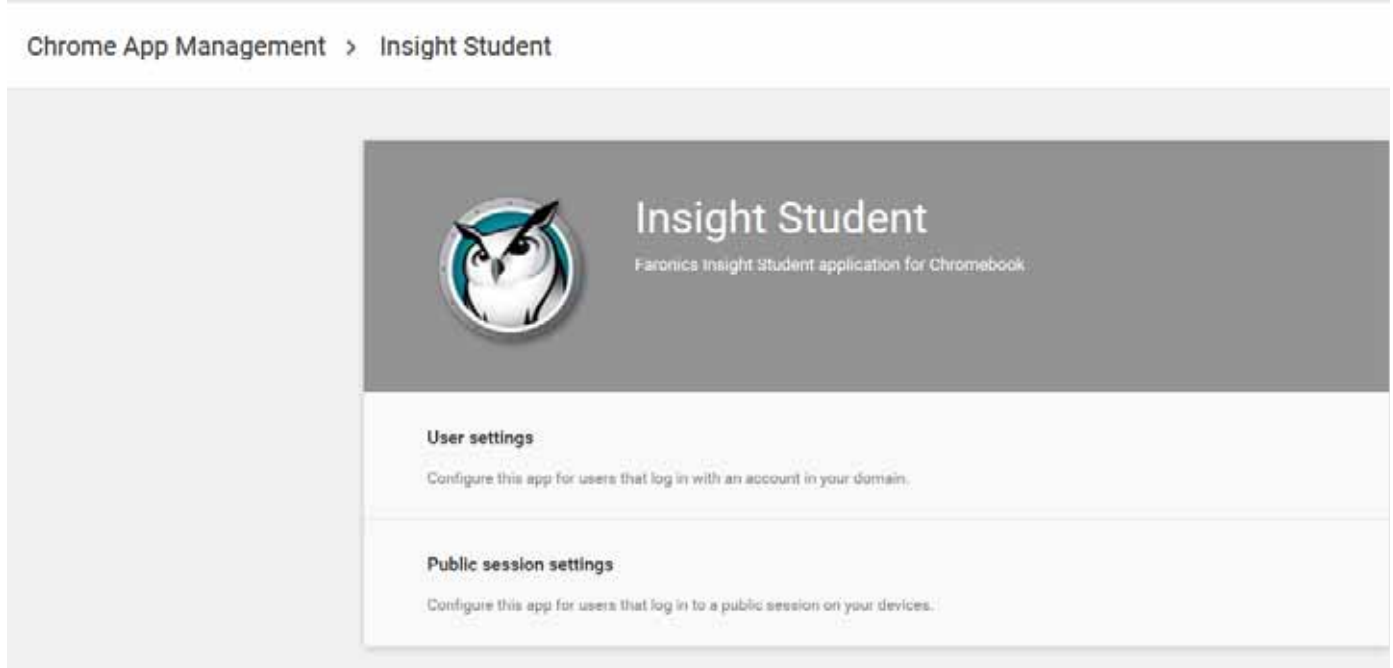
- Click the “Chrome Web Store” button and enter “Insight” in the search window. When the search completes, you should see two applications in the list: “Insight Student” and “Insight Web Helper”.
- Click the “Add” link next to each of these, then click the “Save” button.



- You have now set up “forced-install” of the Insight student and extension for your chrome users.
3. The next step is to configure the Application settings for the Insight Student.
    - Create the configuration file you want to use. This is a text file and should be saved to your local hard drive before continuing to the next step. (See the sample configuration file at the end of this section)
    - Click back to the “Device Management > Chrome” heading at the top of your screen.



- Then click on the “App Management” section. You should now see the Insight Student and Insight WebHelper apps listed in the apps list. Click on the “Insight Student” app.
- Click the “User settings” section from the settings screen.

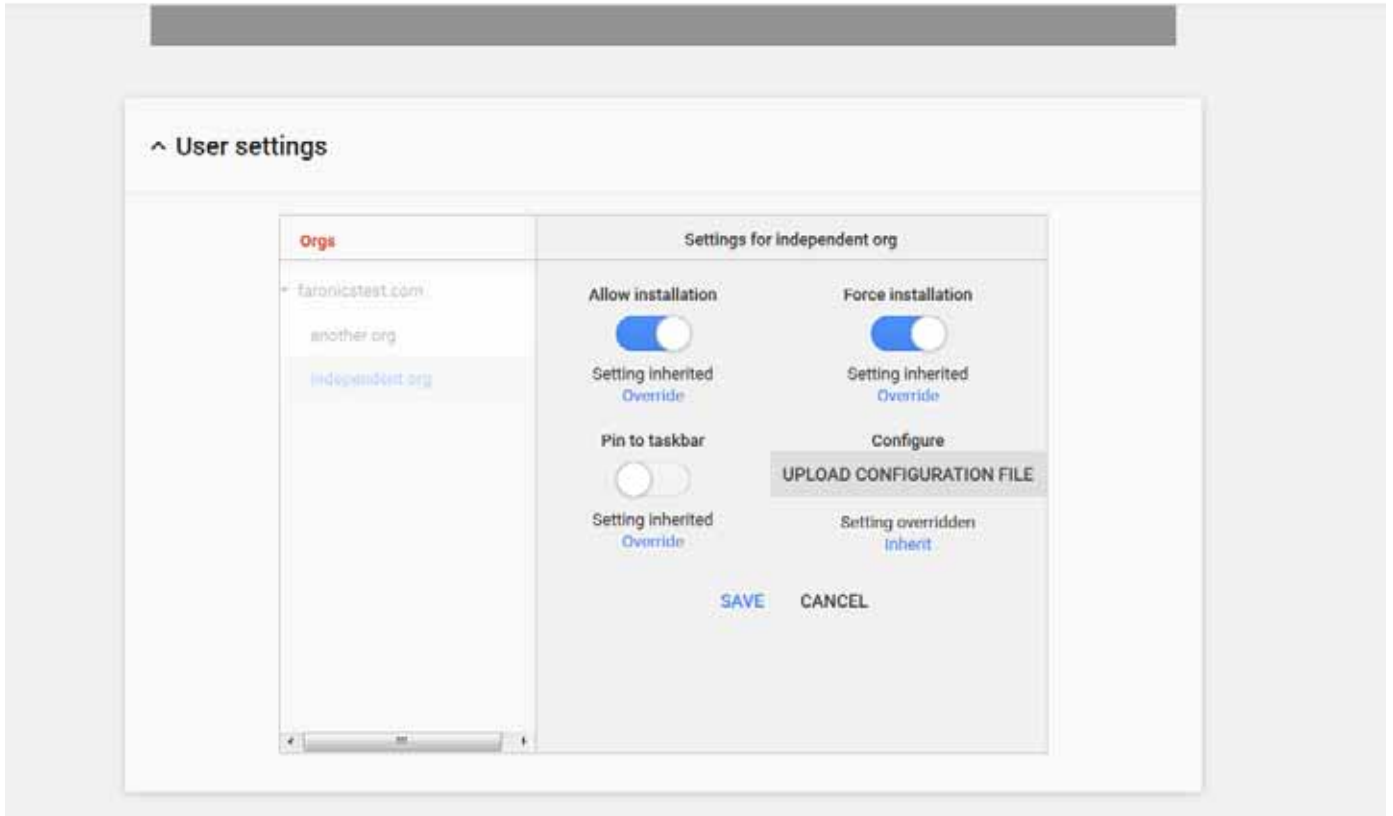


- Choose the Organization you want to configure users settings for. You should now see the Configuration settings window.



You can configure different settings for each organization you have defined.

- Choose “upload configuration file” under the “Configure” option.



- Upload a configuration file you created in step 1. (See example below). Clicking here will open a window allowing you to select the configuration file from your local hard drive.
  - After uploading the configuration file, make sure you click the “SAVE” button at the bottom of this window.
4. Test your settings to see if your configuration settings are being applied on the student Chromebook:
    - Log into a Chromebook using one of the student accounts in the organization you selected above for the configuration.
    - Open the Chrome browser and type “<chrome://policy>” in the navigation window. This should open the policy display for that user account.
    - Click the “Reload policies” button at the to ensure you have the latest policy configuration.
    - Check the check box to the right that says “Show policies with no value set”.
  5. Scroll down to the section that shows the configuration for the “Insight Student”.

Applies to	Level	Policy name	Policy value	Status
Current user	Mandatory	allow_change_e...	false	OK
Current user	Mandatory	allow_preferen...	false	OK
Current user	Mandatory	connection_ser...	10.0.0.148	OK
Current user	Mandatory	connection_ser...	8080	OK
Current user	Mandatory	default_channel	5	OK
Current user	Mandatory	enabled	true	OK
Current user	Mandatory	full_screen_thu...	true	OK
Current user	Mandatory	password_secu...	pwspassword	OK
Current user	Mandatory	stealth_mode	false	OK

6. You should see each of the policy settings that you have configured from the sample configuration file below. If you don't see your settings shown here check the following:
- Did you log in as a user assigned to the organization you set the policy for in the Admin console?
  - Is there an error in the policy file?



Currently the admin console does not warn on errors. You can check your policy file format by testing it at [jsonlint.com](https://jsonlint.com).

- Did you forget to click the “Save” button as described in Step 3?

### Sample Configuration file:

```
{
  "enabled": { "Value": true },
  "default_channel": { "Value": 40 },
  "allow_preferences": { "Value": false },
  "allow_change_channel": { "Value": false },
  "stealth_mode": { "Value": false },
  "connection_server_host": { "Value": "10.0.0.48" },
  "connection_server_port": { "Value": 8080 },
  "full_screen_thumbnail": { "Value": true },
  "password_secure": {"Value": "password"},
  "context_data": {"Value": "in here"},
  "organization": { "Value": "My Organization" },
  "student_privacy": { "Value": true }
}
```

### Description of settings:



Options in red are only place holders for future enhancements and currently don't have any effect on the application.

- “enabled” - is this configuration active (must always be “true”)
  - true
- “default\_channel” - the channel the student will default to when starting up.
  - true / false
- “allow\_preferences” - Will the student be allowed access to the preferences settings?
  - true / false
- “allow\_change\_channel” - Is the student permitted to change their channel?
  - true / false
- “stealth\_mode” - When enabled, the Insight icons and notifications are suppressed.
  - true / false
- “connection\_server\_host” - DNS name, or IP address to the Insight connection server.
- “connection\_server\_port” - Network port for the Insight connection server.
  - (defaults to 8080 if not set)
- “full\_screen\_thumbnail” - Enable “Full screen thumbnails”



Because of Google policy, the user will always be asked for permission to share full screen images.

- “password\_secure” - If not empty, the given password will be used for password secured teacher connections.



Removing the password\_secure entry from the configuration file will automatically enter Insight into Secure Mode. If you do not want Insight to enter into Secure Mode, specify a blank value for the password\_secure parameter.

- "tdk\_mode" - Enable or disable the Demo mode.
  - true / false

- “context\_data” - Currently unused. Place holder for future data.
- “organization” - The name of the organization you wish to show in various strategic locations when interacting with the student.
- “student\_privacy” - If set to true, at startup time, the student can prevent the teacher from viewing their screen or screen thumbnail. If the student blocks access, a blank screen with a privacy message will be seen on the teachers console when viewing the student screen or thumbnails.



Due to limitations in Chrome, If you have selected “full\_screen\_thumbnail”, the student will always have the option to refuse full screen access regardless of this setting. If “student\_privacy” is not set, the default action is to show the current browser tab.

## Additional suggestions for setting up Student accounts in the Google Admin Console.

Device Management > Chrome > User Settings:

- Disable “Incognito mode” – It is recommended that you disable “Incognito mode” on student accounts. Students can use this mode to get around the web limiting restrictions imposed by the Insight Student software.
- Disable “Developer Tools” - It is recommended that you disable the developer tools access in student accounts. If allowed, savvy students will be able to temporarily modify or disable the student application while using the developer tools built into the chrome browser.

## Option #2 – Hidden configuration in a web page.

For this method to be effective, the hidden information needs to be in a web page that the students will automatically be directed to when they log into their Chromebooks.

This procedure requires access to a web server capable of serving a HTML web page, and a way to drive the Chromebook's web browser to that specific page.

The auto configuration information will be stored in a “meta” tag in an HTML page. As long as the “meta” tag exists in the HTML header data and is formatted correctly, the auto-configuration will function regardless of any other content in the web page. The meta tag will be invisible to your users when viewing the web page. The following is an example of the minimum required information in the contents of the meta tag:

```
"<meta name="studentconfig" contents="{ 'ics_host': '[host name]',"
"'ics_port': [port] }" >"
```

In the above example, you would replace the [host name] and [port] values with the IP address or DNS name and the port of your ICS server. Please note that single quotes (') are used in the contents of the configuration information. DO NOT use double quotes, they will not work. See the table below for a list of valid configuration values:



Option	Values
ics_host	IP address or DNS name of the machine hosting <code>&lt;meta name="studentconfig" contents="{ 'ics_host': '[host name]', 'ics_port': [port] }"&gt;</code> the ICS service in single quotes. (ex: '10.0.0.5' or 'server.myschool.com')
ics_port	Unquoted numeric port for the ICS service. If left off, the student will use the default port value of 8080. (ex: 8080)
change_channel	Whether or not to allow students to change their channel. Unquoted boolean value: true or false. (ex: true or false)
channel	The default channel the student should choose when starting up. This is a numeric value between 1 and 16000. (example: 5)
stealth	Should the student start up in stealth mode? (ie:no menu) Unquoted boolean value: true or false. (ex: true or false)  NOTE: This feature is not yet available in the current shipping software
full_screen_thumbnail	This enables "full screen" thumbnails. NOTE: This requires user permission. At startup the user will be prompted to share their screen. If the user refuses, or at any time the user cancels the sharing, the application will revert back to thumbnailing only the current visible tab.
allow_prefs	This enables or disabled the "preferences" item in the main menu. If set to false, the student will not be able to access the preferences menu. Unquoted boolean value: true or false. (ex: true or false)
password_secure	This option is for the password secure mode. If left empty, option will not be added.

An example of the minimum web page for auto-configuration is shown here:

```
<html>
<head>
<meta name="studentconfig" contents="{ 'ics_host': '<host name>',
'ics_port':
<port>, 'change_channel': false, 'channel': 5, 'stealth': false,
'allow_prefs':
false }">
</head>
<body>
</body>
</html>
```

This web page needs to be placed on a web server where the Student machines can reach the page from a browser window without having to log in or authenticate. If you wish to obfuscate the configuration settings in the web page, you can “base64” encode the data using any compliant encoding tool. The Student will detect that the data is encoded and decode it.

```
<metaname="studentconfig"
contents="eyJAnbGNzX2hvc3QnOiAnMTAuMC4wLjE0OCcsICdsY3NfcG9ydCc6IDgwODAsI
CdjaGFuZ2VfY2hhbm5lbCc6IGZhbHN
1LCAAnY2hhbm5lbCc6IDUsICdzdGVhbHRoJzogZmFsc2UgfQ==" >
```

Once this web page is in place, you need a way to configure the Chromebooks to open this web page in a browser window. The best way is to set the startup “page” in the Chrome browser settings. If you are using the Chromebook Management Console, you can set the “Homepage” option in the “Startup” section under User Settings. This will force the Chromebooks to automatically go to your configuration page each time it starts up.



For security reasons, the Insight Student for Chromebooks will only read the auto-configuration data one time per session. If you change the auto configuration information in the web page, you will need to log your Chromebooks out, then log them back in to update them with the new settings.

## Auto Configuration from the Google Admin Console using the web page configuration



If you're using the Google Admin Console, the preferred method of auto configuring students is the first option “Option #1” listed above, however if that is not available to you, or you prefer the web page (meta tag) option then this will help.

1. Set up a web page as instructed above with the appropriate meta tag. Make sure this web page can be browsed to from web browsers of any Chromebooks you want to be auto configured.
2. Log into your Google admin console at <http://admin.google.com>
3. From the main dashboard click on the “Device Management” item and choose “Chrome” from the list, then select “User Settings”.
4. On the User Settings page, make sure you've selected the correct organization from the “Organizations” tree on the left side of the page.
5. Scroll down the page until you see the section on “Pages to Load on Startup”.
6. Enter the URL for the web page containing the meta tag you created as described above.
7. Click the “Save Changes” button at the bottom of the page.



Depending on your other policy settings, these changes should update to the Chromebooks within a few hours. Logging out of the Chromebook, then logging back in should cause it to update its policy immediately. You can view and/or force policy updates on any given Chromebook from the “<chrome://policy>” page on that Chromebook.