Chrome 108 Enterprise and Education release notes

For administrators who manage Chrome browser or Chrome devices for a business or school.

These release notes were published on November 29, 2022.

See the latest version of these release notes online at https://g.co/help/ChromeEnterpriseReleaseNotes

Chrome 108 release summary

Chrome browser updates	**Security/ Privacy**	**User productivity /Apps**	**Management**
Improving performance: Memory Saver and Energy Saver modes		✓	
Google Password Manager: Notes for passwords	✓		
Google Password Manager: Updates on iOS	✓		
Windows: pin to taskbar during install		✓	
Custom default error pages for Progressive Web Apps		✓	
New Chrome sync dialog on iOS	✓		
Price tracking		✓	
Change Async methods to Sync in FileSystemSyncAccessHandle		✓	
Chrome on Linux to use Chrome's built-in DNS client by default	✓		
Improved reporting for internal callback mechanism	✓		
Cookies and site data dialog improvements	✓		
Improve sharing of previewed files		✓	
New and updated policies in Chrome browser			✓
Removed policies in Chrome browser			✓
ChromeOS updates	**Security/ Privacy**	**User productivity /Apps**	**Management**
Cursive canvas lock		✓	
Projector multi-accounts		✓	
ChromeOS Version Rollback			✓

ChromeOS Camera App: Document scanning improvements		✓	
Captive portal improvements	✓	✓	
Easier ways to navigate your virtual keyboard		✓	
SIM lock policy	✓		✓
FilesApp trash	✓	✓	
Contact center Desk API connectors		✓	
Human Presence Sensor	✓		
Admin console updates	**Security/ Privacy**	**User productivity /Apps**	**Management**
ChromeOS data controls	✓	✓	✓
App Details - installation requests		✓	✓
Apps & Extension usage reports			✓
New Chrome Browser Cloud Management sign-up experience			✓
Delegated Admins can see all their devices		✓	✓
New policies in the Admin console	✓	✓	✓
Upcoming Chrome browser changes	**Security/ Privacy**	**User productivity /Apps**	**Management**
Confirmation permission chips in the address bar	✓		
Google Update internal upgrades			✓
About this page on Desktop in Chrome 109	✓		
Chrome to change the UI for some download warnings	✓		
Detailed translation settings in Chrome 109		✓	

Changes to HTMLElement.offsetParent		✓	
Changes to mouse events on disabled form controls		✓	
UrlParamFilterEnabled removed in Chrome 109			✓
Removal of master_preferences in Chrome 109			✓
User-level Enhanced Safe Browsing on iOS in Chrome 109	✓		
Intent to deprecate and remove: Event.path		✓	
MetricsReportingEnabled policy will be available on Android in Chrome			✓
Release of Speculation Rules API for prerender in Android		✓	
Device token deletion			✓
Content analysis connector for local DLP Agent integration	✓		
Change in launch schedule starting in Chrome 110			✓
Windows 10 as minimum required version in Chrome 110			✓
Private Network Access preflights for subresources enforced in Chrome 113	✓	✓	
Rolling out GPU Changes to NaCL Swapchain and video decoding		✓	
Access to WebHID API from extension service workers in Chrome 110		✓	
WebAuthn cannot be used on sites with TLS certificate errors	✓		
Strict MIME type checks for Worker scripts		✓	
Default to origin-keyed agent clustering in Chrome 110		✓	
WebUSB from extension service workers		✓	
Deprecation of Web SQL and other old Storage features		✓	

Network Service on Windows will be sandboxed	✓		
Chrome apps no longer supported on Windows, Mac, and Linux			✓
Extensions must be updated to leverage Manifest V3		✓	
Upcoming ChromeOS changes	**Security/ Privacy**	**User productivity /Apps**	**Management**
Super Resolution Audio for Bluetooth headset microphones		✓	
Passpoint: Seamless, secure connection to Wi-Fi networks	✓	✓	
Cursive pre-installed for Enterprise and Education accounts		✓	
Channel labeling on ChromeOS	✓		
Fast Pair		✓	
Updated emoji picker		✓	

The enterprise release notes are available in 9 languages. You can read about Chrome's updates in English, German, French, Dutch, Spanish, Portuguese, Korean, Indonesian, and Japanese. Please allow 1 to 2 weeks for translation for some languages.

Current Chrome version release notes

Chrome browser updates

Improving performance: Memory Saver and Energy Saver modes

In Chrome 108 on Windows, Mac, and ChromeOS, some users experience new performance-enhancing features: Memory Saver and Energy Saver. These features are designed to improve the performance of Chrome, and extend battery life, respectively. Users can control these features using the options under **Settings>Performance**.

As part of this launch, Chrome now includes the following enterprise policies:

1. **TabDiscardingExceptions**: By using this policy, you specify URL patterns that are never discarded by the browser.
2. **BatterySaverModeAvailability**: When set to *Disabled*, the Battery Saver mode is switched off. When set to *EnabledBelowThreshold* or not set, Battery Saver Mode is enabled when the device is on battery power and battery level is low. When set to *EnabledOnBattery*, Battery Saver Mode is enabled when the device is on battery power.
3. **HighEfficiencyModeEnabled**: This policy enables or disables the **High Efficiency Mode** setting.

Google Password Manager: Notes for passwords

In Chrome 108 on desktop, users can save a note for each saved credential in the Password Manager. Passwords and associated notes display on a sub-page, which is protected by authentication.

Google Password Manager: Updates on iOS

From Chrome on iOS 108, it is easier for users to access their passwords. We have simplified the password list view, to show users just their passwords. Password-related settings display on their own screen, making it easier for users to see and manage their

settings in one place. Existing features like adding or editing passwords and password checkup remain available on the password list view.

Windows: pin to taskbar during install

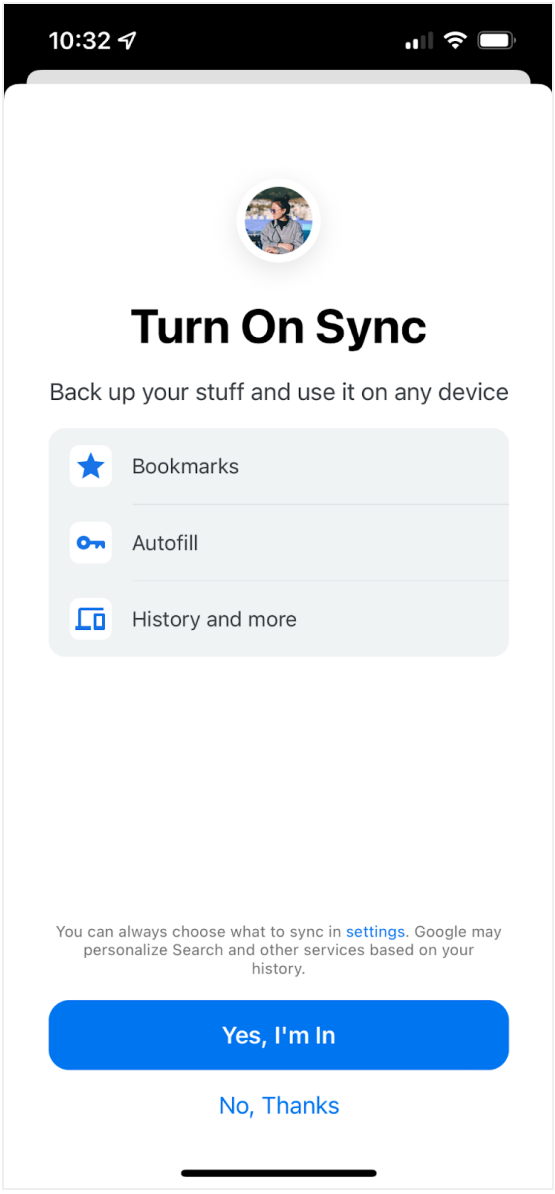
As early as Chrome 108, the Chrome installer pins Chrome to the Windows taskbar for easier access to Chrome. You can use the `do_not_create_desktop_shortcut` setting in initial_preferences to control this behavior.

Custom default error pages for Progressive Web Apps

Chrome now provides a custom default error page when Progressive Web Apps (PWAs) and Trusted Web Activities (TWAs) do not define a custom offline experience and the network is down.

New Chrome sync dialog on iOS

On Chrome on iOS, some users see a visually updated dialog to turn on Chrome sync in the first run. Relevant enterprise policies such as BrowserSignin, SyncDisabled, RestrictAccountsToPatterns and SyncTypesListDisabled continue to work as before and can be used to configure Chrome sync.



Price tracking

Chrome 108 enables users to price track products from across the web, and receive email or mobile notifications when the price of a tracked item drops. Tracked items are saved alongside bookmarks with Sync. This feature is only available for signed-in, syncing users who have Web & App activity enabled. You can control this with the ShoppingListEnabled policy.

Change asynchronous methods to synchronous in FileSystemSyncAccessHandle

In Chrome 108, `getSize()`, `truncate()`, `flush()` and `close()` async methods in `FileSystemSyncAccessHandle` primitive in the File System Access API have been converted to synchronous methods, in line with `read()` and `write()` methods.

This change supports a fully synchronous API for `FileSystemSyncAccessHandle`, enabling high performance for WebAssembly (WASM) based applications.

We don't anticipate this change causing any issues. However, an enterprise policy, FileSystemSyncAccessHandleAsyncInterfaceEnabled, is available until Chrome 110 to enable the async methods. You can use this to rollback the change temporarily if you need to make any changes to your apps.

Chrome on Linux to use Chrome's built-in DNS client by default

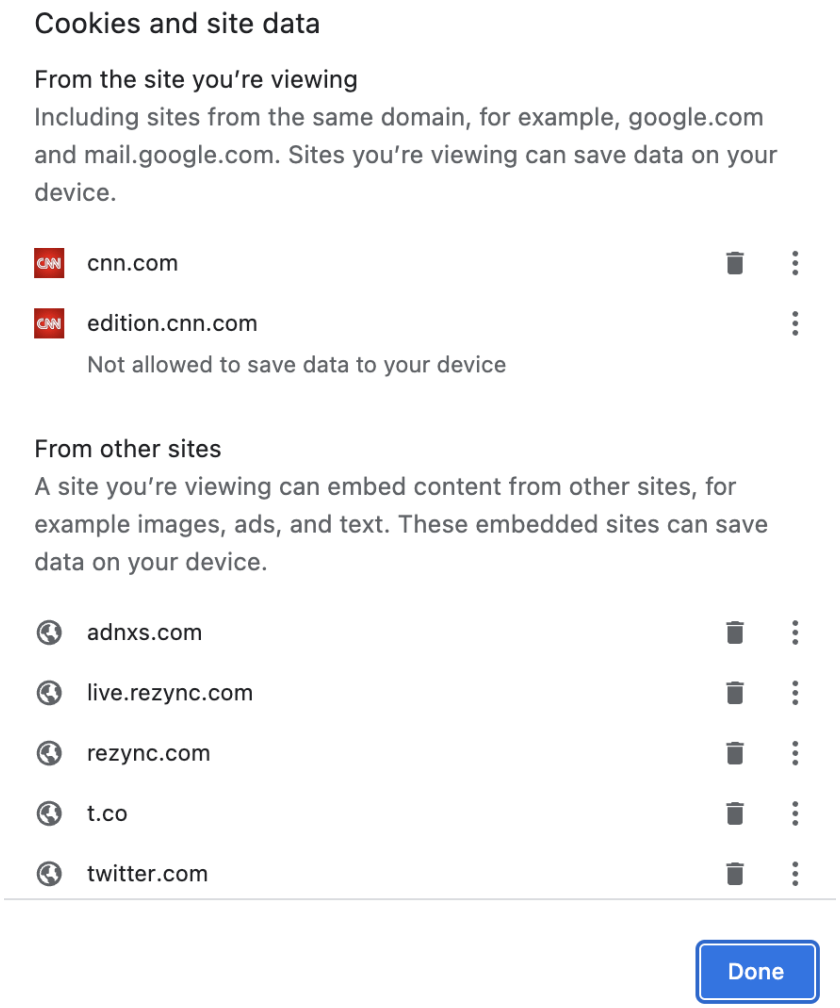
The built-in DNS client is enabled by default on Windows, macOS, Android, ChromeOS. As early as Chrome 108, Chrome on Linux also uses the built-in DNS client by default. Enterprises can opt out by setting BuiltInDnsClientEnabled policy to *Disabled*.

Improved reporting for internal callback mechanism

Chrome 108 improves security by reporting misuse of our internal callback mechanism via crash reports. You can control this using the MetricsReportingEnabled policy.

Cookies and site data dialog improvements

In Chrome 108, we've redesigned and simplified the **Cookies and site data** dialog so only per-site level information is displayed, and can be easily controlled by users. You can use the DefaultCookiesSetting, CookiesAllowedForUrls, CookiesBlockedForUrls, and CookiesSessionOnlyForUrls enterprise policies to control Chrome's behavior.



Improved sharing of previewed files

Chrome on iOS is moving the **Open in** functionality to the share menu. This ensures consistency with iOS patterns.

New and updated policies in Chrome browser

Policy	Description
CopyPreventionSettings	Allows blocking copying to the clipboard on specified URLs.
TabDiscardingExceptions	URL pattern Exceptions to tab discarding.
HighEfficiencyModeEnabled	Enable High Efficiency Mode.
BatterySaverModeAvailability	Enable Battery Saver Mode.
OnFileTransferEnterpriseConnector	Configuration policy for the **OnFileTransfer** Chrome Enterprise connector.
FileSystemSyncAccessHandleAsyncInterfaceEnabled	Re-enable the deprecated async interface for **FileSystemSyncAccessHandle** in File System Access API.
VirtualKeyboardResizesLayoutByDefault (Android)	The virtual keyboard resizes the layout viewport by default.

Removed policies in Chrome browser

Policy	Description
PolicyScopeDetection	Allow policy scope detection on macOS
LoadCryptoTokenExtension	Load the CryptoToken component extension at startup
PersistentQuotaEnabled	Force persistent quota to be enabled
DisplayCapturePermissionsPolicyEnabled	Specifies whether the display-capture permissions-policy is checked or skipped

ChromeOS updates

Cursive canvas lock

Users of Chrome Cursive can now use a canvas lock to prevent accidental pan or zoom.

Projector multi-accounts

Screencast users can now view restricted recordings associated with secondary accounts. Students, for example, can add a school account to their **Family Link** profile in ChromeOS and view screencasts created by their teacher.

ChromeOS version rollback

The ChromeOS rollback feature enables managed devices to download and run an earlier version of ChromeOS than the one currently installed. Rollback works in conjunction with pinning to a target version, and requires that updates are enabled.

In this first release, rollback supports rolling back up to the previous N-3 release milestone, where N is the current release on the stable channel, as well as, the current release of the LTC and LTS channels.

The rollback feature will be available on the admin console from December 8th 2022. The earliest version of ChromeOS that you can roll back to is version 107.

Please note that installing an earlier ChromeOS version requires that devices have to perform a powerwash, an operation that erases any local user data.

ChromeOS Camera App: Document scanning improvements

From M107, document scanning in the ChromeOS Camera App is automatically downloaded when the user selects it, making it available to more devices including those with Apollo Lake

and MT8173 processors. From M108, the document scanning feature supports taking multiple pages and combining them into a single PDF.

Captive portal improvements

ChromeOS has improved the user experience for signing into Wi-Fi networks that require captive portal sign-in, for example, at hotels or airports where you are directed to a web page to enter credentials or accept terms and conditions before being connected to the Internet. Improvements include:

- clearer messaging regarding the need to sign in
- easier to find access to sign in pages
- more reliable connection to sign in pages

Easier ways to navigate your virtual keyboard

If you have a Chromebook with a touchscreen, it's now even easier to type what you want easily with a newly redesigned virtual keyboard. With just a tap on the new header bar, you can switch between languages, pull up the emoji library, or access the handwriting tool. The virtual keyboard also more quickly processes fast typing – so no need to slow down to make sure that every key is pressed one by one.

SIM lock policy

The ChromeOS Admin console now supports the ability to prohibit or allow managed users to lock their SIM card with a PIN.

This feature is available in all ChromeOS devices and is particularly useful for organizations that own their employees' or students' SIM cards and want to retain control over them. This is a highly requested feature from EDU because they want to avoid the situation of a student's SIM card PIN locking their device from a reliable internet connection (many students do not have internet at home, for example). EDU also wants to avoid the situation of

students intentionally locking themselves out of an internet connection so as to prevent themselves from submitting assignments on time.

FilesApp Trash

Previously, deleting a file from the **My files** would instantly and permanently delete it. Now, it goes to the new **Trash** section, and you'll have 30 days to change your mind before it's permanently deleted. This can be disabled with the TrashEnabled policy. **Note:** This new feature doesn't support Play, Linux, Windows file areas.

Contact Center Desk API connectors

For contact center agents, productivity is paramount. But, with the range of apps, tabs and windows that agents use, it can be difficult and time-consuming to locate the right information at the right time. For agents managing multiple customer interactions simultaneously, it becomes even more difficult, leading to stress and frustration for the agent, and a longer wait time for your customers. ChromeOS Desk connectors solve this problem by introducing the desk as a container. Communications solutions that have integrated with ChromeOS Desk API automatically open a new desk per interaction. The desk opens all the tabs and apps an agent needs for this interaction, and once the interaction is complete, the desk closes down all these with one click. For each new interaction, a new desk opens, making it easier and faster for an agent to access the correct agent information at the right time.

Reach out to the ChromeOS team directly to join the Trusted Tester program and try ChromeOS Desk connectors.

Human Presence Sensor

Some Lenovo ThinkPad Chromebooks now have screen privacy features that use Human Presence detection to lock the screen when the user leaves their device and alert the user when another person is looking at their screen. With *Lock on Leave*, we dim and lock the screen more quickly when no user is detected to protect their privacy. We also have a *Keep*

Awake feature that prevents the screen from dimming when the user is present so that they can continue to view the screen. With *Viewing Protection*, users are shown an eye alert icon in the shelf and can choose to further mask all private notifications when we detect a second person.

Admin console updates

ChromeOS data controls

Data controls are a set of controls for protecting enterprise users from data leakage on endpoints. These capabilities, integrated at the OS level, allow admins to track, restrict, or report the following actions when handling corporate content using simple workflow based rules that **do not require content to be scanned**:

- Copy and paste
- Screen capture (screenshots and video capture)
- Screen sharing
- Printing
- And the ability to automatically turn on the electronic privacy screen on a compatible device

Admins can define Chrome action rules in the admin console to trigger data controls based on the content source and destination, where relevant. Sources and destinations include URLs, Chrome apps, and PWAs. Please review the guide for more information.

Apps Details - Installation Requests

The list of extension requests that were previously shown in the right panel sidebar are now shown in a card in the App Details page called **Installation Requests**. Admins can see requests by organizational unit, browser, or user - making it easier for admins to make granular installation decisions. To allow extension requests, see our help center article.

Apps & Extension usage report

There is a new warning icon for Extensions that are still using Manifest v2. To enable the Apps & Extension usage report, see this help center article. We also recommend contacting

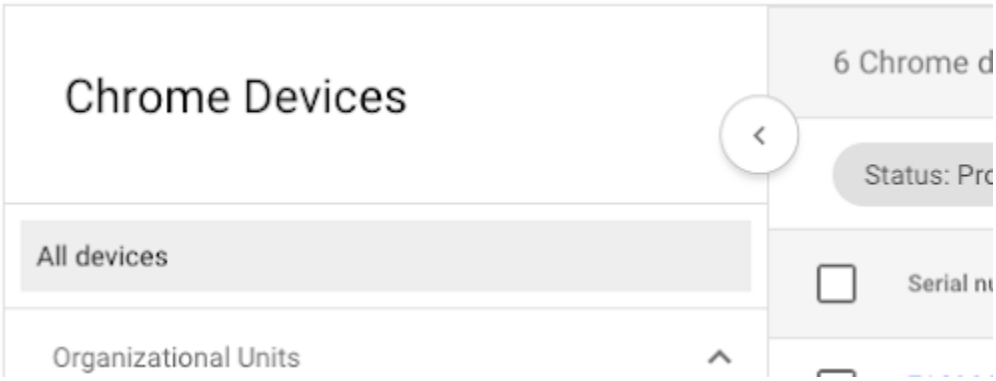
your internal developers or vendors that are still publishing Manifest v2 extensions to learn about their migration plans to Manifest v3. Please review the Extension Manifest v2 deprecation timeline for more information.

New Chrome Browser Cloud Management sign-up experience

IT admins can now sign up for Chrome Browser Cloud Management using a new simple four-step sign-up flow. The new sign-up flow allows IT admins to create an Admin console account for Chrome Browser Cloud Management and it allows to optionally add the Chrome Enterprise Update (for ChromeOS) and Workspace free Essentials subscriptions to your new account. Learn more.

Delegated Admins can see all their devices

A Delegated Admin can now view and search devices in all organizational units that they have access to, rather than only devices in a single organizational unit at a time.



Enrolling browsers with Mosyle

Mosyle is an Unified Endpoint Management platform focused on managing Apple devices. We have updated our documentation to describe how to deploy **Chrome Browser Cloud Management** tokens with Mosyle.

Enroll browsers with Mosyle (iOS/iPadOS)

Enroll browsers with Mosyle (macOS)

New policies in the Admin console

Policy Name	Pages	Supported on	Category/Field
AllowOnlyPolicyNetworksToConnectIfAvailable	Networks Settings	ChromeOS	General settings > Wi-Fi Networks
CustomSearchDomains	Networks Settings	All Platforms	WIFI / Ethernet Settings > Details > Custom search domains
HighEfficiencyModeEnabled	User Settings	All platforms	Other settings
VirtualKeyboardResizesLayoutByDefault	User Settings	All platforms	User experience
BatterySaverModeAvailability	User Settings	All platforms	Power and shutdown
TabDiscardingExceptions	User settings	All platforms	Other settings
FileSystemSyncAccessHandleAsyncInterfaceEnabled	User settings	All platforms	Hardware

Coming soon

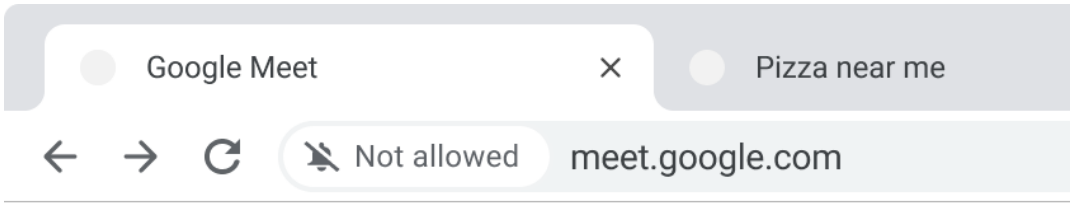
Note: The items listed below are experimental or planned updates. They might change, be delayed, or canceled before launching to the Stable channel

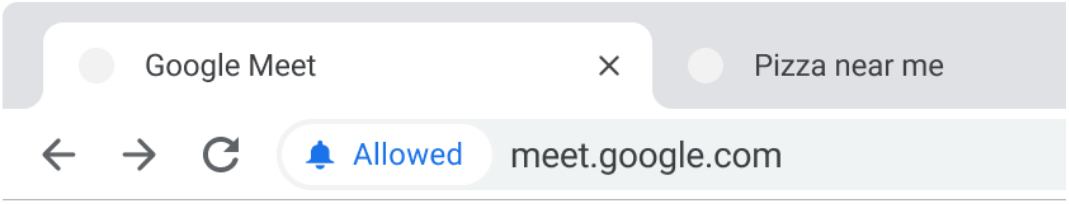
Upcoming Chrome browser changes

Confirmation permission chips in the address bar

Chrome is consolidating permission prompts and indicators to make them more consistent and easier to understand. Some users will see a new permissions chip experience in the address bar, a chip shown after a user has made a decision on a permission prompt. It confirms the action a user has just taken and is shown for 4 seconds. If the user clicks on it, the page info bubble is shown, which is a surface that among others, allows users to manage their permission settings for the current site.

For some users, the lock icon in the address bar will be hidden while a chip is being shown. Please note, chips are only visible during certain permission requests and while a confirmation chip is being displayed. As soon as the chip disappears, the lock icon is visible again.





Google Update internal upgrades

Chrome 109 introduces the next version of Google Update based on tried-and-true Chromium technology. It will provide a cross-platform core for future development of update-related features. All existing enterprise policies and controls for managing Chrome's version work the same way.

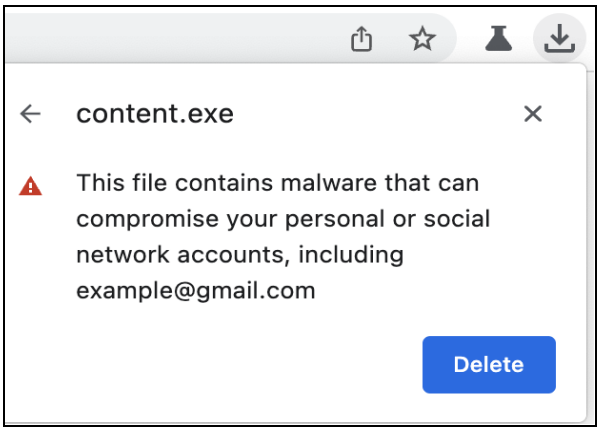
About this page on Desktop in Chrome 109

We are improving the **From the web** feature in the site info UI. It is now called **About this page** and it opens a website with multiple pieces of information regarding the source and topic of a website.

This feature is only enabled when **Make searches and browsing better** is enabled in **Settings > Sync** and **Google Services > Other Google services**. You can control this setting with the UrlKeyedAnonymizedDataCollectionEnabled policy.

Chrome to change the UI for some download warnings

As early as Chrome 109, to protect users from malware, Chrome will start to show detailed context and customized UIs for some download warnings. For example, if Chrome detects a download to potentially steal user's information, the description will be changed from *Chrome blocked this file because it is dangerous* to *This file contains malware that can compromise your personal or social network accounts*. You can disable download warnings by setting the SafeBrowsingProtectionLevel enterprise policy, or allowlist specific domains using SafeBrowsingAllowlistDomains.



Detailed translation settings in Chrome 109

New detailed translation settings have been added for controlling the current target language, never translate languages, and always translate languages. These settings were previously only editable from the Translate UI bubble but are now permanently exposed under *chrome://settings/language*. Enterprise users may use the existing TranslateEnabled enterprise policy to globally enable or disable translation.

Changes to HTMLElement.offsetParent

In Chrome 109, the Javascript APIs HTMLElement.offsetParent, HTMLElement.offsetTop, and HTMLElement.offsetLeft will be changed in an edge case involving ShadowDOM in order to match the behavior of Firefox and Safari. A new enterprise policy, **OffsetParentNewSpecBehaviorEnabled**, will be added to disable the new behavior until Chrome 120. A polyfill was made in order to help migrate to the new behavior: https://github.com/josepharhar/offsetparent-polyfills.

Changes to mouse events on disabled form controls

In Chrome 109, some users will see changes to the behavior of mouse events: clicking on form control elements with the disabled attribute will fire slightly different DOM events. Additional mouse events, including mousemove, mouseenter, mouseleave, mouseover, and more will be fired on these elements. The ancestors of some types of form controls will no longer receive click, mouseup, or mousedown events. A new enterprise policy,

SendMouseEventsDisabledFormControlsEnabled, will be added to disable the new behavior until at least Chrome 120.

UrlParamFilterEnabled removed in Chrome 109

The UrlParamFilterEnabled policy allows admins to control if parameters are removed when a user selects **Open Link in Incognito Window** from the context menu. This is a temporary policy introduced when the change was introduced in Chrome. The policy will be removed in Chrome 109.

Removal of master_preferences in Chrome 109

master_preferences and initial_preferences are ways of setting default preferences for a Chrome install. The historical name of the file is *master_preferences*, but it was renamed to *initial_preferences* in Chrome 91. To make the transition easy for IT admins, from Chrome 91 to Chrome 108, naming the file either *initial_preferences* or *master_preferences* has the same effect. In Chrome 109, if you name the file *master_preferences*, it will not work by default. You should rename the file *initial_preferences*.

Alternatively, you will be able to use the **CompatibleInitialPreferences** enterprise policy to extend support for the *master_preferences* naming. This policy is not currently available.

User-level Enhanced Safe Browsing on iOS in Chrome 109

For Chrome on iOS where the Safe Browsing protection level is not controlled by SafeBrowsingProtectionLevel, users that are signed in and syncing that have enabled Enhanced Safe Browsing on their Google Account will be notified that Enhanced Safe Browsing has been enabled on their Chrome profile. Disabling Enhanced Safe Browsing on a synced Google Account will disable Enhanced Safe Browsing for their Chrome profile. Additionally, users that are signed-in and non-synced may be prompted to enable Chrome Enhanced Safe Browsing within 5 minutes of enabling Account Level Enhanced Safe Browsing.

Intent to deprecate and remove: Event.path

To improve web compatibility, we will stop supporting the non-standard API `Event.path` as early as Chrome 109. Websites should migrate to `Event.composedPath()`, which is a standard API that returns the same result. If you need additional time to adjust, a policy EventPathEnabled, available on Windows, Mac, Linux, ChromeOS, Android and WebView will allow you to extend the lifetime of `Event.path` by an additional 6 milestones.

MetricsReportingEnabled policy will be available on Android in Chrome

As early as Chrome 109, Chrome on Android will slightly modify the first run experience to support the MetricsReportingEnabled policy. If the admin disables metrics reporting, there will be no change to the first run experience. If the admin enables metrics, users will still be able to change the setting in Chrome settings. When enabled, the MetricsReportingEnabled policy allows anonymous reporting of usage and crash-related data about Chrome to Google.

Release of Speculation Rules API for prerender in Android

Chrome 103 introduced same-origin prerendering triggered by the Speculation Rules API. Chrome 109 expands coverage to also allow triggering same-site cross-origin pages. This allows web authors to suggest to Chrome which cross-origin pages that the user is likely to navigate to next. This prerendering will be done with credentials and storage access, but such prerender targets will need to opt in by using the `Supports-Loading-Mode: credentialed-prerender` header. An enterprise policy, NetworkPredictionOptions, is available to block the usage of all prerendering activities which will result in Chrome ignoring the hints provided using this API. See our article for more information.

Device token deletion

As early as Chrome 109, when deleting a browser from the managed browsers list in the Admin console, a new policy will allow Chrome Browser Cloud Management to delete the device token on the end-point devices. The default value will remain to invalidate the device token.

Content Analysis connector for Local DLP Agent Integration

Some third party software (for example AV/DLP agents) injects code into Chrome. Though this practice is discouraged, it is still prevalent in the enterprise environment since there are no good alternatives for these local agents.

Chrome 110 will provide secure, native integration that transfers content (file or text) between Chrome and selected 3rd party DLP agents when a Chrome Browser Cloud Management managed user performs an action that sends data from their endpoint using Chrome Enterprise connectors.

Change in launch schedule starting in Chrome 110

Starting in Chrome 110, Chrome will be rolled out to the Stable channel one week earlier than previously communicated. For example, the Chrome 110 Stable release moves from Feb 7 to Feb 1 2023.

You can also expect to see a much smaller rollout at a significantly reduced percentage of our user population for the first week of the published Stable release date. The wider rollout to most users will happen at a similar timeframe to the earlier communicated dates.

Windows 10 as minimum required version in Chrome 110

Microsoft ends support for Windows 7 ESU, Windows 8, and Windows 8.1 extended support on January 10, 2023. Chrome 110, tentatively scheduled for release on February 1, is the first version of Chrome which will have a minimum Windows version of Windows 10.

Chrome Private Network Access preflights for subresources enforced in Chrome 113

Chrome 104 started sending a CORS preflight request ahead of any private network requests for subresources, asking for explicit permission from the target server. This request carries a new `Access-Control-Request-Private-Network: true` header. In this initial phase,

this request is sent, but no response is required from network devices. If no response is received, or it does not carry a matching `Access-Control-Allow-Private-Network: true` header, a warning is shown in DevTools. For more details, see this blog post.

As early as Chrome 110 on Android, the warnings will turn into errors and affected requests will fail, for sites not opted out via an Origin Trial. Remaining platforms will also have these warnings enforced in Chrome 113. You can disable Private Network Access checks using the InsecurePrivateNetworkRequestsAllowed and InsecurePrivateNetworkRequestsAllowedForUrls enterprise policies.

If you want to test this feature in advance, you can enable warnings using `chrome://flags/#private-network-access-send-preflights`. If you want to test how it behaves once warnings turn into errors, you can enable `chrome://flags/#private-network-access-respect-preflight-results`.

Chrome is making this change to protect users from cross-site request forgery (CSRF) attacks targeting routers and other devices on private networks. To learn more about mitigating this change proactively, see details on what to do if your site is affected. Read the whole blog post for a more general discussion and latest updates about Private Network Access preflights.

Rolling out GPU Changes to NaCL Swapchain and video decoding

As early as Chrome 110, we will refactor the implementation of the NaCL swapchain and the Pepper video decoding APIs. These changes are not intended to have any behavioral impact on users. However, it is possible that due to bugs they might result in visual artifacts, unacceptably slow performance when playing video, unacceptable increases in power, or crashes. Information about how to signal any problems will be available as these refactors roll out.

Enable access to WebHID API from extension service workers in Chrome 110

This launch will enable access to WebHID API from extension service workers as a migration path for manifest V2 extensions that currently access the API from a background page.

WebAuthn cannot be used on sites with TLS certificate errors

Starting on M110, Chrome will stop allowing WebAuthn requests on websites with TLS certificate errors. The criteria will be the same used for showing danger interstitials or a *Not secure* pill on the omnibox. This will prevent bad actors from generating valid assertions in a Man-in-the-Middle attack on users who may skip the interstitial.

Enterprises will be able to use the **AllowWebAuthnWithBrokenTlsCerts** policy if needed as a workaround.

Strict MIME type checks for Worker scripts

As early as Chrome 110, Chrome will strictly check MIME types for Worker scripts, like Service Workers or Web Workers. Strict checking means that Chrome will only accept JavaScript resources for Workers with a MIME type of `text/javascript`. Currently, Chrome will also accept other MIME types, like `text/ascii`. This change is aimed at improving the security of web applications, by preventing inclusion of inappropriate resources as JavaScript files.

Disabling the StrictMimetypeCheckForWorkerScriptsEnabled policy allows you to keep the current behavior.

Default to origin-keyed agent clustering in Chrome 110

As early as Chrome 110, websites will be unable to set `document.domain`. Websites will need to use alternative approaches such as `postMessage()` or Channel Messaging API to communicate cross-origin. If a website relies on same-origin policy relaxation via `document.domain` to function correctly, it will need to send an `Origin-Agent-Cluster: ?0` header along with all documents that require that behavior.

Note: `document.domain` has no effect if only one document sets it.

The OriginAgentClusterDefaultEnabled enterprise policy will allow you to extend the current behavior.

WebUSB from extension service workers

Chrome 111 will enable access to WebUSB API from extension service workers as a migration path for manifest V2 extensions that currently access the API from a background page.

WebUSB policies can also be applied to extension origins to control this behavior. See DefaultWebUsbGuardSetting, WebUsbAskForUrls, WebUsbBlockedForUrls, and WebUsbAllowDevicesForUrls for more details.

Deprecation of Web SQL and other old Storage features

The Web SQL API is rarely used, and since its removal by Safari, only Chromium-based browsers have supported it. It requires frequent security fixes, and developers have been discouraged from using it for years. We're now engaging in an effort to seek out and warn anyone who may still be using Web SQL, with the goal of removing it entirely in 2023.

What you need to do depends on how you're using Web SQL:

- If you're just using Web SQL to detect whether a given browser is Chrome, that method will stop working when Web SQL is removed. Navigator.userAgentData is a better alternative.
- If you're using Web SQL to simply store a few data points, localStorage and sessionStorage provide easier ways to do this.
- However, if you're using Web SQL for more complex storage, you'll need to find a proper replacement.

Here are some migration options for more complex storage:

- If your storage needs don't require a relational database, IndexedDB is the standard solution for structured storage on the web. Large sites rely on IndexedDB, and all major browsers support it.

- For those who do need a relational database, we are partnering with the SQLite team to create an evergreen cross-browser Web SQL replacement. The team is adding a web backend to SQLite, using Emscripten to compile it to WebAssembly and leveraging the new File System Access Handles API as a low-level virtual file interface. We expect this to be ready for use early in 2023. For more information, see our blog post Deprecating and removing Web SQL, which we'll update when noteworthy events occur.

We've already disabled Web SQL in third-party contexts. The next step is to remove support in non-secure contexts. In Chrome 105, we introduced a deprecation warning in DevTools. We'll remove this support in Chrome 110. An enterprise policy, WebSQLNonSecureContextEnabled, will let Web SQL function in non-secure contexts for a few months past the removal date.

In Chrome 110, we will also remove the window.webkitStorageInfo API. This legacy quota API has been deprecated since 2013, and has been replaced by the now standardized StorageManager API.

Network Service on Windows will be sandboxed

As early as Chrome 111, to improve security and reliability, the network service, already running in its own process, will be sandboxed on Windows. As part of this, third-party code that is currently able to tamper with the network service may be prevented from doing so. This might cause interoperability issues with software that injects code into Chrome's process space, such as Data Loss Prevention software. The NetworkServiceSandboxEnabled policy allows you to disable the sandbox if incompatibilities are discovered. You can test the sandbox in your environment using these instructions and report any issues you encounter.

Chrome apps no longer supported on Windows, Mac, and Linux

As previously announced, Chrome apps are being phased out in favor of Progressive Web Apps (PWAs) and web-standard technologies. The deprecation schedule was adjusted to provide enterprises who used Chrome apps additional time to transition to other technologies, and Chrome apps will now stop functioning in Chrome 111 or later on

Windows, Mac, and Linux. If you need additional time to adjust, a policy ChromeAppsEnabled will be available to extend the lifetime of Chrome Apps an additional 2 milestones.

Starting in Chrome 105, if you're force-installing any Chrome apps, users are shown a message stating that the app is no longer supported. The installed Chrome Apps are still launchable.

Starting with Chrome 111, Chrome Apps on Windows, Mac and Linux will no longer work. To fix this, remove the extension ID from the force-install extension list, and if necessary, add the corresponding **install_url** to the web app force install list. For common Google apps, the **install_urls** are listed below:

Property	**Extension ID** (Chrome App)	**install_url** (PWA / Web App)
Gmail	pjkljhegncpnkpknbcohdijeoejaedia	https://mail.google.com/mail/installwebapp?usp=admin
Docs	aohghmighlieiainnegkcijnfilokake	https://docs.google.com/document/installwebapp?usp=admin
Drive	apdfllckaahabafndbhieahigkjlhalf	https://drive.google.com/drive/installwebapp?usp=admin
Sheets	felcaaldnbdncclmgdcncolpebgiejap	https://docs.google.com/spreadsheets/installwebapp?usp=admin
Slides	aapocclcgogkmnckokdopfmhonfmgoek	https://docs.google.com/presentation/installwebapp?usp=admin
Youtube	blpcfgokakmgnkcojhhkbfbldkacnbeo	https://www.youtube.com/s/notifications/manifest/cr_install.html

Extensions must be updated to leverage Manifest V3

Chrome extensions are transitioning to a new manifest version, Manifest V3. This will bring improved privacy for your users—for example, by moving to a model where extensions modify requests declaratively, without the ability to see individual requests. This also improves extension security, as remotely hosted code will be disallowed on Manifest V3.

All new extensions submitted to the Chrome Web Store already must implement Manifest V3, but existing Manifest V2 extensions can still be updated, and still run in Chrome.

In 2023, extensions using Manifest V2 will cease running in Chrome. If your organization is running extensions that use Manifest V2, you must update them to leverage Manifest V3. If you need additional time to adjust to the Manifest V3 transition, you'll be able to extend Manifest V2 support in Chrome using an enterprise policy until January 2024.

You can see which manifest version is being used by all Chrome extensions running on your fleet using the Apps & extensions usage page in Chrome Browser Cloud Management.

For more details, refer to the Manifest V2 support timeline.

Upcoming ChromeOS changes

Passpoint: Seamless, secure connection to Wi-Fi networks

Starting as early as ChromeOS 114, Passpoint will streamline Wi-Fi access and eliminate the need for users to find and authenticate a network each time they visit. Once a user accesses the Wi-Fi network offered at a location, the Passpoint-enabled client device will automatically connect upon subsequent visits.

Super Resolution Audio for Bluetooth headset microphones

Starting in 109, your ChromeOS device will help you sound more natural in calls and conferences by reconstructing the high-frequency audio components that are not transmitted from Bluetooth headsets.

Channel labeling on ChromeOS

Trying out the latest version of ChromeOS? For users on non-stable channels (Beta, Dev, Canary), starting in 109 you will see which channel you are on in the bottom right. Selecting the time to open quick settings will have a new UI with the device build as well as a button directly to submit feedback.

Cursive pre-installed for Enterprise and Education accounts

As early as ChromeOS 110, Cursive is a stylus-first notes app for Chromebooks. In an upcoming release, it will be pre-installed for all Enterprise and Education accounts on stylus-enabled Chromebooks.

Fast Pair

Fast Pair makes Bluetooth pairing easier on ChromeOS devices and Android phones. When you turn on your Fast Pair-enabled accessory, it automatically detects and pairs with your ChromeOS device or Android phone in a single tap. Fast Pair also associates your Bluetooth accessory with your Google account, making it incredibly simple to move between devices without missing a beat. This feature will be available as early as ChromeOS 111.

Updated emoji picker

The updated emoji picker now includes commonly used symbols and characters, such as scientific notations and math operators. In addition, we also included text-based emoticons (kaomoji) for even more expressive conversations. The new top-level navigation bar helps you find the high-level category quickly, ranging from emojis, symbols, and emoticons. The improved universal search now shows possible matches from all categories.

Previous release notes

Chrome version & targeted Stable channel release date	PDF
Chrome 107: October 25, 2022	PDF
Chrome 106: September 27, 2022	PDF
Chrome 105: August 30, 2022	PDF
Chrome 104: August 2, 2022	PDF
Archived release notes	

Additional resources

- For emails about future releases, sign up here.
- To try out new features before they're released, sign up for the trusted tester program.
- Connect with other Chrome Enterprise IT admins through the Chrome Enterprise Customer Forum.
- How Chrome releases work—Chrome Release Cycle
- Chrome Browser downloads and Chrome Enterprise product overviews—Chrome Browser for enterprise
- Chrome version status and timelines—Chrome Platform Status | Google Update Server Viewer
- Announcements: Chrome Releases Blog | Chromium Blog
- Developers: Learn about changes to the web platform.

Still need help?

- Google Workspace, Cloud Identity customers (authorized access only)—Contact support
- Chrome Browser Enterprise Support—Sign up to contact a specialist
- Chrome Administrators Forum
- Chrome Enterprise Help Center