





Grab and Go

Deployment Guide

How to deploy your own self-service shared Chromebook program



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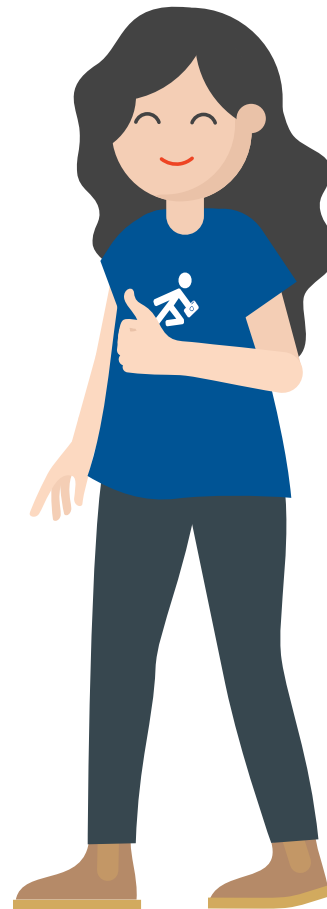
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Introduction

We're so glad you're considering setting up your own Grab and Go Chromebook program. A self-service Chromebook program is a fantastic way to keep employees productive – whether you're focused on preventing downtime or providing devices for cloud workers on the go.

In this deployment guide we'll provide advice from our experience running Google's Grab and Go program, resources to get you up to speed quickly on your own deployment, and questions you should think through when planning your deployment. Keep in mind not all of the topics covered in this guide will be applicable to you and your company – and that's okay! The beauty of Grab and Go is it can be adapted and molded to just about any use case.

A self-service Chromebook program is a fantastic way to keep employees productive.



At a Glance Checklist

1

Define Program Goals

- Understand why you're deploying Grab and Go
- Determine the size of your deployment
- Define acceptable usage types

2

Procure Grab and Go Components

- Evaluate and purchase Chromebooks
- Ensure you have enough Chrome Enterprise Licenses
- Evaluate and procure charging shelves
- Customize and print stickers and signs

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Preparing Deployment

- Train your team
- Enroll and prepare Chromebooks
- Setup and cable charging shelves
- Deploy the application

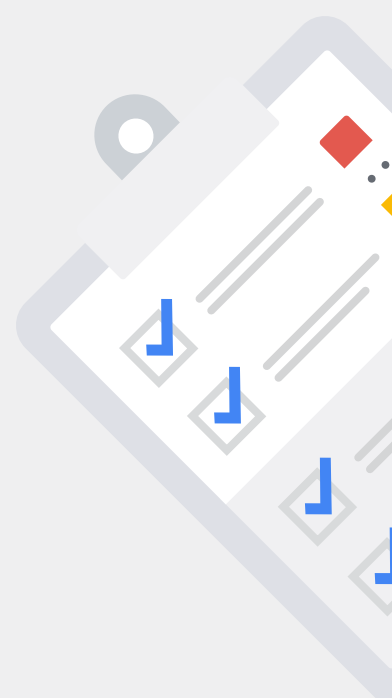
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Launch!

5

Understand Ongoing Maintenance

- Review Chromebook maintenance best practices
- Work with admins to keep the application running
- Build reports to monitor the service



Program Requirements

Before you can get your Grab and Go program off the ground you have important decisions to make. In this section we'll cover those decisions and arm you with detailed insights on how Google deployed its own loaner program.



Define Program Goals

Start by understanding what you, your team, and your organization hope to accomplish by deploying this program. Your goals and intended uses for Grab and Go will inform your decisions.

At Google, we started with the aim of keeping Googlers productive when their primary device was broken. Historically, we'd handed out loaners at our help desk when employees needed them, but we knew we could do better. Each step in the manual loaner process cost time, and the solution was suboptimal for everyone. So we designed, built, and deployed a self-service program focused on getting unproductive, laptopless Googlers back to work.

After launch, many Googlers came to rely on Grab and Go for our original, intended use – as a replacement for a lost, forgotten, or broken device – and they account for roughly half the program usage we see today. But the other half is a mix of uses we didn't plan for. Some Googlers use Grab and Go devices to avoid packing heavy laptops when they travel. Others don't have a primary laptop and rely on Grab and Go devices as their only laptop. Some use them when they're on the go between meetings to check their email, or to help facilitate an onsite interview. Some are testing new products they're developing, and others just want to try Chrome OS.

We're delighted to see Googlers finding the program useful, and all these uses (and more!) are in scope for a Grab and Go program. The point is that it's important for you to spend time understanding how you think your employees should, and will, rely on self-service Chromebooks.

Spend some time understanding how you think your employees will rely on self-service Chromebooks.



Devices

At the core of this program is the [Chromebook](#). We recommend keeping your fleet of Chromebooks as homogeneous as possible so you can provide users with a consistent, predictable experience. Each Chromebook they pick up and use should perform just like the last.

Chromebooks come in many varieties, and from many manufacturers. Your choice of Chromebook should be driven by the goals and intended uses of your Grab and Go program, so spend time understanding the options available and what features you consider most important for your users. Are you targeting cloud workers, or maybe looking for a way to introduce employees to Chrome OS? Then it may be worth using a higher-end, enterprise-grade Chromebook. Want to provide a fleet of devices for cloud workers in the field or on the go? Then you may still want a high-end device, but one with a design that emphasizes durability.

We did the latter. After evaluating multiple models we selected one that differentiated itself with its physical durability. Durability is important to us because each Chromebook has many users and is frequently tossed onto, and retrieved from, metal shelves that could scratch some finishes. They also need to withstand the effects of regular cleaning.

If identical devices aren't possible, try to keep chargers of the same type. This will make your charging racks interchangeable, and traveling users will have a much easier time finding power. Recent USB Type-C compatible devices make this much easier – we recommend sticking with those. At Google, we've found offering loaner chargers as a bundle with devices is generally not a good idea. We tried placing a bin of chargers next to Grab and Go shelves so our users could take one if they needed a Chromebook longer than a day, but few customers returned them. Since then we've stopped offering chargers as a part of the Grab and Go experience. Most users already have USB Type-C charging at their desks, at home, or in conference rooms. So it's not too much of a problem, and it saves us quite a bit of money on replacement chargers.

We recommend keeping your fleet of devices as homogeneous as possible.



Not sure how many devices you need? It's okay! We recommend starting with a small deployment to gauge interest, and expanding from there. We had no idea what to expect at Google. We guessed we'd need the same number of Chromebooks we'd previously handed out manually, but we discovered we needed somewhat more. Since we've been monitoring our usage patterns we can share recommendations based on our experiences.



If you're using your Grab and Go program as a safety net for employees with broken, lost, or forgotten devices, we've found a ratio of one device for every 50 users (1:50) is sufficient. If you expect employees to use this service as both a safety net and a convenience service, 1:30 should be a good fit. These ratios will keep your fleet highly utilized without much slack. Regardless of what ratio you decide upon, keep an eye on how it's going. Spend time understanding how your employees use the service, and adjust if needed.

If you expect employees to use this service as both a safety net and a convenience service, 1:30 should be a good fit.

This is also a good time to make sure you have the correct number of Chrome Enterprise licenses for your deployment. Each Grab and Go device needs to be enterprise enrolled and will therefore consume a management license. Review the information available in the Chrome management console, or consult our [licencing documentation](#) if you're unsure of how to proceed.

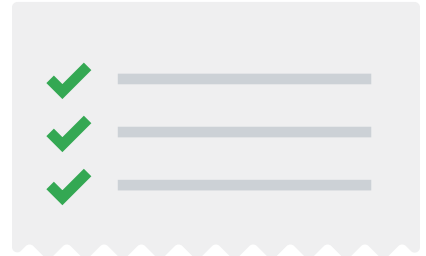
Setting User Expectations

With your Grab and Go goals now set, it's time to decide on how you want to encourage (or discourage!) certain types of usage. When we planned the loaner program at Google, we underestimated how much Googlers would depend on it. We modeled our initial fleet size on the usage we saw at our help desks – users that had lost, forgotten, or broken their primary device. When we launched the loaner service we saw almost three times more demand than we initially planned for. This led us to re-evaluate how we set usage expectations. The following is a brief primer of topics you may want to think through.



Acceptable usage types

We've seen a wide array of loaner device usage at Google. Everything from employees using a device as a safety net when their primary device is broken, to loaning one out every day so that they could leave their heavy laptop at home and avoid carrying it to work. We recommend you define acceptable versus unacceptable usage, and be sure to communicate these expectations. It's important for your users to know what the Grab and Go program is for, whether you publish a community guideline or include it in signage.



Default usage duration

Setting a default loan duration is a great way to indicate proper usage to your users. We've found short loan durations keep most users in the habit of only using a loaner when one is truly needed – without any customer satisfaction impact. We currently default to a two-day loan duration with the option to extend a loan if needed.

Usage extensions

Allowing users to extend the time they can hold onto a device adds convenience and peace of mind. If they're waiting for a lengthy repair of their primary device, working on a long running project, or are on a long trip, this is an easy way for users to let program administrators know they can keep the device a little longer and avoid pesky nag notifications. When optimizing for an efficient fleet size, we've found the best results by pairing a two-day default loan duration with the option to extend loans. Short-term users don't hang onto devices for too long, and longer-term users have the option to extend their loan by a couple weeks if they need to.



of loans are for productivity blocking reasons



of loans are for convenience

Nag communications and frequency

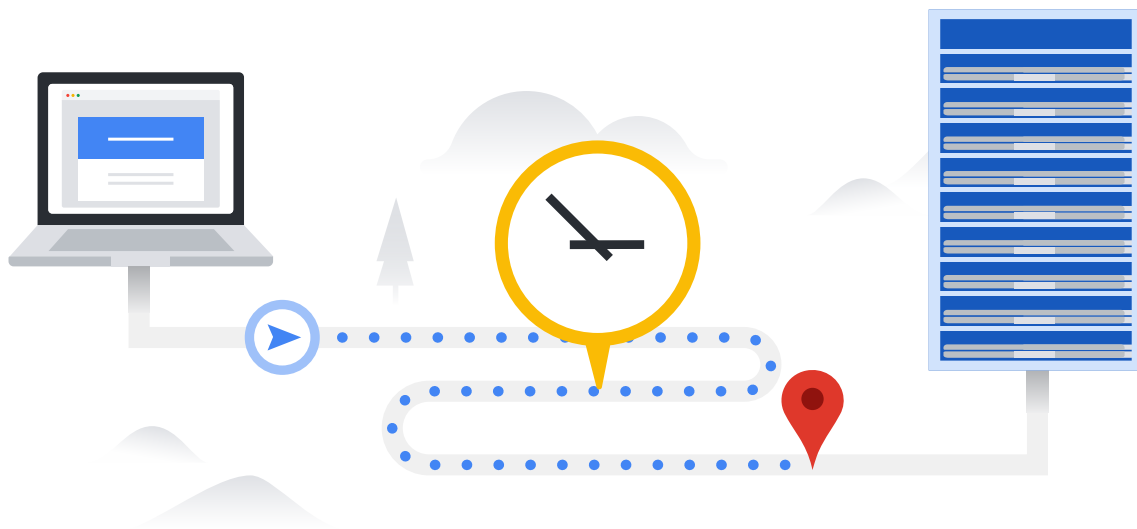
Sometimes you'll need to remind your users to return their device. At Google we have the Grab and Go application send automated reminder emails to users as soon as a device becomes overdue, and once every two days after that. This keeps the loan duration top of mind, and it has resulted in devices being returned sooner versus other reminder schedules we tried out.

After around a week of nag emails, we get a little more serious with enforcement, which brings us to our next topic.

How to handle misuse

Some of your users will find reasons to use Grab and Go devices that you didn't expect, or simply don't want to accommodate. You should decide how to handle these cases as you plan your own Grab and Go program. Generally speaking, we recommend enforcement methods that stay out of the way of the user – after all, this is a program that focuses on keeping them productive! We've experimented with automatically locking devices, and with copying a user's manager on reminder emails. Both appear to have the same effectiveness with regard to device recovery at Google, so you should decide which (if either) fits how you'd like to enforce device returns.

Sometimes, you'll need to remind your users to return their device.



Shelves

Grab and Go Chromebooks need a home, and a place where they can recharge when they're not in use. The at-shelf experience seems easy at first glance, but you'll want to make sure you get it right. This is where you'll set the tone and expectations of your Grab and Go program.

When we started thinking about our loaner program at Google, we built a much more controlled and cumbersome experience. We designed a complex, vending machine-style checkout process. Users had to scan their corporate badge and interact with a kiosk before taking a device. We found this $f\bar{x}$ low contradicted how we wanted the program to function. Not only was it hard for us to manage and maintain a vending machine, the checkout process was inconvenient. We redesigned the experience to be much more streamlined, simple, and intuitive. Just grab a device, and go! Software does the hard work of tracking who has which device, and assigning return dates. There's no need for a vending machine when a simple open shelf will do the job!

We found in our testing that open, lay-flat metal shelves worked best. Our users found them accessible, and it was easy to tell if devices were in stock. You likely won't need a shelf slot for each device in your fleet, since there will always be a number of devices in use at any given time. We aim for one shelf slot per 100 employees, or per 50 devices. When cabling your shelves, be sure to make chargers a prominent feature of the setup. We dangle our chargers in front of each shelf slot so users know to plug in their returned device upon drop-off. This way, the next user picks up a fully charged device and can get right back to work.

We've been very happy using [PowerGistics shelves](#) (without the locking component). They're easy to set up, are sturdy, look good, have cabling built in, are coated in non-conductive material, and include a grounded power strip.



Just grab a device, and go! Software does all the hard work of tracking who has what device, and assigning return dates.

User Communications

We've found that communicating with users and appropriately setting expectations is key to making the Grab and Go experience a magical one. In this section we'll provide details on the stickers, signs, and emails we recommend using as a part of the experience.

Signage

Signage is likely to be your first point of contact with users, and is the cornerstone of setting expectations and providing education about the Grab and Go program. We've provided some sample signage in the Appendix and Resources section of this document that should get you started. Using the goals and user expectations you defined in your planning, create signage – or modify the signage we provide – to quickly and effectively get the point across to your users.

We hang signs above, or near, Grab and Go shelves so users can understand how the program works while they're picking up a device. We've also found that explaining the message as a step-by-step cartoon strip is most effective at explaining tricky or confusing parts of the program experience. Cartoon cells explaining loan duration, usage requirements, and how to return a device are prominently featured on our signage at Google, since these are common questions we hear from employees.

Signage is likely to be your first point of contact with users, and is the cornerstone of setting expectations and education about the Grab and Go program.



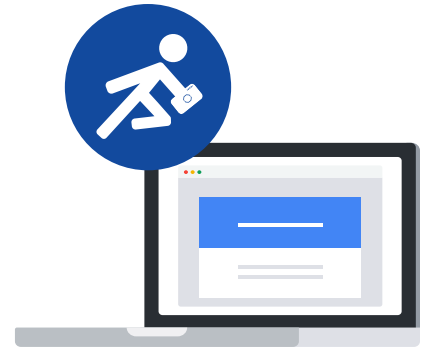
Stickers

Stickers serve both as branding and as a second line of defense when it comes to explaining the Grab and Go program to users. We recommend high contrast, vinyl stickers that are easily identifiable. Vinyl stickers hold up better than their paper counterparts.

At Google, we place a “Chrome Enterprise Grab and Go” logo sticker on the lid of all devices in our loaner fleet so they can be easily identified by our users and support staff. Consistent and similarly branded devices allow users to feel confident they’re receiving the same dependable service they’re used to. Branding makes our operations easier too. Sometimes, Grab and Go devices can make their way behind help desks or into device return areas. Stickers allow our equipment management team to easily identify a Grab and Go device and quickly return it to its home on the charging shelf.

Inside the laptop we place two stickers that further explain usage and answer common questions. These address setup, usage, and the return process. We’ve provided samples of those stickers, but you may consider customizing stickers based on questions and feedback you hear from your own users.

At Google, we recently started placing reminder stickers on laptop lids to emphasize that devices should be plugged in upon return. We implemented this after finding that users would occasionally forget this step. This sticker should be placed in line with the charging port location for ease of use.



Stickers allow our equipment management team to easily identify a Grab and Go device and quickly return it to its home on the charging shelf.



Emails

We communicate with Grab and Go users via email at critical points in the device's journey. These warm welcomes and reminders, all of which you can customize, communicate key usage information and reinforce program expectations.

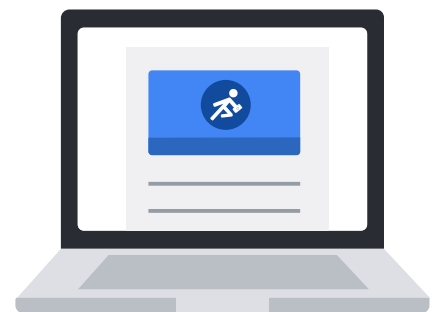
Assignment: When a user logs into a device, they will receive an email confirming they're using Grab and Go, that the specific device has been assigned to them, and the date on which they must return it – per the loan duration they set. In this email we also remind them they have the option to extend loan duration and enable guest mode.

Due: We send an email the day a device is due for return. This email includes an option to extend the duration of the loan if needed. As previously mentioned, we default to a loan duration of two days at Google. Our analysis has shown that this is the average loan duration needed by Googlers, that it results in the best user experience, and that it gets devices back in circulation more quickly than other loan durations.

Overdue: Overdue emails let the user know they should return the device to a shelf, and also gives the option to extend the duration of the loan if they haven't done so already.

Companion App

A companion app is automatically loaded onto all Grab and Go devices when users log in, and pops right up to welcome them. This app is the primary way users interact with the programmatic portion of Grab and Go, as it runs on the device they are using. It can perform many functions including explaining program usage, allowing users to set their loan duration, providing answers to FAQs, and allowing users preemptively to mark their device as returned. We added a helpful welcome animation to the onboarding flow in our implementation of this companion app that helps users understand Google's loaner program and policies. A sample animation you can use – or build off of yourself – can be found in the appendix.



Personnel

Even a self-service Grab and Go program requires some maintenance and management. There are three primary groups of personnel that you'll want to prepare or train in advance of launching your program.

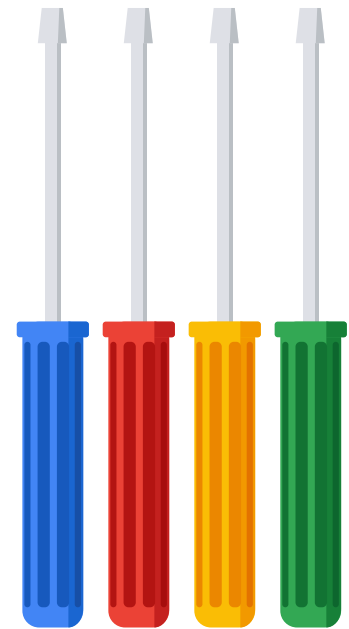
Inventory management:

This group is responsible for maintaining the physical presence of your Grab and Go program. They should be prepared to set up the shelves you use, set up new devices to be added to the fleet, print and apply signage or stickers, and perform daily audits of the device shelving.

When auditing a Grab and Go shelf, staff should visit – and physically inspect – both the shelf and the devices on it. As part of that process they should mark devices as in stock via the Shelf view of the Grab and Go management application. This process unassigns the device from the previous user, stops nag emails, and ensures no other action is required before the next user picks it up. We recommend auditing each shelf twice a day, toward the beginning and end of the day. You can read more about the processes followed by this group in our open source documentation [here](#).

Help desk support:

Sometimes Grab and Go Chromebooks will make their way to your help desks. They may be experiencing a hardware problem, or users may have questions about how to use Chrome OS. Ensure that your help desk staff are aware this program exists, and that they have access to key program documentation to help them troubleshoot or escalate problems.



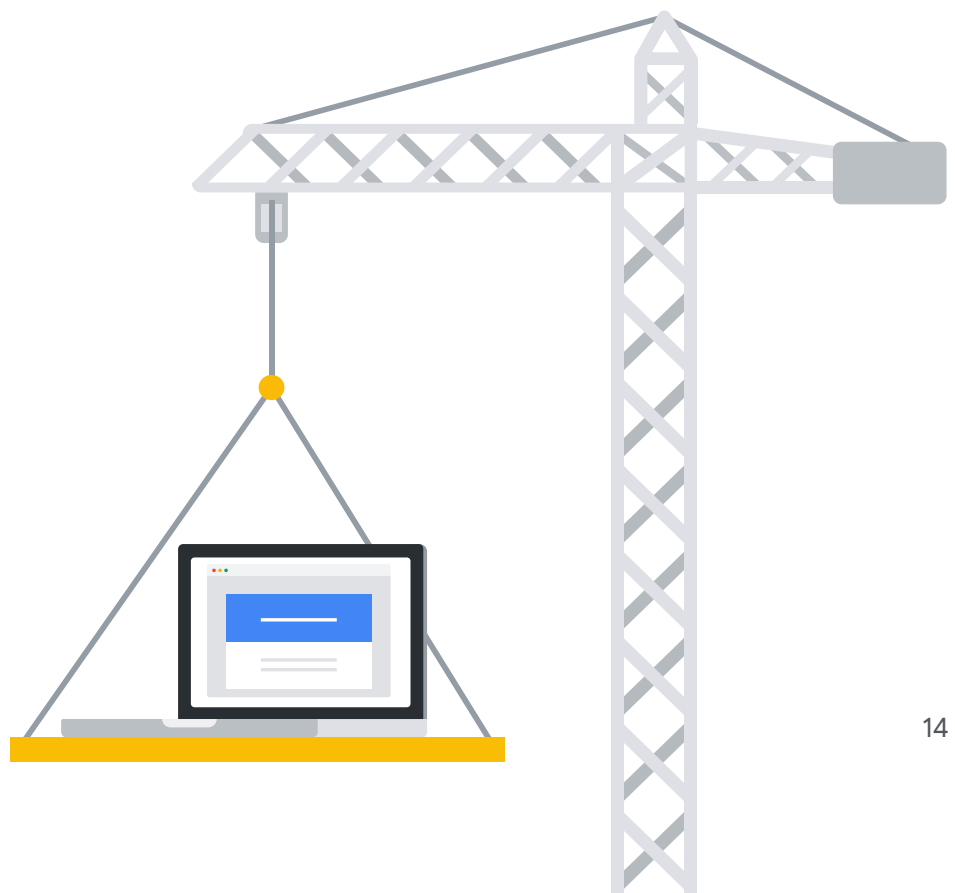
Even a self-service Grab and Go program requires some maintenance and management.

Grab and Go administrators:

This group is responsible for some of the more technical portions of Grab and Go program management. Customizing, deploying, and maintaining the management application we have open-sourced requires Systems Administrator-level knowledge of Python and Javascript, Google Cloud technologies like Google Cloud Platform (GCP) or Google Admin consoles, and an understanding of the backend datastore structure. See the documentation and technical stack described on our open source [readme](#) for more information.

One thing to keep in mind for these teams is how their day-to-day work will change after a Grab and Go program is deployed. At Google, we found that our help desk support team now had around 10% of their time freed up because they were handling fewer inventory transactions in the form of assignment or return of loaners. Some of that time was shifted over to the inventory management team now that they had to perform daily audits of Grab and Go shelves. We recommend making sure both teams have appropriately budgeted for these changes.

At Google, we freed around 10% of our help desk team's time because they were handling fewer inventory transactions in the form of assignment or return of loaners.



Getting Started

So, at this point, you have made prerequisite decisions, started procuring devices and infrastructure, and prepared your staff for the new service they will need to support. Now let's complete a few last steps and start deploying your service so people can use it!

Get The App Up and Running

As we discussed in a previous section, Grab and Go administrators will be responsible for customizing, deploying, and maintaining the automation required to run a Grab and Go program. Now is the time to ensure the Grab and Go management application is up, running, and working as you'd expect. Take a few days to really kick the tires and ensure it's up to speed before putting it in front of customers and users. Be sure to use our handy open source [application deployment guide](#) when setting up this application. As noted above, setup is quite technical and should only be undertaken by technical staff members, but here are some things to look out for.

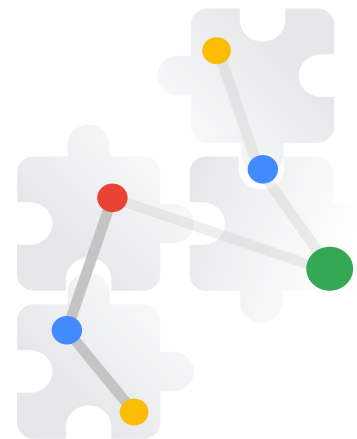


Configuration

We've built the management application with sensible defaults, but these settings might not work for every environment. Take time to consider some of the settings we've chosen for the app.

Allowing Guest mode. Chrome OS has a Guest mode we've disabled by policy. Disabling it ensures only authorized users can log into your program's devices, but you can optionally let users re-enable Guest mode for a specific device after successfully signing into it. This can be handy for visitors, such as clients or job candidates.

Loan duration. We mentioned default usage duration as something to think about when planning your program, and you can configure this in the management application. Choose a default duration, as well as a maximum period beyond which users can't extend a loan. Additionally, you can set the grace period between when the user marks a device returned ... and when you actually get it.



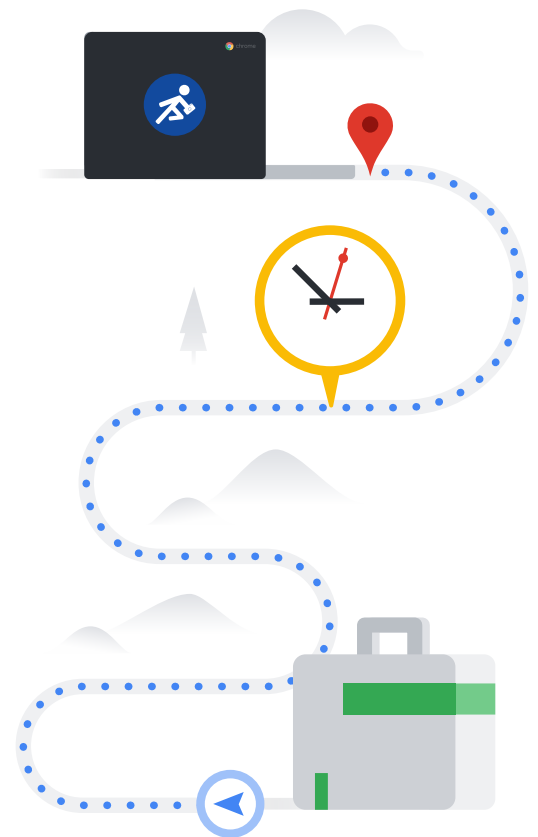
Surveys. Upon a user's initial login to a Grab and Go device, the companion Chrome app can present a survey. You can use this feedback mechanism to gather statistics about program usage. The management application has a setting that allows you to make this mandatory, and another to allow the survey to be anonymous.

Reminder email duration. The management application can send reminder e-mails for overdue devices, and you can set a frequency for this communication. We've found it's useful to show users the system is paying attention to their loans, but also important not to e-mail so frequently that users ignore reminders.

Shelf auditing. The management application allows you to toggle shelf auditing, as well as how often a responsible team should check your shelves and whether they should get reminders to do this.

Service Placement

The correct placement of your Grab and Go shelves can make all the difference, both in terms of location and quantity. Don't hide this new service – you want it to be there when your customers need it. Locating your shelves in accessible, high traffic locations will lead to boosted awareness and faster uptake. At Google, we place our Grab and Go racks in hallways near our help desk locations, or in high traffic areas where Googlers pass through on their way to lunch or to grab a snack. We found Googlers naturally associate loaner procurement with the help desk, so those were obvious locations to put them. Make sure to set things up so your users don't have to walk too far to get a loaner – remember, your goal is to keep them productive. We recommend targeting a maximum walking time to the nearest rack at ten minutes. In small office spaces this shouldn't be a problem, but large, spread-out operations may need many smaller Grab and Go shelves to accommodate the workforce.



Prepare Your Fleet

Before putting devices on Grab and Go shelves you'll need to get them all set up. Apply any stickers, manually enroll each device, add it to the right organizational unit (OU), and add the device to the Grab and Go application. This process can be time consuming and manual – but you only have to do it once per device! For more details on the process see our detailed instructions in the open source repository.

Launch!

All of that deciding, planning, designing, buying, building, and deploying has paid off! It's time to turn this thing on. Send an email to your office or organization. Let them know what this new service is and how to use it. Remember, awareness is your friend. The more employees using this service, the more productive they will be – and the faster you'll see a return on this investment.

You'll likely get a lot of questions about the simplicity of the process, like "Can I just take it?" and "How do you know that I returned a device?" Include an FAQ in your initial announcement to address these questions and any others you anticipate.



Ongoing Program Operations

You've launched!
Congratulations! **Now what?**

The Grab and Go program is self-service and easy for customers, but it still requires some work on the administrator side of things. In this section we will describe some of the things you should be thinking about as your program matures and is used by your customers.

Maintaining The Fleet

As with any shared device, Grab and Go Chromebooks will need to be maintained. They get dirty, they break, and they get old over time. Regular shelf audits are a good time to check how your devices are faring. Make sure your inventory management team is opening them and powering them on at audit time. You should also schedule a bi-yearly review where, for a week or two, your inventory management team spends extra time inspecting devices that come back to shelves.

You may also notice some shelves attract more returns than others. At Google, we find Googlers pick up loaners from one office and move them to another (especially when the destination office is one often traveled to). Keep a close eye on the stock levels of individual shelving units, and set rebalance thresholds that trigger devices to be moved from one shelf to another.

We also recommend you keep a stock of backup Grab and Go devices in each office – especially larger offices – to accommodate spikes in demand. At Google, we've found that conferences and local events drain the local loaner supply very quickly.



Application Maintenance

Ensuring the automation portions of Grab and Go are running smoothly will require some of your program administrators' time. Deploying on [Google's App Engine](#) platform allows developers to stay more productive and agile while not worrying about the odds and ends of scaling the service. Much of traditional application management overhead is removed with App Engine. There are still a few Grab and Go specific things to look out for going forward:

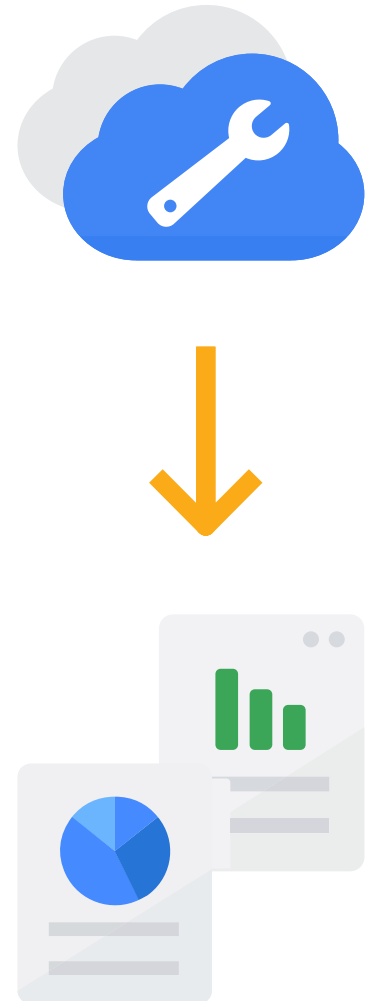
Ensure the Grab and Go application is healthy by monitoring application logs. Keep an eye out for errors or warnings in App Engine's built-in [logging tools](#). Get in touch with the open source community if you'd like a consult on the issue you're experiencing.

Google's Grab and Go team and the open source community will periodically release milestone updates. Keep an eye out for new versions and their [release notes](#). The team will design, develop, test, and publish updates with the goal of making the update process as painless as possible. Updates will likely require some integration effort from your admins. Be sure to review new features, make sure they're a fit with your organization, and merge new code with your internal systems.

Reporting

Keeping track of your loaner fleet, and how customers are using it is a key part of a maintainer's job. Signals generated by the tools built into the Grab and Go management application will help you do this quickly and easily. Below, you'll find a description of a few reports that we suggest running, and using to monitor your loaner service.

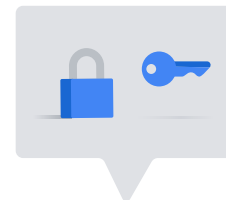
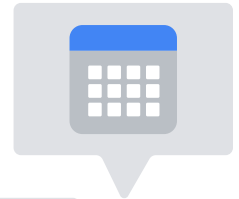
Program utilization: What your customers are using Grab and Go devices for, how much of your fleet is in use over time, average loan durations – and much more – fit into this category. This will be the set of reports you reference to keep a pulse on the overall health of your loaner program. It will also give you a signal on your return on investment. Understanding how much productivity is being boosted by your Grab and Go program will be important to this report dimension.



Lost devices: This report will give details on devices that have fallen off the radar. They're gone and you'll likely never see them again. Be sure to replenish shelves that have been hit particularly hard by loss.

Program misuse: Run these reports to better shape how customers use your Grab and Go program. As we found at Google, we're sure your customers will find new and creative ways to use this fleet of self-service devices. Here are a few signals that you'll want to look at to inform deep dives and customer outreach:

- **Long loans:** Users that keep Grab and Go devices far beyond the default loan duration.
- **Teams with high utilization:** Groups of employees that have an abnormally high usage rate compared to the rest of the company. This can indicate a broken process, or misunderstanding of how to use the Grab and Go program.
- **Frequent flyers:** Users that loan out Grab and Go devices at a higher rate than the average. At Google, we expect Googlers to use a loaner device no more than once a month. Anything more than that triggers a review action – anything from an email to the user, to a deep dive to better understand their use case.



Appendix and Resources



Shelf sign

The sign should be printed horizontally (landscape), large (24" x 36"), single-sided on 3/16" foam core or PVC. It should be mounted above the Grab and Go shelf.



Logo sticker

The logo sticker should be a die cut 5" round printed on a vinyl. It should be placed in the center of the device lid.



Charger reminder sticker

The charger reminder sticker should be a die cut 1" x 2.5" printed on vinyl. It is placed on the lid of the laptop, in the corner closest to the charger port, and should align with the charge port if possible.



Return sticker

The return sticker should be 3.5" x 2.5" with rounded corners. It should be placed inside of the laptop, below the keyboard where a user's right hand would rest.



Setup sticker

The setup sticker should be 3.5" x 2.5" with rounded corners. It should be placed inside of the laptop, below the keyboard where a user's left hand would rest. Customization may be required to ensure setup is relevant for your company.



Welcome animation

This gif is embedded in the ingress flow of the GnG companion Chrome App. It can be customized based on the experience your customers will have.



Return animation

This gif is embedded in the egress flow of the GnG companion Chrome App. It can be customized based on the experience your customers will have.

To help get the conversation started at your company, and with your peers, here are a few resources we've found helpful:



One pager: A quick introduction to the Grab and Go program;



Pitch deck: A deck you can use to introduce leaders and team members to the Grab and Go program;



Next SF breakout, Next SF panel: Google's Grab and Go product manager discusses how the program works at Google and some background on how it got started;



White paper: A detailed explanation of how the Grab and Go program works at Google.

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