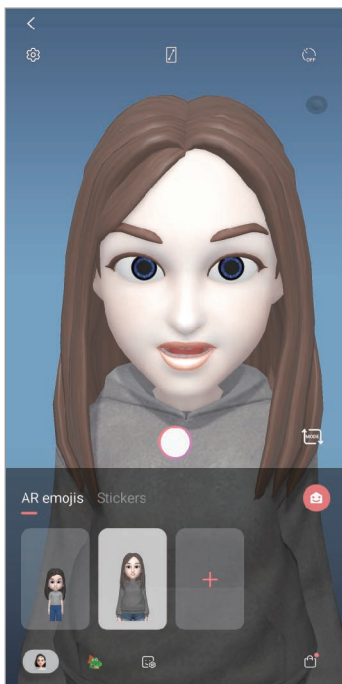


## AR Emoji

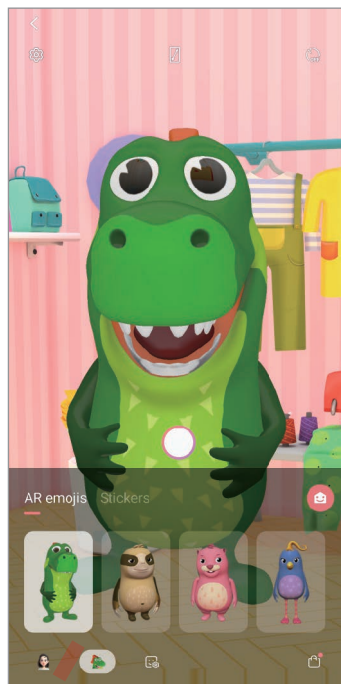
### Introduction

Create a My Emoji that looks just like you, and take photos and record videos using My Emojis, character Emojis, or stickers.

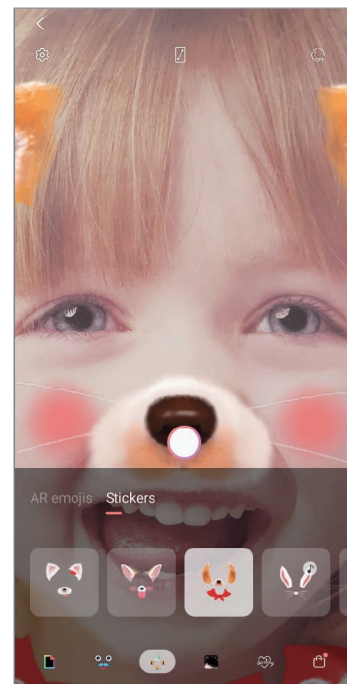
You can customise My Emoji's features, such as the face shape or hairstyle, and decorate My Emoji with various accessories. You can also express yourself in fun ways using My Emoji stickers during a conversation.



My Emojis




Character Emojis



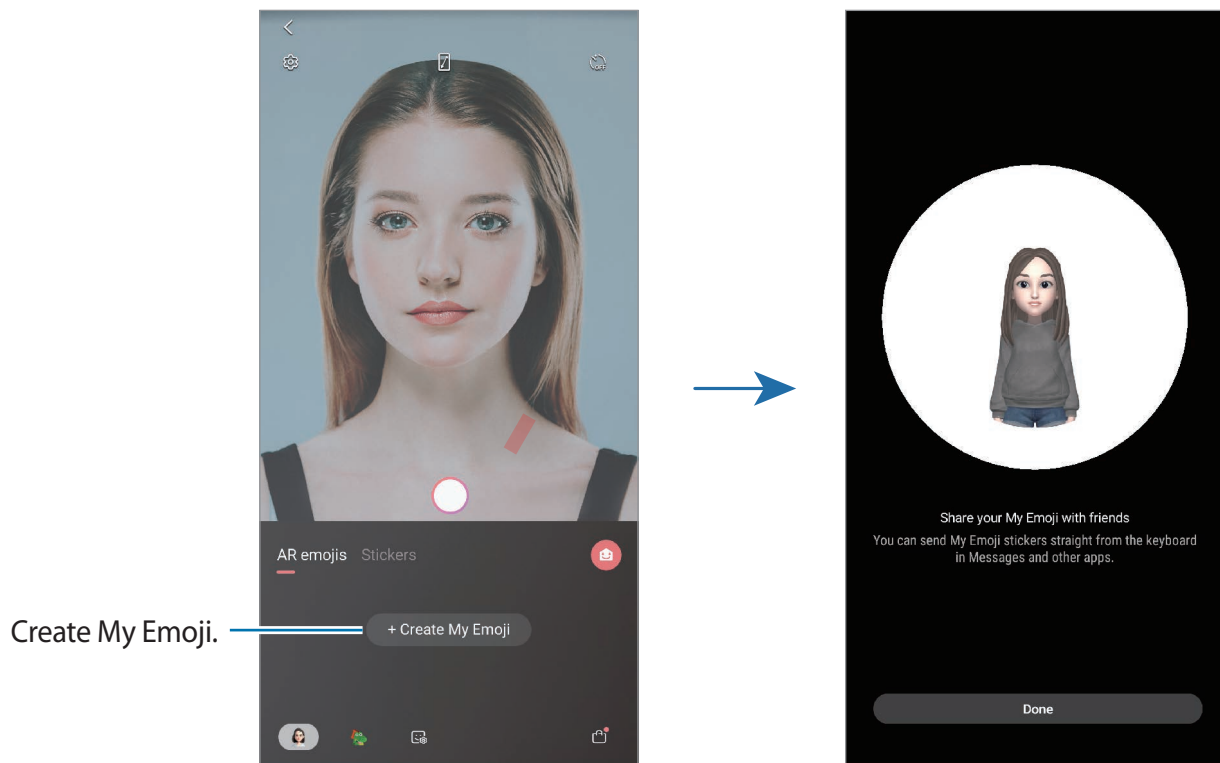
Stickers


## Creating My Emoji

Make a My Emoji that looks like you. My Emoji stickers with various expressions will be automatically generated.

- 1 Launch the **Camera** app and tap **AR Emoji** → **Create My Emoji**.
- 2 Align your face on the screen and tap  to take a photo.
- 3 Select My Emoji's gender and age range and tap **Next**.
- 4 Decorate a My Emoji and tap **Next**.
- 5 Tap **Done**.

The My Emoji and My Emoji stickers are now created.



You can use the **AR Emoji** feature in both the front and rear cameras. If you are using the rear camera, it will automatically switch to the front camera. To switch between cameras, swipe upwards or downwards or tap  on the preview screen.



## Deleting My Emoji

Launch the **Camera** app and tap **AR Emoji**. Tap and hold the My Emoji that you want to delete and tap .

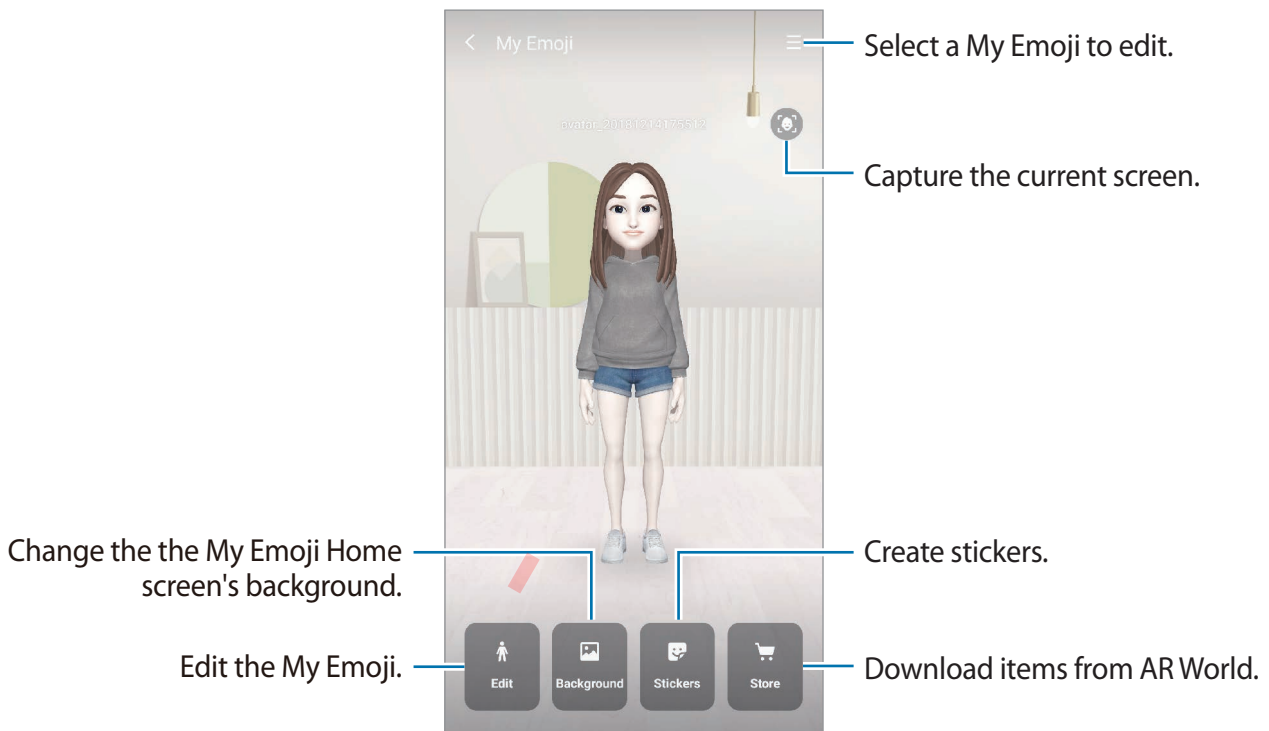


## Customising My Emoji

Edit or decorate a My Emoji on the My Emoji Home screen after downloading various items from AR World. You can also add My Emoji stickers.

## My Emoji Home screen

Launch the **Camera** app and tap **AR Emoji** → . My Emoji Home screen will appear.



## Editing My Emoji

Edit a My Emoji or change the background of the My Emoji Home screen.

On the My Emoji Home screen, tap **Edit** or **Background**.



## Downloading items from AR World

Decorate a My Emoji after downloading items, such as clothes or accessories, from AR World. On the My Emoji Home screen, tap **Store** and download the items you want. You can view the downloaded items on the My Emoji editing screen.

## My Emoji stickers





Create your own stickers with My Emoji expressions and actions. My Emoji stickers are saved in **Gallery** as animated GIFs, and you can use them during a conversation via messages or on a social network.

## Adding stickers

On the My Emoji Home, tap **Stickers** → **Add new stickers** and tap  on the sticker you want on the list. The sticker will be added.


## Creating your own stickers

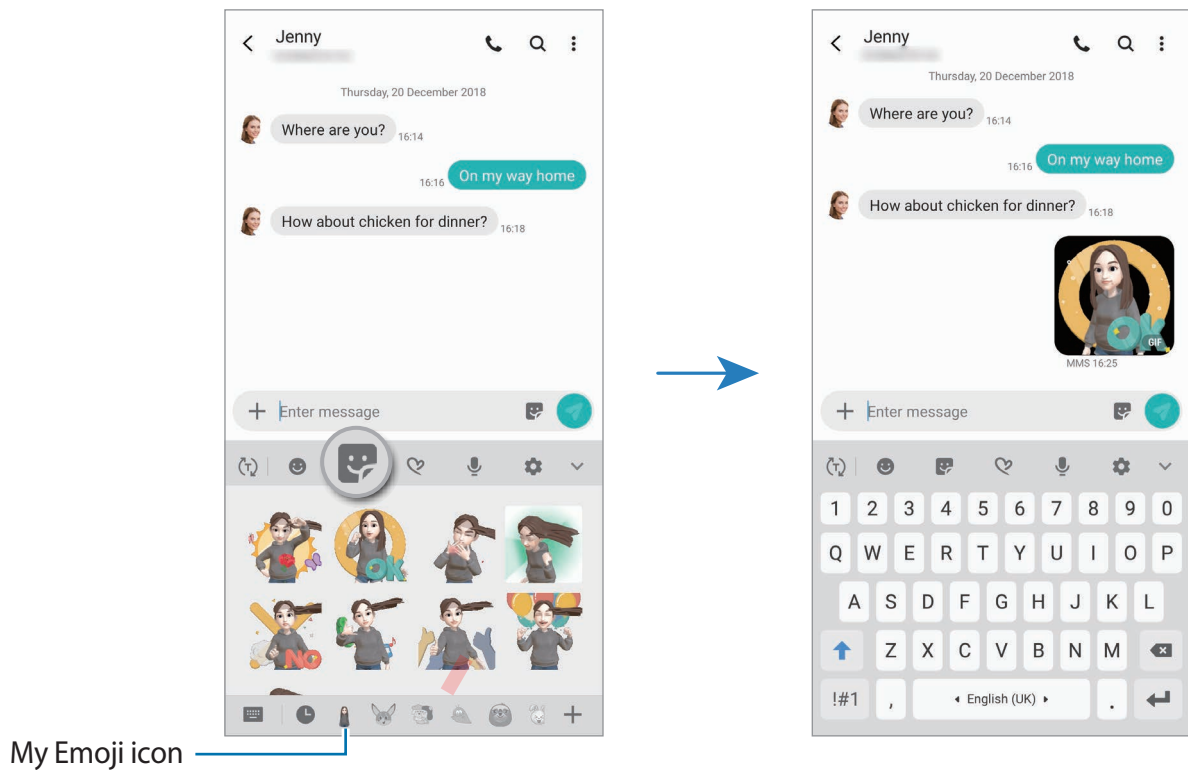
Create My Emoji stickers how you want.

- 1 On the My Emoji Home screen, tap **Stickers** → **Make custom stickers**.
- 2 Edit stickers how you want.
  -  : Select an expression.
  -  : Select an action.
  - **T** : Enter text.
  -  : Add stickers.
  -  : Select the sticker's background.
- 3 Tap **Save**.

## Using My Emoji stickers in chats

You can use My Emoji stickers during a conversation via messages or on a social network.

- 1 On the Samsung keyboard, tap .
- 2 Tap the My Emoji icon.
- 3 Select one of the My Emoji stickers.  
The My Emoji sticker will be inserted.



## Deleting My Emoji stickers

On the Samsung keyboard, tap  and tap  at the bottom of the keyboard. Select the My Emoji stickers you want to delete and tap **Delete**.

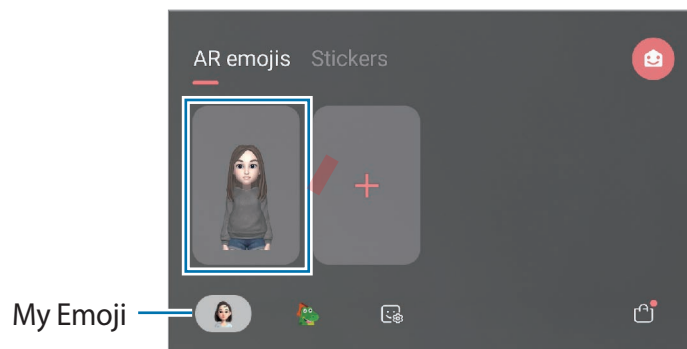





## Capturing photos or videos with My Emoji

Create fun photos or videos with My Emoji using various shooting modes.



- 1 Launch the **Camera** app and tap **AR Emoji**.
- 2 Select a My Emoji you want to use.



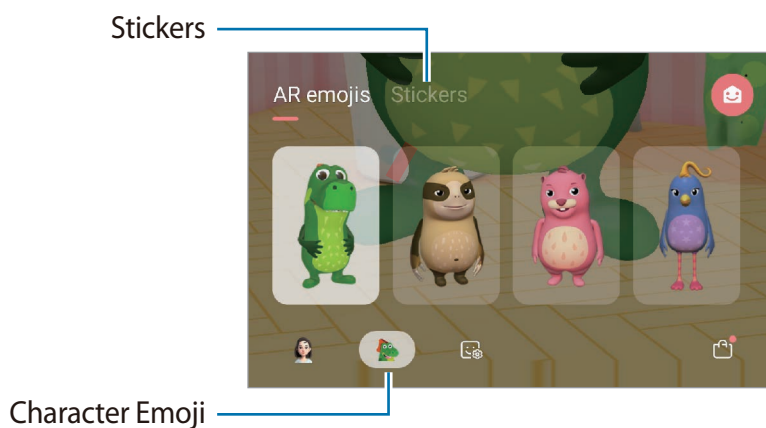
- 3 Tap  and select the mode you want to use.
  - **Basic:** My Emoji mimics your expressions.
  - **Mask:** Your face appears as the selected My Emoji so it looks like you are wearing a mask.
  - **Body tracking:** My Emoji mimics your body movements.
  - **Motion figure:** A small My Emoji appears and reacts when you touch the screen.
- 4 Tap  to take a photo, or swipe to the left on the preview screen and tap  to record a video.



You can view and share the photos and videos that you have captured in **Gallery**.

## Capturing videos with character Emojis or stickers

Character Emojis mimic your expressions. You can also apply sticker effects that follow your face.

- 1 Launch the **Camera** app and tap **AR Emoji**.
- 2 Select a character Emoji, or tap **Stickers** and select a sticker you want to use.



- 3 Tap  to take a photo, or swipe to the left on the preview screen and tap  to record a video.

You can view and share the photos and videos that you have captured in **Gallery**.



## Always On Display

You can view information, such as the clock or calendar, or control music playback on the screen when it is turned off.

You can also check notifications for new messages or missed calls.



The brightness of the Always On Display may change automatically depending on the lighting conditions.

### Setting how to display the Always On Display

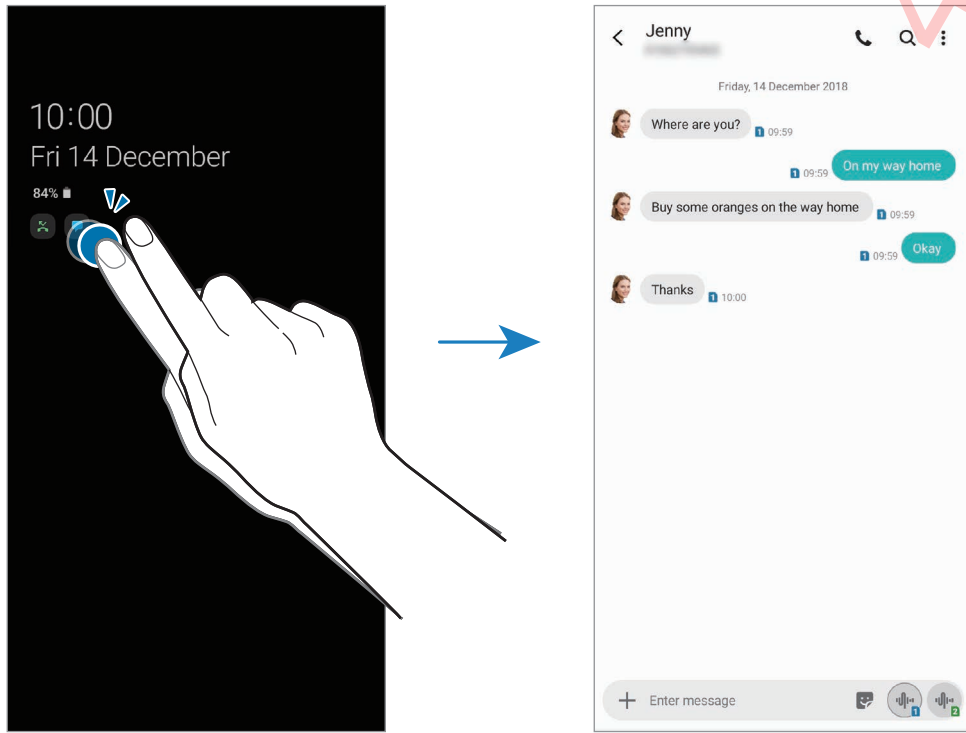
You can select how to display the Always On Display. The Always On Display can be set to appear continuously or only appear when tapping the screen while it is turned off. Also, you can set the time to display the Always On Display.

Launch the **Settings** app, tap **Lock screen** → **Always On Display** → **Display mode**, and then select a mode you want.



## Opening notifications on the Always On Display

When you receive message, missed call, or app notifications, notification icons will appear on the Always On Display. Double-tap a notification icon to view its notification.



If the screen is locked, you must unlock it to view notifications.

## Controlling music playback on the Always On Display

You can control music playback on the Always On Display.

- 1 Launch the **Settings** app, tap **Lock screen** → **FaceWidgets**, and then tap the **Music** switch to activate it.
- 2 To control music playback on the Always On Display, double-tap the clock.
- 3 Swipe to the left or right on the clock to move to the music controller.
- 4 Tap the icons to control the playback.



## Displaying an image to the Always On Display

You can display an image on the Always On Display. You can also display an animated GIF.

- 1 Launch the **Settings** app → **Lock screen** → **Clock style** → **Always On Display**.
- 2 Drag the types list to the left and select the type with an image on it.
- 3 Tap **+** and select an image.  
To insert an animated GIF, tap **GIF** and select a file.
- 4 Tap **Done**.

## Deactivating the Always On Display feature

Launch the **Settings** app, tap **Lock screen**, and then tap the **Always On Display** switch to deactivate it.

## Edge screen (Galaxy S10+, Galaxy S10)

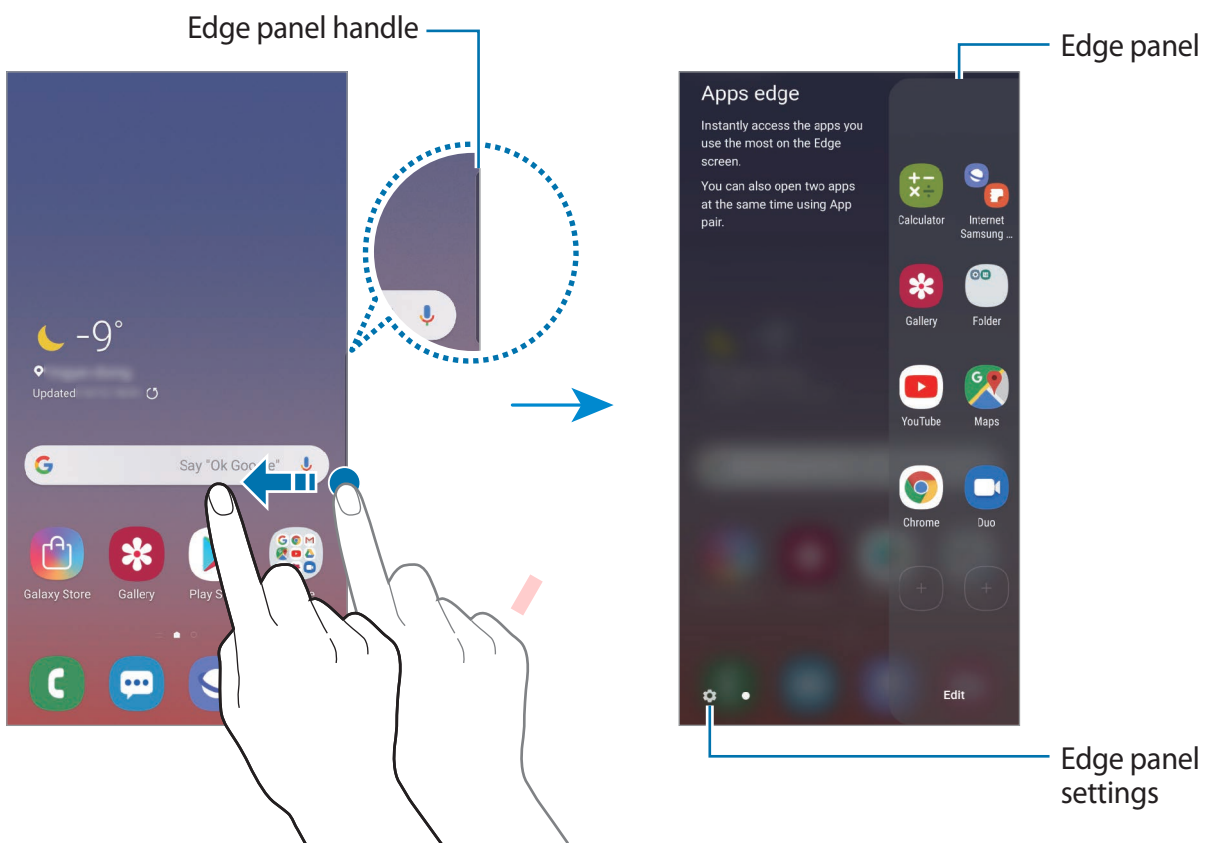
### Introduction

You can quickly access your favourite apps and features from the Edge panels.

### Using the Edge panels






Drag the Edge panel handle towards the centre of the screen.

If the Edge panel handle is not visible, launch the **Settings** app, tap **Display** → **Edge screen**, and then tap the **Edge panels** switch to activate it.




## Editing the Edge panels

Select panels to display on the Edge screen or edit them.

- 1 Drag the Edge panel handle towards the centre of the screen.
- 2 Tap  to open the Edge panel settings screen.
- 3 Tick Edge panels to display.
  - To edit a panel, tap **Edit**.
  - To download additional panels, tap  → **Galaxy Store**.
  - To rearrange the panels, tap  → **Reorder** and drag   to another location.

## Setting the Edge panel handle

You can change the location, size, transparency, or vibration settings of the handle.



Drag the Edge panel handle towards the centre of the screen. Then, tap  →  → **Edge panel handle**.

## Apps edge

Quickly launch frequently used apps.

- 1 Drag the Edge panel handle towards the centre of the screen.
- 2 On the Apps edge panel, select an app to launch it.

## Editing the Apps edge panel


- To add an app, tap  on the panel and tap an app from the apps list.
- To create a folder on the panel, tap  on the panel, tap and hold an app from the apps list, and then drag it over another app on the Apps edge panel.
- To delete an app, tap and hold an app on the panel and drag it to **Remove** at the top of the panel.
- To change the order of apps, tap and hold an app and drag it to another location.



You can also edit the Apps edge panel by tapping **Edit**.

## Adding app pairs

Add two frequently used apps, such as a video player and a messenger app, to the Apps edge panel to launch them together in the split screen view with a single tap. For more information about the split screen view, refer to [Split screen view](#).

- 1 Drag the Edge panel handle towards the centre of the screen.
- 2 On the Apps edge panel, tap  → **Create App pair**.
- 3 Select two apps from the list.  
The first app will appear at the top and the second app will appear at the bottom when opened in the split screen view.
- 4 Tap **Done**.

## Edge lighting

You can set the device to light up the edges of the screen and display a pop-up window when you receive notifications, such as new messages.

Even while the device's screen is facing downwards, the edges of the screen will light up to notify you of a call or new notifications. When a pop-up window appears while using an app, drag the window downwards to quickly view the content and perform available actions.

## Managing notifications to display as the edge lighting

- 1 Launch the **Settings** app, tap **Display** → **Edge screen** → **Edge lighting**, and then tap the switch to activate it.
- 2 Tap **Manage notifications** and tap the switches next to apps to receive notifications as the edge lighting.

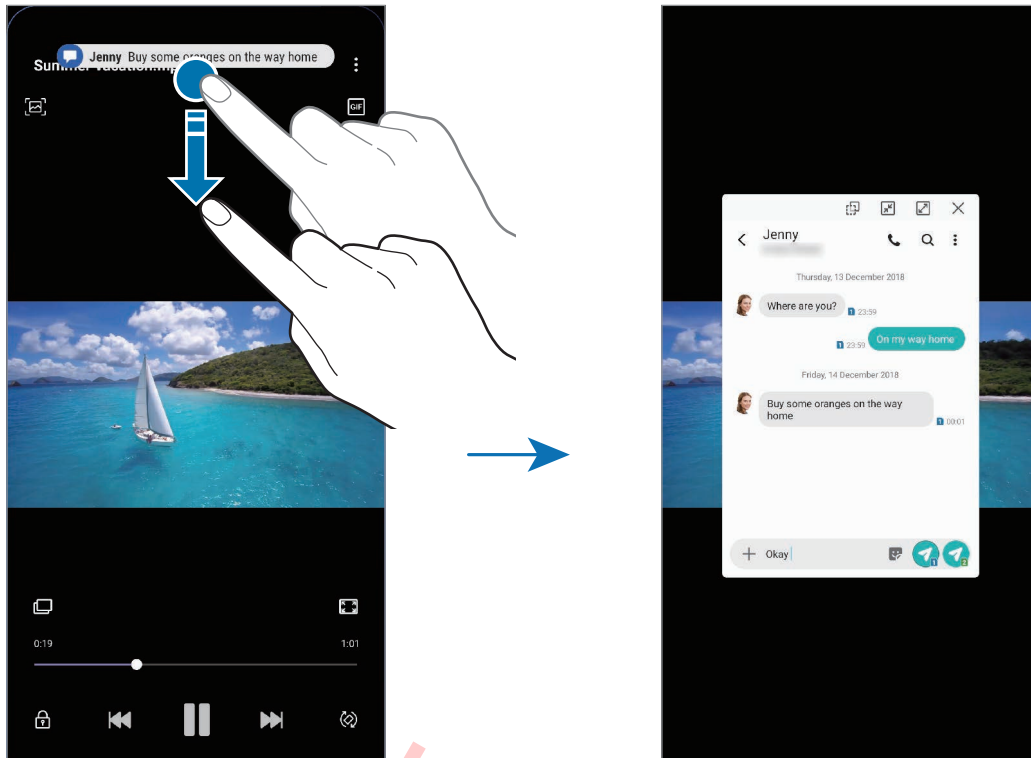


Some notifications may not display as the edge lighting depending on notification types.

## Viewing notifications via the pop-up window

When you receive a notification with edge lighting, you can quickly view its content and perform available actions by opening the pop-up window. For example, if you receive a message while watching a video or playing a game, you can view the message and reply to it without switching the screen.

When you receive a notification with edge lighting while using an app, drag the notification downwards.



This feature is only available to apps that support the Multi window and edge lighting features. To view supported apps, launch the **Settings** app, tap **Display** → **Edge screen** → **Edge lighting** → **Manage notifications**.

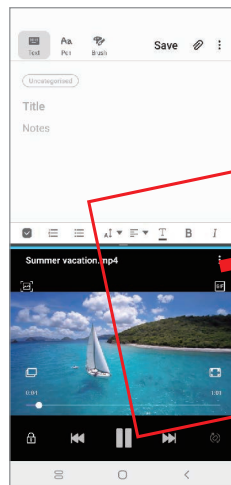
# Multi window

## Introduction

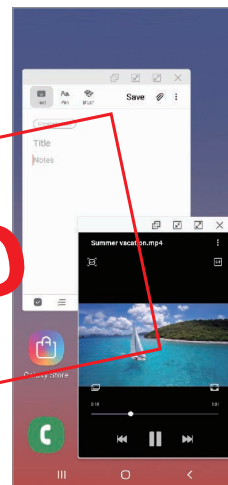
Multi window lets you run two apps at the same time in the split screen view. You can also run multiple apps at the same time in the pop-up view.



Some apps may not support this feature.



Split screen view



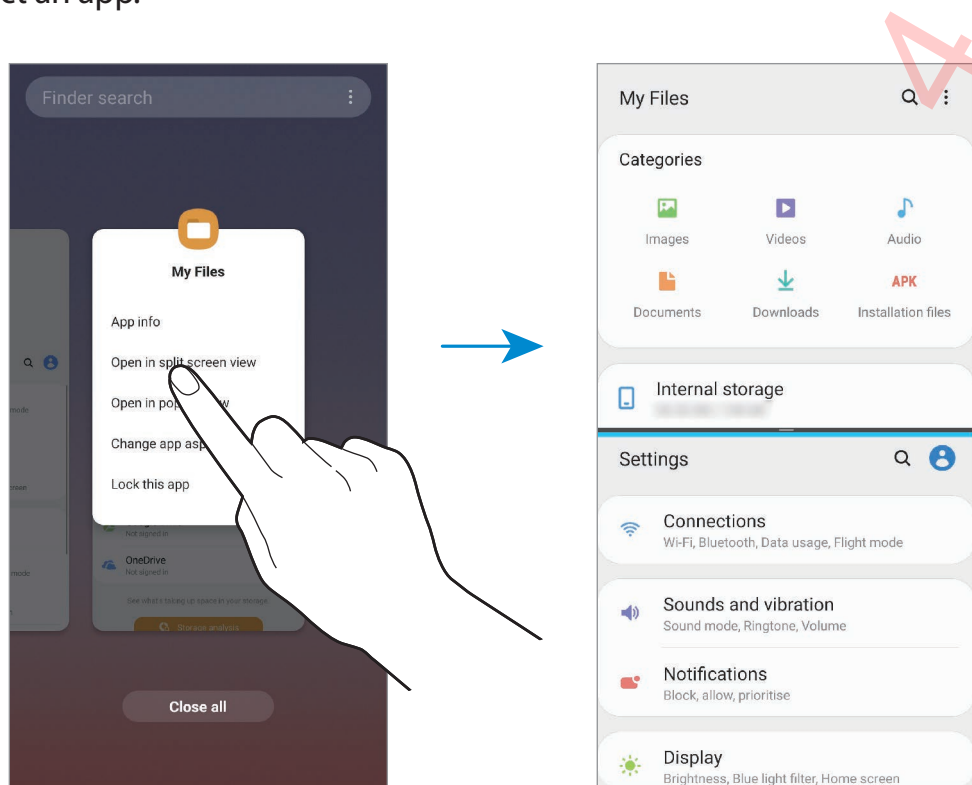
Pop-up view

## Split screen view

- 1 Tap the Recents button to open the list of recently used apps.
- 2 Swipe to the left or right, tap an app's icon, and then tap **Open in split screen view**.  
The selected app will launch in the upper window.

3 On the lower window, swipe left or right to select another app to launch.

To launch apps not on the list of recently used apps, tap the Home button or Back button and select an app.



## Adjusting the window size

Drag the bar between the app windows up or down to adjust the size of the windows.

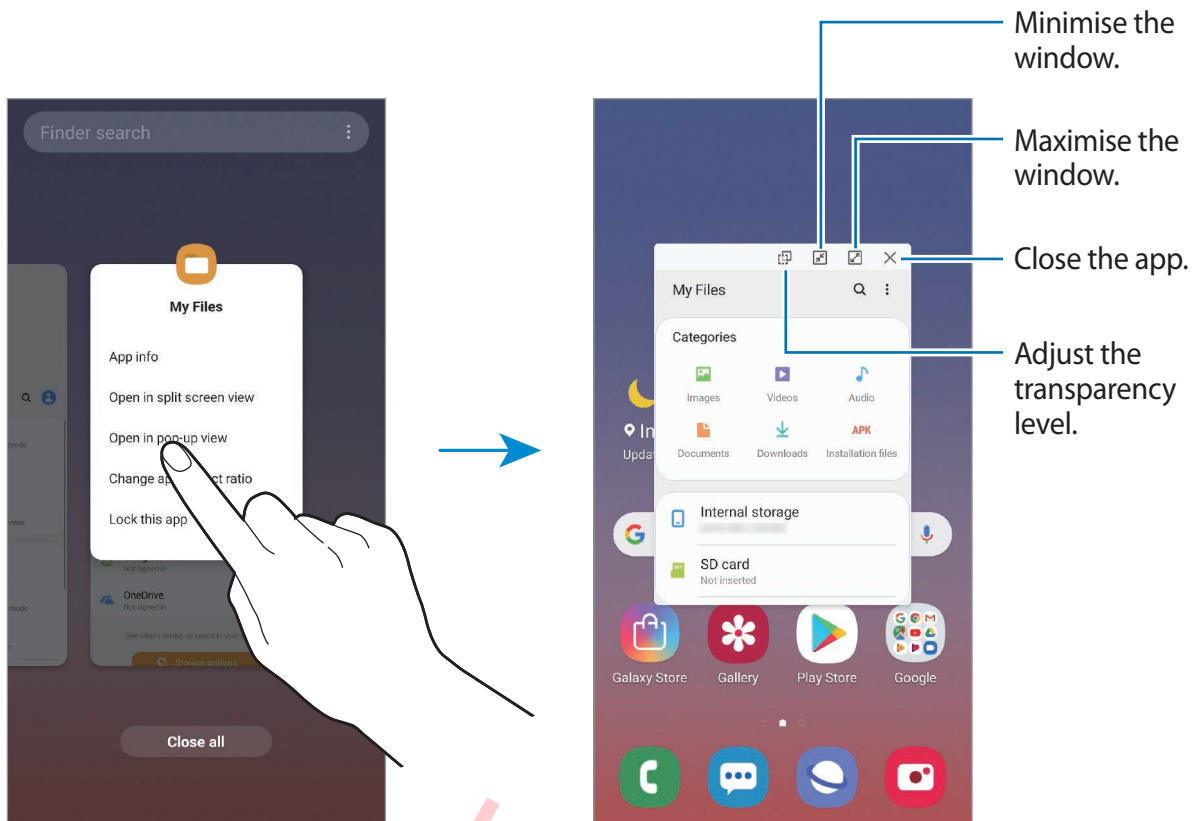
When you drag the bar between the app windows to the top or bottom edge of the screen, the window will be maximised.





## Pop-up view

- 1 Tap the Recents button to open the list of recently used apps.
- 2 Swipe to the left or right, tap an app's icon, and then tap **Open in pop-up view**.  
The app screen will appear in the pop-up view.



## Moving pop-up windows

To move a pop-up window, tap the window's toolbar and drag it to a new location.

# Samsung Pay

## Introduction

Register frequently used cards to Samsung Pay, a mobile payment service, to make payments quickly and securely. Samsung Pay supports magnetic secure transmission (MST) as well as near field communication (NFC) to allow payment through standard credit card readers.

You can view more information, such as cards that support this feature at [www.samsung.com/samsungpay](http://www.samsung.com/samsungpay).



- To use this feature, you must sign in to your Samsung account and register your biometric data. For more information, refer to [Samsung account](#) and [Fingerprint recognition](#).
- To make payments with Samsung Pay, the device may be required a connection to a Wi-Fi or mobile network depending on the region.
- This app's availability and supported features may vary depending on the region or service provider.
- The procedures for the initial setup and card registration may vary depending on the region or service provider.

## Setting up Samsung Pay

When running this app for the first time or restart it after performing a data reset, follow the on-screen instructions to complete the initial setup.

- 1 Launch the **Samsung Pay** app.
- 2 Sign in to your Samsung account.
- 3 Read and agree to the terms and conditions.
- 4 Register your fingerprint to use when making payments.
- 5 Create a PIN to use when making payments.



This PIN will be used to verify various actions in Samsung Pay, such as making payments and unlocking the app.

## Registering cards

You can easily register cards by capturing their images with the camera.



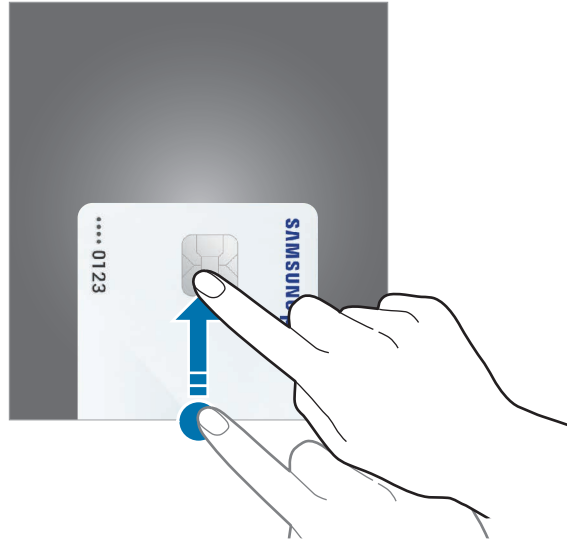
You can check the cards that support this feature from the Samsung Pay website ([www.samsung.com/samsungpay](http://www.samsung.com/samsungpay)).

Launch the **Samsung Pay** app, tap **Add**, and then follow the on-screen instructions to complete your card registration.

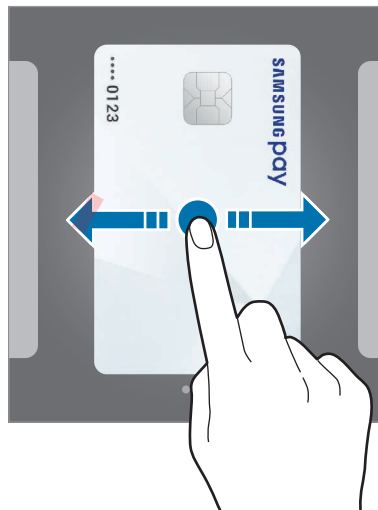


## Making payments

- 1 Tap and hold a card image at the bottom of the screen and drag it upwards.  
Alternatively, launch the **Samsung Pay** app.



- 2 On the cards list, swipe to the left or right and select a card to use.



### 3 Scan your fingerprint.

Alternatively, enter the payment PIN you set when setting up the Samsung Pay.

### 4 Touch the back of your device to the card reader.

When the card reader recognises the card information, the payment will be processed.



- Payments may not be processed depending on your network connection.
- The verification method for payments may vary depending on the card readers.

## Cancelling payments

You can cancel payments by visiting the place where you made them.

On the cards list, swipe to the left or right to select the card you used. Follow the on-screen instructions to complete payment cancellation.

## Samsung Health

### Introduction

Samsung Health helps you manage your wellness and fitness. Set fitness goals, check your progress, and keep track of your overall wellness and fitness. You can also compare your step count records with other Samsung Health users, compete with your friends, and view health tips.


### Using Samsung Health

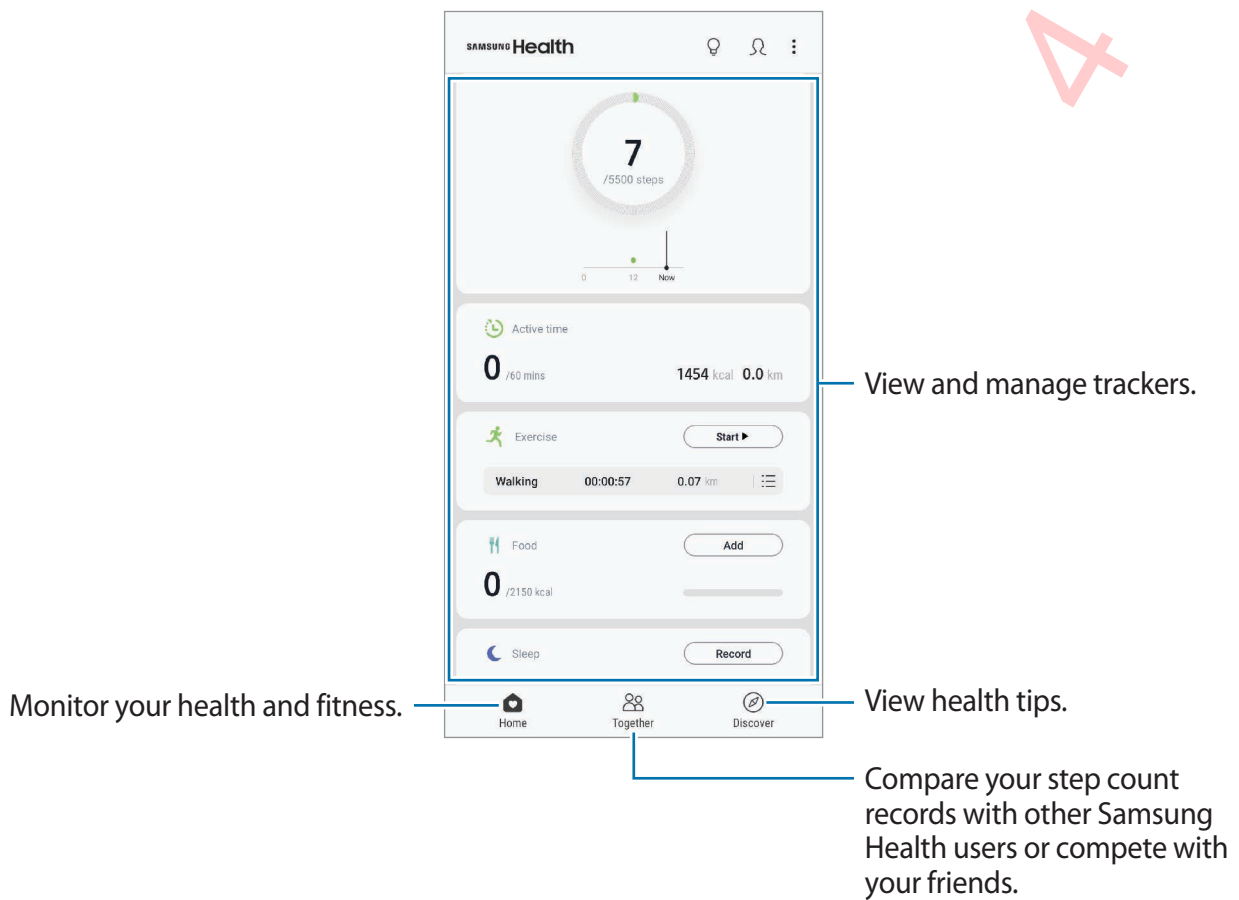
Open the **Samsung** folder and launch the **Samsung Health** app. When running this app for the first time or restart it after performing a data reset, follow the on-screen instructions to complete the setup.



- Some features may not be available depending on the region.



To add items to the Samsung Health home screen, tap  → **Manage items**, and then select items.



## Together

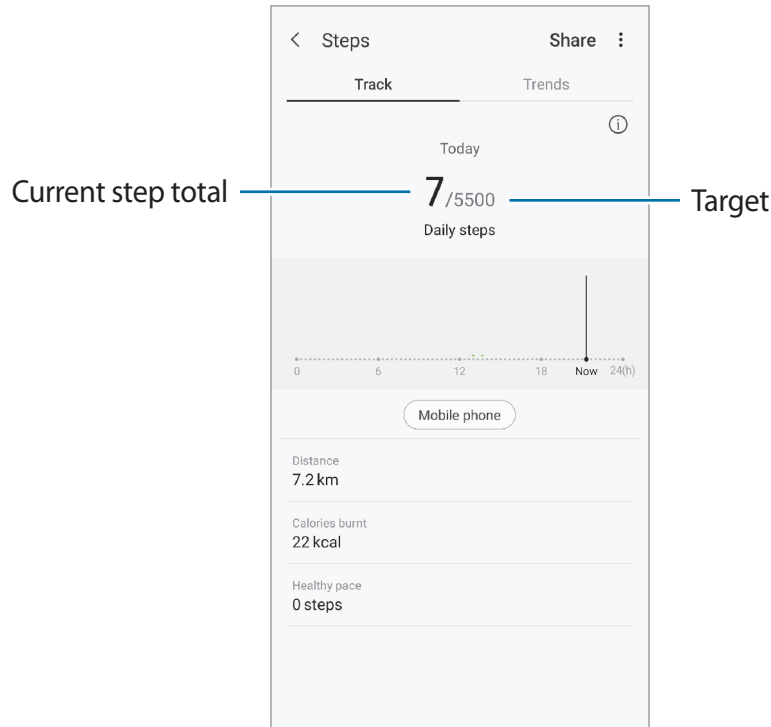
Together allows you to set up step count goals and compete with your friends. You can invite friends to walk together, set target step counts, compete in challenges, and view your ranking.

On the Samsung Health home screen, tap **Together**.

## Steps

The device counts the number of steps you take and measures the distance travelled.

On the Samsung Health home screen, tap the steps tracker.



- You may experience a brief delay while the steps tracker monitors your steps and then displays your step count. You may also experience a brief delay before the pop-up window indicates that your goal has been reached.
- If you use the steps tracker while travelling by car or train, vibration may affect your step count.
- You can check your current steps on the notification panel. To turn off notifications, on the Samsung Health home screen, tap **⋮** → **Settings** → **Notifications**, and then tap the **Current steps** switch under **Ongoing** to deactivate it. Alternatively, open the notification panel, tap and hold the notification, and then tap the switch to deactivate it.

## Heart rate (Galaxy S10+, Galaxy S10)

Measure and record your heart rate.



The heart rate tracker is intended for fitness and informational purposes only and is not intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease.

### Be aware of following conditions before measuring your heart rate:

- Rest for 5 minutes before taking measurements.
- If the measurement is very different from the expected heart rate, rest for 30 minutes and then measure it again.
- During winter or in cold weather, keep yourself warm when measuring your heart rate.
- Smoking or consuming alcohol before taking measurements may cause your heart rate to be different from your normal heart rate.
- Do not talk, yawn, or breathe deeply while taking heart rate measurements. Doing so may cause your heart rate to be recorded inaccurately.
- Heart rate measurements may vary depending on the measurement method and the environment they are taken in.
- If the heart rate sensor is not working, make sure nothing is obstructing the sensor. If the heart rate sensor continues to have the same problem, visit a Samsung Service Centre.

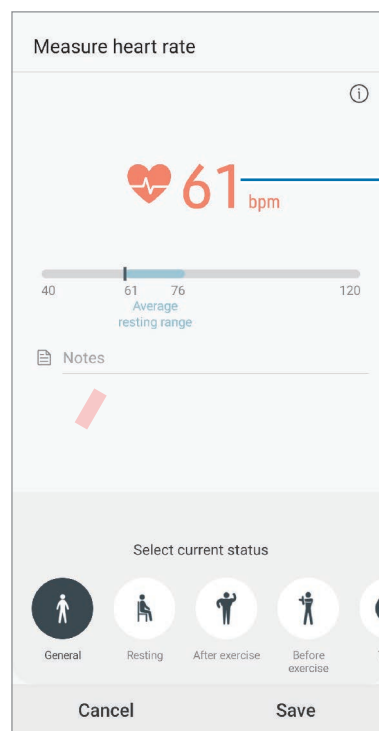


## Apps and features

- 1 On the Samsung Health home screen, tap **Measure** on the heart rate tracker to start measuring your heart rate.
- 2 Place your finger on the heart rate sensor on the back of the device.



- 3 After a moment, your current heart rate will be displayed on the screen. Remove your finger from the sensor.



Your current heart rate

## Additional information

- Samsung Health is intended for fitness and wellness purposes only and is not intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease.
- The available functions, features and addable applications for Samsung Health may vary from country to country due to different local laws and regulations. You should check the features and applications available in your specific region before use.
- Samsung Health applications and its service can be changed or discontinued without prior notice.
- The purpose for data collection is limited to providing the service that you have requested, including providing additional information to enhance your wellness, sync data, data analysis and statistics or to develop and provide better services. (But if you sign in to your Samsung account from Samsung Health, your data may be saved on the server for data backup purposes.) Personal information may be stored until the completion of such purposes. You can delete personal data stored by Samsung Health by using the Erase personal data option in the Settings menu. To delete any data you have shared with social networks or transferred to storage devices, you must delete them separately.
- You may share and/or sync your data with additional Samsung services or compatible third party services that you select, as well as with any of your other connected devices. Access to Samsung Health information by such additional services or third party devices will only be permitted with your express approval.
- You assume full responsibility for the inappropriate use of data shared on social networks or transmitted to others. Use caution when sharing your personal data with others.
- If the device is connected to measuring devices, verify the communication protocol to confirm proper operation. If you use a wireless connection, such as Bluetooth, the device may be affected by electronic interference from other devices. Avoid using the device near other devices that transmit radio waves.
- Please read Terms and Conditions and Privacy Policy of Samsung Health carefully before using it.



## Galaxy Wearable

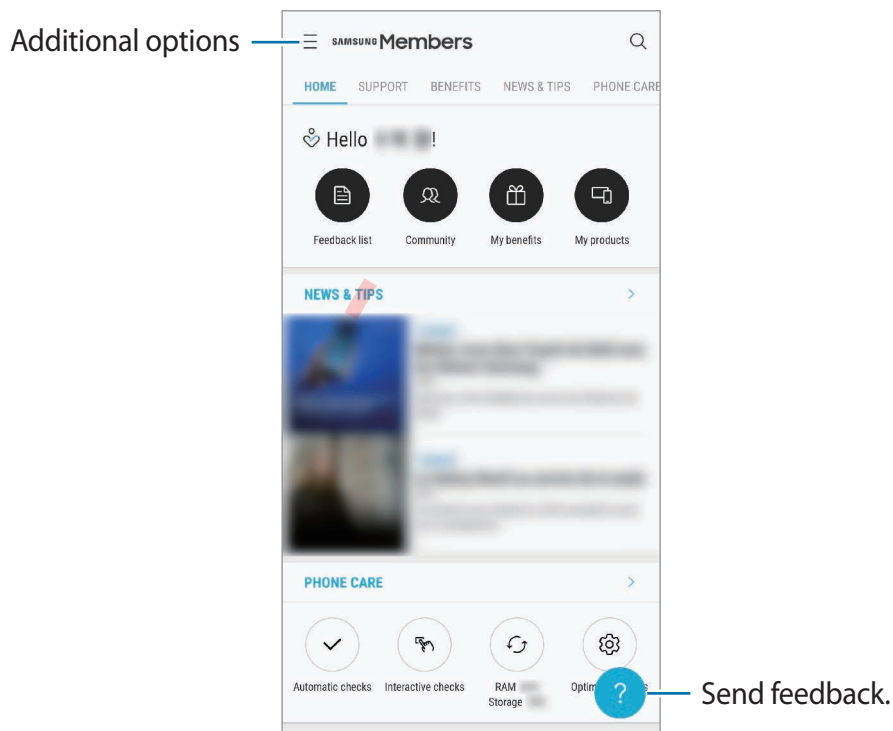
Galaxy Wearable is an app that allows you to manage your wearable devices. When you connect your device to the wearable device, you can customise the wearable device's settings and apps.

Open the **Samsung** folder and launch the **Galaxy Wearable** app.

Tap **START THE JOURNEY** to connect your device to the wearable device. Follow the on-screen instructions to finish the setup. Refer to the wearable device's user manual for more information about how to connect and use the wearable device with your device.

## Samsung Members

**Samsung Members** offers support services to customers, such as device problem diagnosis, and lets users submit questions and error reports. You can also share information with others in the Galaxy users' community or view the latest Galaxy news and tips. **Samsung Members** can help you solve any problems you might encounter while using your device.




- This app's availability and supported features may vary depending on the region or service provider.
- To submit your feedback or post your comments, you must register and sign in to your Samsung account. Refer to [Samsung account](#) for more information.

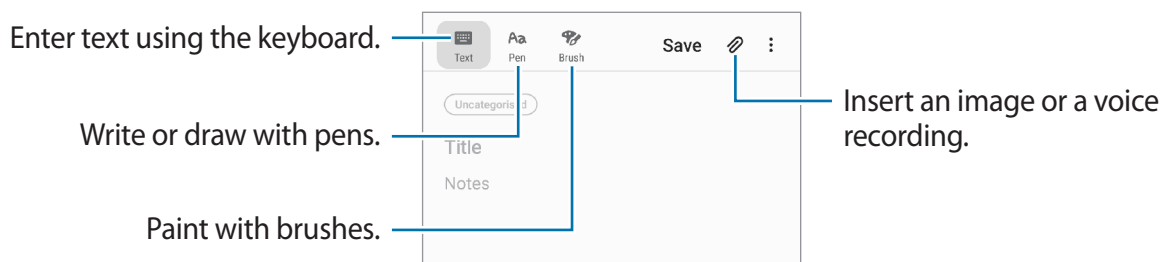
## Samsung Notes

Create notes by entering text from the keyboard or by handwriting or drawing on the screen. You can also insert images or voice recordings into your notes.




### Creating notes

- 1 Launch the **Samsung Notes** app and tap .
- 2 Select an input method from the toolbar at the top of the screen and compose a note.



- 3 When you are finished composing the note, tap **Save**.

### Deleting notes



- 1 Launch the **Samsung Notes** app.
- 2 Tap and hold a note to delete.   
To delete multiple notes, tick more notes to delete.
- 3 Tap **Delete**.

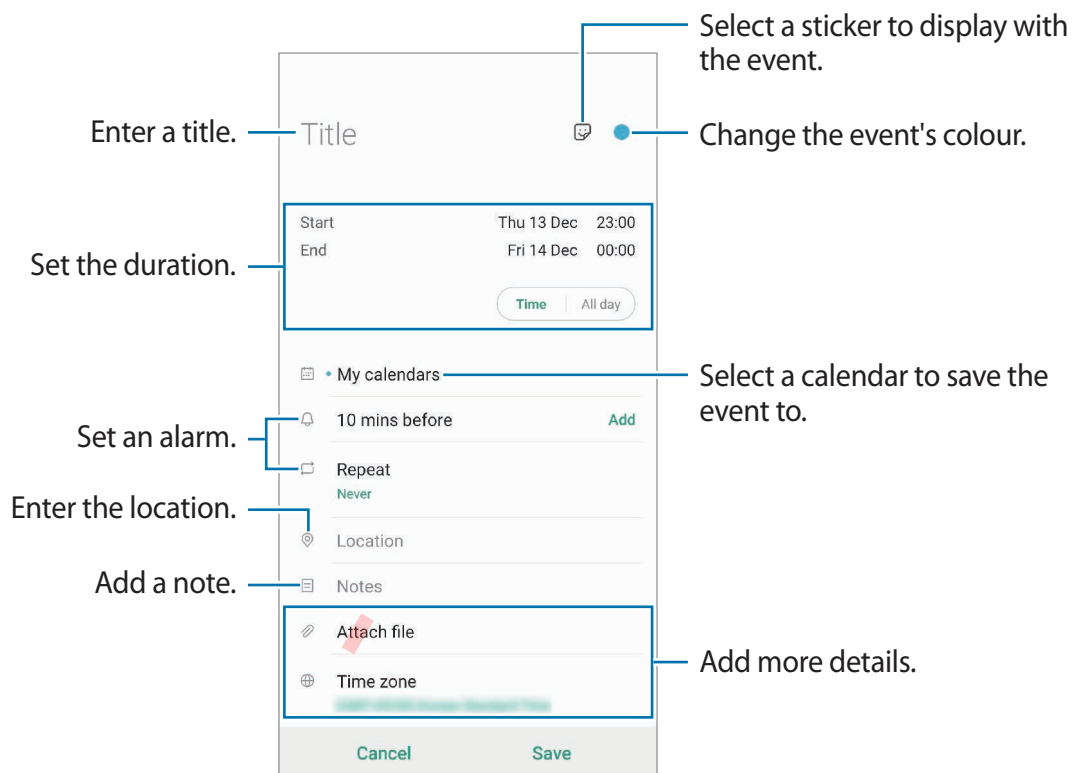


# Calendar

Manage your schedule by entering upcoming events or tasks in your planner.


## Creating events

- 1 Launch the **Calendar** app and tap  or double-tap a date.  
If the date already has saved events or tasks in it, tap the date and tap .
- 2 Enter event details.




- 3 Tap **Save** to save the event.



## Creating tasks

You can create tasks as reminders. Launch the **Calendar** app and tap  → **Reminder**. The **Reminder** app will launch. Refer to [Reminder](#) for more information.



## Syncing events with your accounts

- 1 Launch the **Settings** app, tap **Accounts and backup** → **Accounts** and select the account to sync with.
- 2 Tap **Sync account** and tap the **Calendar** switch to activate it.  
For the Samsung account, tap  → **Sync settings** and tap the **Calendar** switch to activate it.

To add accounts to sync with, launch the **Calendar** app and tap  →  → **Add new account**. Then, select an account to sync with and sign in. When an account is added, it will appear on the list.

# Voice Recorder


## Introduction


Use different recording modes for various situations. The device can convert your voice to text and distinguish between sound sources.

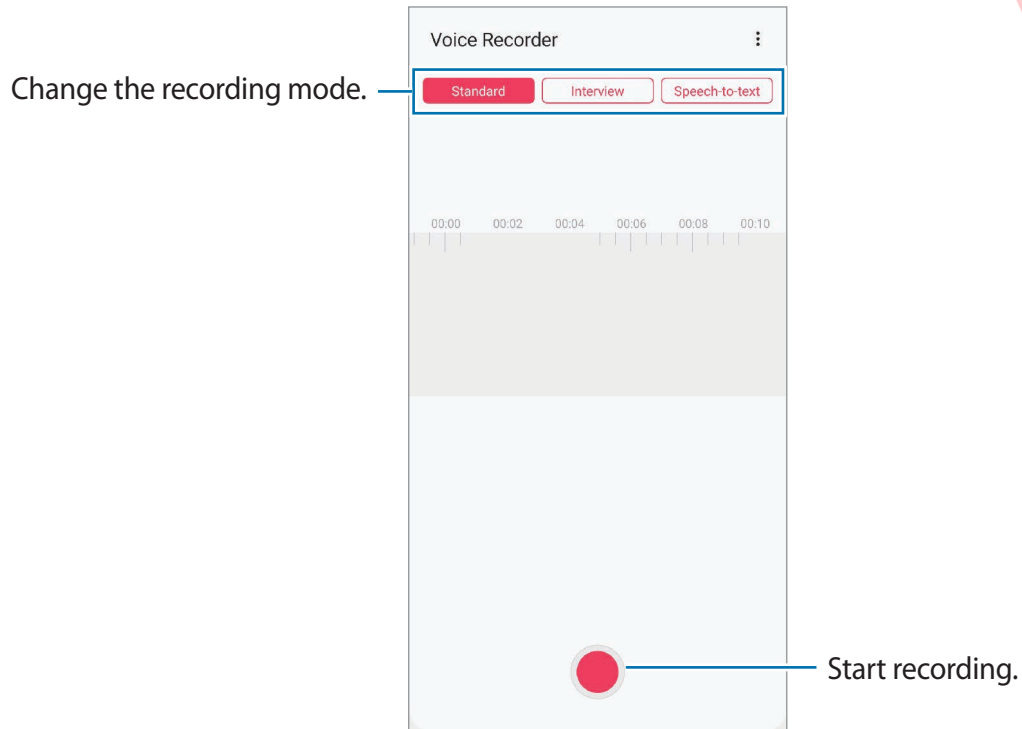
## Making voice recordings


- 1 Open the **Samsung** folder and launch the **Voice Recorder** app.



2 Tap  to start recording. Speak into the microphone.

- Tap  to pause recording.
- While making a voice recording, tap **BOOKMARK** to insert a bookmark.



3 Tap  to finish recording.

4 Enter a file name and tap **Save**.

## Changing the recording mode

Open the **Samsung** folder and launch the **Voice Recorder** app.

Select a mode from the top of the voice recorder screen.

- **Standard:** This is the normal recording mode.
- **Interview:** The device records sound from the top and the bottom of the device at a high volume while reducing the volume of sound from the sides.
- **Speech-to-text:** The device records your voice and simultaneously converts it to on-screen text. For best results, keep the device near your mouth and speak loudly and clearly in a quiet place.



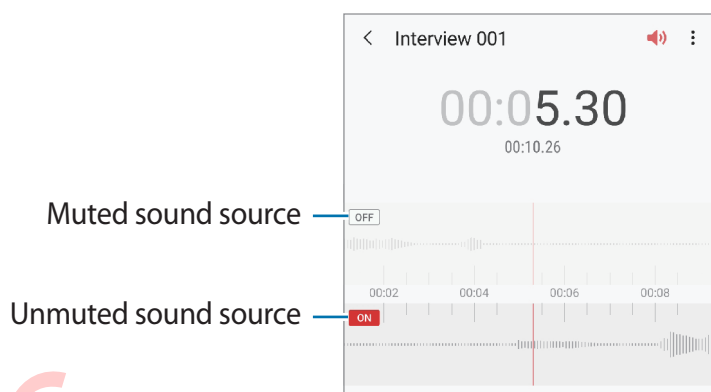
If the voice memo system language does not match the language you are speaking, the device will not recognise your voice. Before using this feature, tap the current language to set the voice memo system language.

## Playing selected voice recordings

When you review interview recordings, you can mute or unmute certain sound sources in the recording.

- 1 Open the **Samsung** folder and launch the **Voice Recorder** app.
- 2 Tap **List** and select a voice recording made in interview mode.
- 3 To mute certain sound sources, tap **ON** for the corresponding direction that sound is to be muted.

The icon will change to **OFF** and the sound will be muted.






## My Files

Access and manage various files stored in the device or in other locations, such as cloud storage services.

Open the **Samsung** folder and launch the **My Files** app.

View files that are stored in each storage.

To check for unnecessary data and free up the device's storage, tap  → **Storage analysis**.

To search for files or folders, tap **Q**.

## Clock


### Introduction

Set alarms, check the current time in many cities around the world, time an event, or set a specific duration.

### Alarm

Launch the **Clock** app and tap **Alarm**.

### Setting alarms

Tap **+** in the alarms list, set an alarm time , select the days on which the alarm will repeat, set other various alarm options, and then tap **Save**.

To open the keypad to enter an alarm time, tap the time input field.

To activate or deactivate alarms, tap the switch next to the alarm in the alarms list.

### Stopping alarms

Tap **Dismiss** to stop an alarm. If you have previously enabled the snooze option, tap **Snooze** to repeat the alarm after a specified length of time.



## Deleting alarms

Tap and hold an alarm, tick alarms to delete, and then tap **Delete**.

## World Clock

Launch the **Clock** app and tap **World Clock**.

## Creating clocks

Tap **+**, enter a city name or select a city from the map, and then tap **Add**.

To use the time zone converter, tap **⋮** → **Time zone converter**.

## Deleting clocks

Tap and hold a clock, tick clocks to delete, and then tap **Delete**.

## Stopwatch

**1** Launch the **Clock** app and tap **Stopwatch**.

**2** Tap **Start** to time an event.

To record lap times while timing an event, tap **Lap**.

**3** Tap **Stop** to stop timing.

- To restart the timing, tap **Resume**.
- To clear lap times, tap **Reset**.





## Timer

- 1 Launch the **Clock** app and tap **Timer**.  
To add a frequently used timer, tap **+**, set the duration and name, and then tap **Add**.
- 2 Set the duration, and then tap **Start**.  
To open the keypad to enter the duration, tap the duration input field.
- 3 Tap **Dismiss** when the timer goes off.

## Calculator

Perform simple or complex calculations.

Launch the **Calculator** app.

- : Display the scientific calculator.
- : View the calculation history. To clear the history, tap **Clear history**. To close the calculation history panel, tap .
- : Use the unit conversion. You can convert various values, such as area, length, or temperature, into other units.

# Game Launcher

## Introduction

Game Launcher gathers your games downloaded from **Play Store** and **Galaxy Store** into one place for easy access. You can set the device to game mode to play games more easily.



## Using Game Launcher

1 Launch the **Game Launcher** app.



If **Game Launcher** does not appear, launch the **Settings** app, tap **Advanced features**, and then tap the **Game Launcher** switch to activate it.

2 Tap a game from the games list.

To find more games, drag the screen upwards.



Games downloaded from **Play Store** and **Galaxy Store** will be automatically shown on the game launcher screen. If you cannot see your games, tap **⋮** → **Add apps**.

## Removing a game from Game Launcher

Tap and hold a game and tap **Remove**.

## Changing the performance mode

You can change the game performance mode.

Launch the **Game Launcher** app, tap , and then drag the bar to select the mode you want.

- **Focus on power saving:** This saves battery power while playing games.
- **Balanced:** This balances the performance and the battery usage time.
- **Focus on performance:** This focuses on giving you the best possible performance while playing games.


To change the settings for each game, tap the **Individual game settings** switch to activate it.



Battery power efficiency may vary by game.





## Using Game Tools

You can use various options on the Game Tools panel while playing a game. To open the Game Tools panel, tap  on the navigation bar. If the navigation bar is hidden, drag upwards from the bottom of the screen to show it.



Available options may vary depending on the game.

- **Call and notifications:** Set how to display incoming calls and notifications during games. Refer to [Setting how to display incoming calls and notifications during games](#) for more information.
- **Block during game:** Lock some features during games.
- **Additional features:** Set additional features.
- **Navigation button lock:** Hide the buttons on the navigation bar. To display the buttons, tap  on the navigation bar.
- **Screen touch lock:** Lock the touchscreen while the game is being played. To unlock the touchscreen, drag the lock icon in any direction.
- **Screenshot:** Capture screenshots.
- **Record:** Record your game sessions. To stop recording, tap  on the navigation bar.

## Setting how to display incoming calls and notifications during games

You can enjoy your games without being disturbed even when you receive a call or notification.

Tap  → **Calls and notifications** and select an option to activate it.

- **Minimised caller notifications:** A small notification will appear at the top of the screen when you receive a call during games.
- **Don't display notifications:** Only display notifications from some apps or emergency notifications during games.

## Launching apps in pop-up windows while playing games

You can launch apps in pop-up windows while playing a game.

Tap  and select an app from the apps list.

To edit the apps list, tap .




## Kids Home

### Introduction

You can restrict children's access to certain apps, set their usage times, and configure settings to provide a fun and safe environment for children when they use the device.

### Starting Kids Home

When starting Kids Home for the first time or after performing a data reset, follow the on-screen instructions to complete the setup.

- 1 Open the notification panel, swipe downwards on the notification panel, and then tap  (**Kids Home**) to activate it.
- 2 Read the Kids Home intro page and tap **Next**.
- 3 Create a PIN to use when using Kids Home.

If you have already set the screen lock method on your device, you can use the same lock method for Kids Home without creating a new PIN.


The Kids Home screen will appear.



Your preset screen lock method or your created PIN will be used when activating the **Parental Control** feature or closing Kids Home.



## Using Kids Home

Open the notification panel, swipe downwards on the notification panel, and then tap  (**Kids Home**) to activate it. The Kids Home screen will appear.

On the Kids Home screen, select the app you want to use.



## Using parental control features


You can configure the settings for Kids Home and view the usage history.

On the Kids Home screen, tap  → **Parental Control** and enter your unlock code.

- **Kid's name:** Manage your child's profile.
- **Set daily playtime:** Restrict the usage time for Kids Home.
- **Daily usage:** View the daily usage time of Kids Home.
- **Activity:** View the activity history of Kids Home.
- **Frequently contacted:** View the frequently used contacts in Kids Home.
- **My kid's creations:** View the works created from the apps in Kids Home.
- **Allowed content:** Check the apps or content supported by Kids Home and add them.



## Closing Kids Home

To close Kids Home, tap the Back button or tap  → **Close Kids Home**, and then enter your unlock code.



## SmartThings

### Introduction

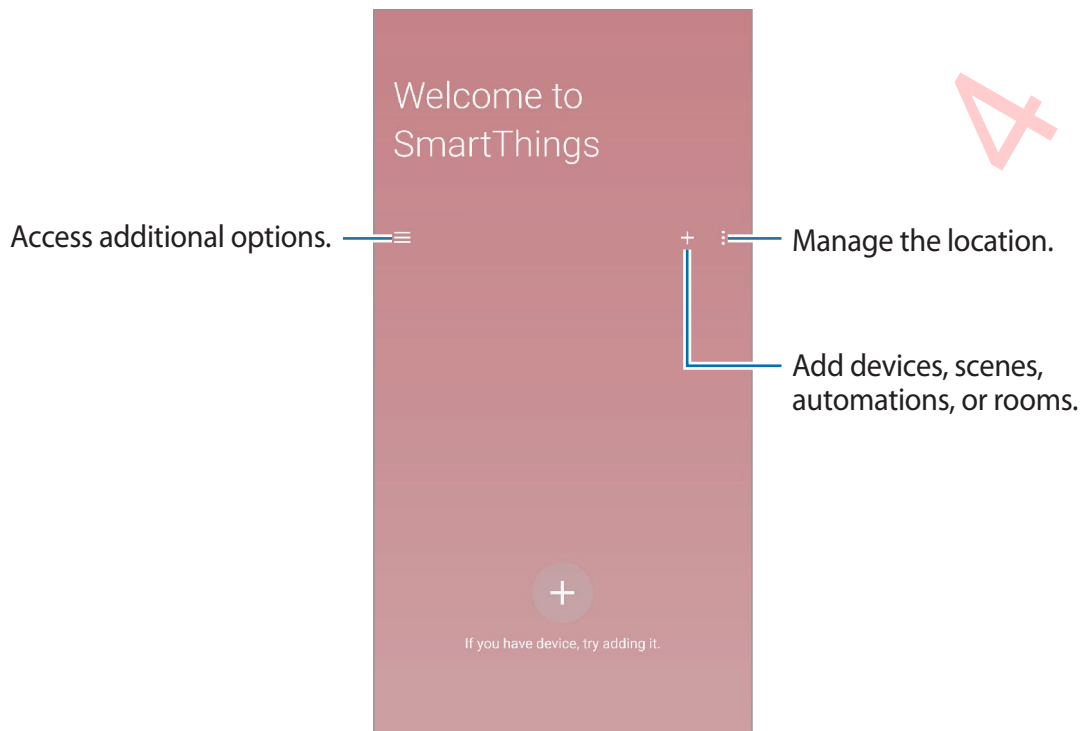
Connect to nearby devices, such as Bluetooth headsets or other smartphones, easily and quickly. You can also control and manage TVs, home appliances, and Internet of Things (IoT) products with your smartphone.

You can add and manage devices by location and room. For example, add 'home' as a location and manage devices by room, such as the living room and bedroom.

- **Connecting with nearby devices:** Connect with nearby devices, such as Bluetooth headsets or wearable devices, easily and quickly.
- **Registering and controlling home appliances, TVs, and IoT products:** Register smart refrigerators, washers, air conditioners, air purifiers, TVs, and Internet of Things (IoT) products on your smartphone, and view their status or control them from your smartphone's screen.
- **Receiving notification:** Receive notifications from connected devices on your smartphone. For example, when the laundry is finished, you can receive a notification on your smartphone.



Open the **Samsung** folder and launch the **SmartThings** app.



- To use SmartThings, your smartphone and other devices must be connected to a Wi-Fi or mobile network.
- To fully use SmartThings, you must register and sign in to your Samsung account.
- The devices you can connect may vary depending on the region or service provider. To see the list of connectable devices, open the **Samsung** folder, launch the **SmartThings** app, and then tap **☰** → **How to use** → **Supported devices**.
- Available features may differ depending on the connected device.
- Connected devices' own errors or defects are not covered by the Samsung warranty. When errors or defects occur on the connected devices, contact the device's manufacturer.

## Connecting to nearby devices

Connect to nearby devices, such as Bluetooth headsets, easily and quickly.



Connection methods may vary depending on the type of connected devices or the shared content.

- 1 Open the **Samsung** folder and launch the **SmartThings** app.
- 2 Tap **+** → **Add devices**.
- 3 Select a device from the list and connect to it by following the on-screen instructions.

## Using home appliances, TVs, and IoT products

View the status of your smart appliances, TVs, and IoT products from your smartphone's screen. You can group devices by location and add rules to control the devices easily and conveniently.

### Connecting devices

- 1 Open the **Samsung** folder and launch the **SmartThings** app.
- 2 Tap **+** → **Add devices**.
- 3 Select a device from the list.
  - If there is no device on the list, tap **▼** under **Add device manually** and select a device type. Or, tap **Search** and enter the device or model name.
- 4 Follow the on-screen instructions to register devices.



## Viewing and controlling connected devices

You can view and control the devices. For example, you can check the ingredients in your refrigerator or adjust the TV volume.



- 1 Open the **Samsung** folder and launch the **SmartThings** app.

The list of connected devices will appear.

- 2 View the status of devices on the list.

To control the devices, select a device. When the device controller supplied with the selected device is downloaded, you can control the device.

## Adding devices and scenes by locations

Add devices by locations, view the list of devices in a same location, and control them. You can also add a scene to a location to control multiple devices at the same time.

### Adding locations

- 1 Open the **Samsung** folder, launch the **SmartThings** app, and then tap **+** → **▼** → **Add new location**.

- 2 Enter the location name.

- To set a location, tap **Geolocation** to select a location on the map and tap **DONE**.
- To add rooms to the location, tap **Rooms**, tick rooms you want to add, and then tap **Done**.

- 3 Tap **Done**.




Your location will be added.

To add devices to the location, tap **+** → **Add devices** and follow the on-screen instructions to register devices.



## Adding scenes

Add a scene and register devices to it to control multiple devices at the same time with a single tap of a button or with a voice command.


- 1 Open the **Samsung** folder and launch the **SmartThings** app.
- 2 Tap  →  and select a location.
- 3 Tap  → **Add scenes**.
- 4 Enter the scene name.
- 5 Tap **Add actions** to add actions to perform.
- 6 Tap **Save**.



## Adding automations


You can also set an automation to operate devices automatically depending on the preset time, the status of devices, and more.

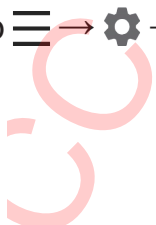
For example, add an automation to turn on the audio automatically every day at 7:00 AM.

- 1 Open the **Samsung** folder, launch the **SmartThings** app, and then tap  → **Add automations**.
- 2 Tap **Add condition** and set the activation conditions for the automation.
- 3 Tap **Add actions** and set actions to perform.
- 4 Tap **Save**.

## Receiving notifications

You can receive notifications from connected devices on your smartphone. For example, when the laundry is finished, you can receive a notification on your smartphone.

To set devices to receive notifications, open the **Samsung** folder, launch the **SmartThings** app, tap  →  → **Notifications**, and then tap the switches next to the devices you want.




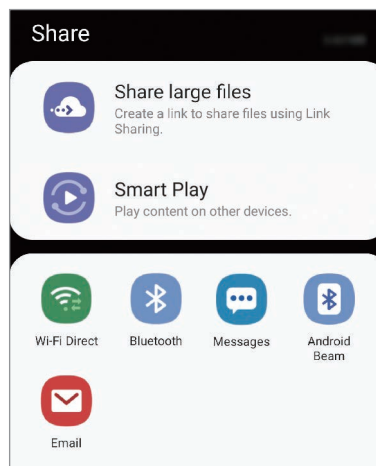
## Sharing content

Share content by using various sharing options. The following actions are an example of sharing images.



You may incur additional charges when sharing files via the mobile network.

- 1 Launch the **Gallery** app and select an image.
- 2 Tap  and select a sharing method, such as message and email.



When you have a communication or sharing history, the people you contacted will appear on the sharing options panel. To directly share content with them via the corresponding app, select a person's icon. If the feature is not activated, launch the **Settings** app, tap **Advanced features**, and then tap the **Direct share** switch to activate it.

## Using additional features

- **Share large files:** Share large files. Upload files to the Samsung storage server and share them with others via a Web link or a code. To use this feature, your phone number must be verified.
- **Smart Play:** Share content with nearby devices via Wi-Fi Direct or Bluetooth, or with SmartThings supported devices. You can also view your device's displayed content on a large screen by connecting your device to a screen mirroring-enabled TV or monitor.

When the image is sent to the recipients' devices, a notification will appear on their devices. Tap the notification to view or download the image.

## Samsung DeX

### Introduction

Samsung DeX is a service that allows you to use your smartphone like a computer by connecting the smartphone to an external display, such as a TV or monitor. While using Samsung DeX, you can simultaneously use your smartphone.



You can connect your smartphone to an external display using an HDMI adaptor (USB Type-C to HDMI), DeX Pad, or DeX Station. The following content is about how to use the HDMI adaptor.



HDMI adaptor  
(USB Type-C to HDMI)

DeX Pad



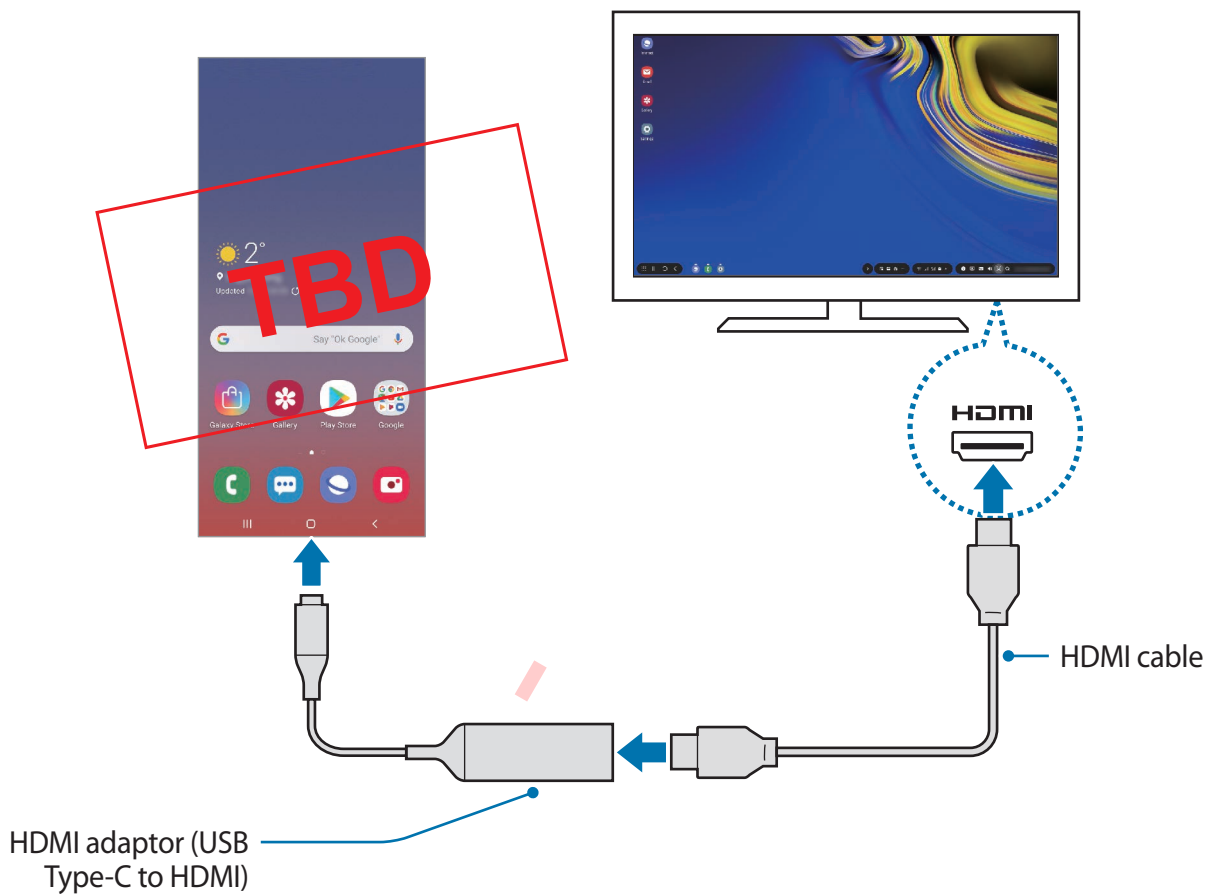
- All accessories are sold separately.
- Use only official Samsung DeX supported accessories that are provided by Samsung. Performance problems and malfunctions caused by using accessories that are not officially supported are not covered by the warranty.



## Connecting devices and starting Samsung DeX

- 1 Connect an HDMI adaptor to your smartphone.
- 2 Connect an HDMI cable to the HDMI adaptor and to a TV or monitor's HDMI port.
- 3 On your smartphone's screen, tap **Continue** → **Start**.

Without changing your smartphone's screen, the Samsung DeX screen will appear on the connected TV or monitor.



## Controlling the Samsung DeX screen

### Controlling with an external keyboard and mouse

You can use a wireless keyboard/mouse. Refer to the respective device's manual for more information.



- You can set the mouse pointer to flow from the external display to the smartphone's screen. Launch the **Settings** app, select **Samsung DeX** → **Mouse/trackpad**, and then select the **Flow pointer to phone screen** switch to activate it.
- You can also use the external keyboard on the smartphone's screen.

### Using your smartphone as a touchpad

You can use your smartphone as a touchpad and operate it with your fingers.

On your smartphone, drag downwards from the top of the screen to open the notification panel and tap **Use your phone as a touchpad**.



- You can use the touchpad only when using Samsung DeX mode.
- If your smartphone's case has a front cover, open the front cover to use your smartphone as a touchpad. If the front cover is closed, the touchpad may not work properly.
- If your smartphone's screen turns off, press the Power key to turn on the screen.



## Orienting the touchpad

When you are using your smartphone as a touchpad, you can use it in either the horizontal or vertical alignment.

To rotate the touchpad, rotate the smartphone or double-tap .



## Using your smartphone while using the touchpad

You can use apps on your smartphone even while it is being used as a touchpad.

On your smartphone, drag upwards from the bottom of the screen to show the navigation bar. Then, tap the Home button to move to the Home screen, and select the apps you want to use.

## Using the screen keyboard

When you enter text to send messages, create notes, or perform other tasks, a screen keyboard will appear automatically on your smartphone's screen without connecting an external keyboard.

If the keyboard does not appear, select  on the quick access toolbar.



## Using Samsung DeX

Use your smartphone's features in an interface environment similar to a computer. You can multitask by running multiple apps simultaneously. You can also check your smartphone's notifications and status.



- When starting or ending Samsung DeX, running apps may be closed.
- Some apps or features may not be available when using Samsung DeX.
- To adjust the screen settings, use the connected TV or monitor's display settings.
- Sound will be played through the smartphone's speaker. To change the default audio output, launch the **Settings** app, select **Samsung DeX**, and then select the **Set default audio output** switch to activate it.

- **Favourite apps:** Add frequently used apps to the Home screen and launch them quickly.
- **Apps button:** View and run your smartphone's apps. To install apps that are optimised for Samsung DeX, select **Apps for Samsung DeX**.
- **Taskbar:** View the apps that are currently running.
- **Status bar:** View your smartphone's notifications and status. Status icons may appear differently depending on your smartphone's status. When you select ▲, the quick setting buttons will appear. You can activate or deactivate certain smartphone features using the quick setting buttons.

To switch to screen mirroring mode, select 🖥️ → **Switch to Screen mirroring**.

- **Quick access toolbar:** Use quick tools, such as screen keyboard, volume control, or search.


## Using the external display and smartphone simultaneously

While using Samsung DeX, you can use separate apps on the external display and your smartphone simultaneously.

For example, while watching a video on the connected TV or monitor, you can create a note on your smartphone.

On the connected TV or monitor, launch an app to run on the Samsung DeX screen. Then, launch another app on your smartphone.

## Locking the Samsung DeX screen

If you want to lock the external display and your smartphone's screen while using Samsung DeX, select  on the quick access toolbar.



While using Samsung DeX, you cannot lock the external display and your smartphone's screen by pressing the Power key.

## Enjoying games vividly on a large screen

Play your smartphone's games on a large screen. On the connected TV or monitor, launch the **Game Launcher** app.

## Ending Samsung DeX

When you disconnect your smartphone from the connected TV or monitor, Samsung DeX will end.

Disconnect your smartphone from the HDMI adaptor.



## Google apps

Google provides entertainment, social network, and business apps. You may require a Google account to access some apps.

To view more app information, access each app's help menu.



Some apps may not be available or may be labelled differently depending on the region or service provider.

### Chrome

Search for information and browse webpages.

### Gmail

Send or receive emails via the Google Mail service.

### Maps

Find your location on the map, search the world map, and view location information for various places around you.

### Play Music

Discover, listen to, and share music on your device. You can upload music collections stored on your device to the cloud and access them later.

### Play Movies & TV

Purchase or rent videos, such as movies and TV programmes, from **Play Store**.

### Drive

Store your content on the cloud, access it from anywhere, and share it with others.



## YouTube

Watch or create videos and share them with others.

## Google

Search quickly for items on the Internet or your device.

## Duo

Make a simple video call.



# Settings



## Introduction

Customise device settings. You can make your device more personalised by configuring various setting options.

Launch the **Settings** app.

To search for settings by entering keywords, tap **Q**.

## Connections

### Options

Change settings for various connections, such as the Wi-Fi feature and Bluetooth.

On the Settings screen, tap **Connections**.

- **Wi-Fi:** Activate the Wi-Fi feature to connect to a Wi-Fi network and access the Internet or other network devices. Refer to [Wi-Fi](#) for more information.
- **Bluetooth:** Use Bluetooth to exchange data or media files with other Bluetooth-enabled devices. Refer to [Bluetooth](#) for more information.
- **Phone visibility:** Allow other devices to find your device to share content with you. When this feature is activated, your device will be visible to other devices when they search for available devices using their Transfer files to device option.
- **NFC and payment:** Set the device to allow you to read near field communication (NFC) tags that contain information about products. You can also use this feature to make payments and buy tickets for transportation or events after downloading the required apps. Refer to [NFC and payment](#) for more information.





- **Flight mode:** Set the device to disable all wireless functions on your device. You can use only non-network services.



Follow the regulations provided by the airline and the instructions of aircraft personnel. In cases where it is allowed to use the device, always use it in flight mode.

- **Mobile networks:** Configure your mobile network settings.
- **Data usage:** Keep track of your data usage amount and customise the settings for the limitation. Set the device to automatically disable the mobile data connection when the amount of mobile data you have used reaches your specified limit.  
You can also activate the data saver feature to prevent some apps running in the background from sending or receiving data. Refer to [Data saver](#) for more information.
- **SIM card manager** (dual SIM models): Activate your SIM or USIM cards and customise the SIM card settings. Refer to [SIM card manager \(dual SIM models\)](#) for more information.
- **Mobile Hotspot and Tethering:** Use the device as a mobile hotspot to share the device's mobile data connection with other devices when the network connection is not available. Connections can be made via Wi-Fi, USB, or Bluetooth. Refer to [Mobile Hotspot and Tethering](#) for more information.
- **Call and message continuity:** Continue using your device's calling and messaging features on other devices signed in to your Samsung account. Refer to [Call and message continuity](#) for more information.
- **More connection settings:** Customise settings to control other features. Refer to [More connection settings](#) for more information.

## Wi-Fi

Activate the Wi-Fi feature to connect to a Wi-Fi network and access the Internet or other network devices.



Turn off Wi-Fi to save the battery when not in use.

## Connecting to a Wi-Fi network

1 On the Settings screen, tap **Connections** → **Wi-Fi**, and then tap the switch to activate it.

2 Select a network from the Wi-Fi networks list.

Networks that require a password appear with a lock icon. Enter the password and tap **Connect**.



- Once the device connects to a Wi-Fi network, the device will reconnect to that network each time it is available without requiring a password. To prevent the device connecting to the network automatically, select it from the list of networks and tap **Forget**.
- If you cannot connect to a Wi-Fi network properly, restart your device's Wi-Fi feature or the wireless router.

## Wi-Fi Direct

Wi-Fi Direct connects devices directly via a Wi-Fi network without requiring an access point.

1 On the Settings screen, tap **Connections** → **Wi-Fi**, and then tap the switch to activate it.

2 Tap **Wi-Fi Direct**.

The detected devices are listed.

If the device you want to connect to is not in the list, request that the device turns on its Wi-Fi Direct feature.


3 Select a device to connect to.

The devices will be connected when the other device accepts the Wi-Fi Direct connection request.



## Sending and receiving data

You can share data, such as contacts or media files, with other devices. The following actions are an example of sending an image to another device.

- 1 Launch the **Gallery** app and select an image.
- 2 Tap  → **Wi-Fi Direct** and select a device to transfer the image to.
- 3 Accept the Wi-Fi Direct connection request on the other device.  
If the devices are already connected, the image will be sent to the other device without the connection request procedure.

## Ending the device connection

- 1 On the Settings screen, tap **Connections** → **Wi-Fi**.
- 2 Tap **Wi-Fi Direct**.  
The device displays the connected devices in the list.
- 3 Tap the device name to disconnect the devices.

## Bluetooth

Use Bluetooth to exchange data or media files with other Bluetooth-enabled devices.



- Samsung is not responsible for the loss, interception, or misuse of data sent or received via Bluetooth.
- Always ensure that you share and receive data with devices that are trusted and properly secured. If there are obstacles between the devices, the operating distance may be reduced.
- Some devices, especially those that are not tested or approved by the Bluetooth SIG, may be incompatible with your device.
- Do not use the Bluetooth feature for illegal purposes (for example, pirating copies of files or illegally tapping communications for commercial purposes). Samsung is not responsible for the repercussion of illegal use of the Bluetooth feature.

### Pairing with other Bluetooth devices

- 1 On the Settings screen, tap **Connections** → **Bluetooth**, and then tap the switch to activate it.

The detected devices will be listed.

- 2 Select a device to pair with.

If the device you want to pair with is not on the list, set the device to enter Bluetooth pairing mode. Refer to the other device's user manuals.



Your device is visible to other devices while the Bluetooth settings screen is open.


- 3 Accept the Bluetooth connection request on your device to confirm.

The devices will be connected when the other device accepts the Bluetooth connection request.



## Sending and receiving data

Many apps support data transfer via Bluetooth. You can share data, such as contacts or media files, with other Bluetooth devices. The following actions are an example of sending an image to another device.

- 1 Launch the **Gallery** app and select an image.
- 2 Tap  → **Bluetooth**, and then select a device to transfer the image to.
  - If your device has paired with the device before, tap the device name without confirming the auto-generated passkey.
  - If the device you want to pair with is not in the list, request that the device turns on its visibility option.
- 3 Accept the Bluetooth connection request on the other device.


## Dual audio

You can connect up to two Bluetooth audio devices to your smartphone. Connect two Bluetooth headsets or speakers to use them at the same time.



To use this feature, the Bluetooth audio devices you want to connect must support the **Media audio** feature.

- 1 On the Settings screen, tap **Connections** → **Bluetooth**, and then tap the switch to activate it.
 

The detected devices will be listed.
- 2 Tap  → **Advanced**, tap the **Dual audio** switch to activate it, and then tap the Back button.



### 3 Select a device to pair with.

If the device you want to pair with is not in the list, turn on its visibility option or enter Bluetooth pairing mode on the device. Refer to the device's user manuals for more information.

### 4 Tap next to the connected device and tap the **Media audio** switch to activate it.

### 5 Select another device from the list and activate its **Media audio** feature.

## Unpairing Bluetooth devices

### 1 On the Settings screen, tap **Connections** → **Bluetooth**.


The device displays the paired devices in the list.

### 2 Tap next to the device name to unpair.

### 3 Tap **Unpair**.

## NFC and payment

Your device allows you to read near field communication (NFC) tags that contain information about products. You can also use this feature to make payments and buy tickets for transportation or events after downloading the required apps.

 The device contains a built-in NFC antenna. Handle the device carefully to avoid damaging the NFC antenna.



## Reading information from NFC tags

Use the NFC feature to send images or contacts to other devices, and read product information from NFC tags.

- 1 On the Settings screen, tap **Connections** and tap the **NFC and payment** switch to activate it.
- 2 Place the NFC antenna area on the back of your device near an NFC tag.  
The information from the tag appears.



Ensure that the device's screen is turned on and unlocked. Otherwise, the device will not read NFC tags or receive data.

## Making payments with the NFC feature

Before you can use the NFC feature to make payments, you must register for the mobile payment service. To register or get more information about the service, contact your service provider.

- 1 On the Settings screen, tap **Connections** and tap the **NFC and payment** switch to activate it.
- 2 Touch the NFC antenna area on the back of your device to the NFC card reader.

To set the default payment app, open the Settings screen and tap **Connections** → **NFC and payment** → **Tap and pay** → **PAYMENT**, and then select an app.



The payment services list may not include all available payment apps.

## Sending data with the NFC feature

Allow data exchange when your device's NFC antenna touches the other device's NFC antenna.

- 1 On the Settings screen, tap **Connections** → **NFC and payment** and tap the switch to activate it.
- 2 Tap the **Android Beam** switch to activate it.
- 3 Select an item and touch the other device's NFC antenna to your device's NFC antenna.





4 When **Touch to beam.** appears on the screen, tap your device's screen to send the item.



If both devices try to send data simultaneously, the file transfer may fail.


**TBD**

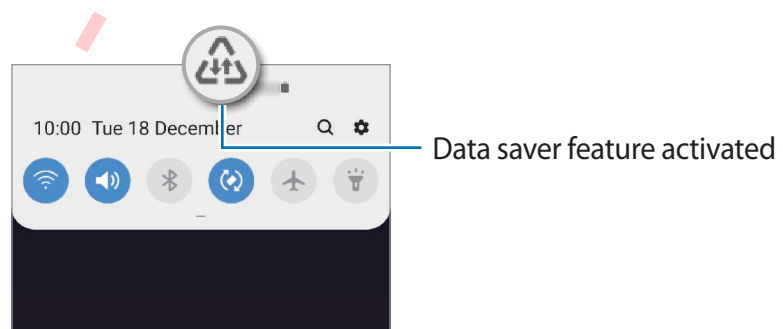


## Data saver

Reduce your data usage by preventing some apps running in the background from sending or receiving data.

On the Settings screen, tap **Connections** → **Data usage** → **Data saver** and tap the switch to activate it.

When the data saver feature is activated, the  icon will appear on the status bar.



To select apps to use data without restriction, tap **Allow app while Data saver on** and select apps.



## Mobile data only apps

Select apps to always use the mobile data even when your device is connected to a Wi-Fi network.

For example, you can set the device to use only mobile data for apps that you want to keep secure or streaming apps that can be disconnected. Even if you do not deactivate the Wi-Fi feature, the apps will launch using the mobile data.

On the Settings screen, tap **Connections** → **Data usage** → **Mobile data only apps**, tap the switch to activate it, and then tap the switches next to the apps you want.



You may incur additional charges when using this feature.

## SIM card manager (dual SIM models)

Activate your SIM or USIM cards and customise the SIM card settings. Refer to [Using dual SIM or USIM cards \(dual SIM models\)](#) for more information.

On the Settings screen, tap **Connections** → **SIM card manager**.

- **Calls:** Select a SIM or USIM card for voice calls.
- **Text messages:** Select a SIM or USIM card for messaging.
- **Mobile data:** Select a SIM or USIM card for data services.
- **Confirm SIM card for calls:** Set the device to ask which SIM or USIM card to use for the next call when you make a call without using your preferred SIM or USIM card for calls.
- **Dual SIM always on:** Set the device to allow incoming calls from the other SIM or USIM card during a call.



When this feature is enabled, you may incur additional charges for call forwarding depending on the region or service provider.



## Mobile Hotspot and Tethering

Use the device as a mobile hotspot to share the device's mobile data connection with other devices when the network connection is not available. Connections can be made via Wi-Fi, USB, or Bluetooth.

On the Settings screen, tap **Connections** → **Mobile Hotspot and Tethering**.




You may incur additional charges when using this feature.


- **Mobile Hotspot:** Use the mobile hotspot to share the device's mobile data connection with computers or other devices.
- **Bluetooth tethering:** Use Bluetooth tethering to share the device's mobile data connection with computers or other devices via Bluetooth.
- **USB tethering:** Use USB tethering to share the device's mobile data connection with a computer via USB. When connected to a computer, the device is used as a wireless modem for the computer.

### Using the mobile hotspot

Use your device as a mobile hotspot to share your device's mobile data connection with other devices.

- 1 On the Settings screen, tap **Connections** → **Mobile Hotspot and Tethering** → **Mobile Hotspot**.
- 2 Tap the switch to activate it.



The  icon appears on the status bar. Other devices can find your device in the Wi-Fi networks list.

To set a password for the mobile hotspot, tap  → **Configure Mobile Hotspot** and select the level of security. Then, enter a password and tap **Save**.



3 On the other device's screen, search for and select your device from the Wi-Fi networks list.



- If the mobile hotspot is not found, on your device, tap  → **Configure Mobile Hotspot**, tick **Show advanced options**, and then deselect **Hide my device** and **Use 5 GHz band when available**.
- If the other device cannot connect to the mobile hotspot, on your device, tap  → **Allowed devices** and tap the **Allowed devices only** switch to deactivate it.

4 On the connected device, use the device's mobile data connection to access the Internet.

## Call and message continuity

Continue using your device's calling and messaging features on other devices signed in to your Samsung account.



- To use this feature, you must register and sign in to your Samsung account.
- You can make an emergency call only on your device.
- During a call on other devices, call quality may decrease.

1 On the Settings screen, tap **Connections** → **Call and message continuity**.

2 Tap the switch to activate it.

When you activate this feature for the first time, agree to the terms and conditions.



## More connection settings

Customise settings to control other connection features.

On the Settings screen, tap **Connections** → **More connection settings**.

- **Nearby device scanning:** Set the device to scan for nearby devices to connect to.
- **Printing:** Configure settings for printer plug-ins installed on the device. You can search for available printers or add one manually to print files. Refer to [Printing](#) for more information.
- **MirrorLink:** Use the MirrorLink feature to control your device's MirrorLink apps on the vehicle's head unit monitor. Refer to [MirrorLink](#) for more information.
- **Download booster:** Set the device to download files larger than 30 MB, faster via Wi-Fi and mobile networks simultaneously. Refer to [Download booster](#) for more information.
- **VPN:** Set up virtual networks (VPNs) on your device to connect to a school or company's private network.
- **Ethernet:** When you connect an Ethernet adaptor, you can use a wired network and configure network settings.
- **Private DNS:** Use the reliable domain name system (DNS) for a school or company's internal private network instead of using the external hosting network. The DNS will be searched for and connected to automatically, or you can search for the DNS and connect to it manually.

## Printing

Configure settings for printer plug-ins installed on the device. You can connect the device to a printer via Wi-Fi or Wi-Fi Direct, and print images or documents.



Some printers may not be compatible with the device.



## Adding printer plug-ins

Add printer plug-ins for printers you want to connect the device to.

- 1 On the Settings screen, tap **Connections** → **More connection settings** → **Printing** → **Download plugin**.
- 2 Search for a printer plug-in in **Play Store**.
- 3 Select a printer plug-in and install it.
- 4 Select the installed printer plug-in.  
The device will automatically search for printers that are connected to the same Wi-Fi network as your device.
- 5 Select a printer to add.



To add printers manually, tap **⋮** → **Add printer**.

## Printing content

While viewing content, such as images or documents, access the options list, tap **Print** → ▼ → **All printers...**, and then select a printer.



Printing methods may vary depending on the content type.

## MirrorLink

You can display your device's screen on the vehicle's head unit monitor.

Connect your device to a vehicle to control your device's MirrorLink apps on the vehicle's head unit monitor.

On the Settings screen, tap **Connections** → **More connection settings** → **MirrorLink**.



Your device is compatible with vehicles that support MirrorLink version **1.1** or higher.



## Connecting your device to a vehicle via MirrorLink

When using this feature for the first time, connect the device to a Wi-Fi or mobile network.

- 1 Pair your device with a vehicle via Bluetooth.  
Refer to [Pairing with other Bluetooth devices](#) for more information.



- 2 Connect your device to the vehicle using a USB cable.  
When they are connected, access your device's MirrorLink apps on the head unit monitor.

## Ending the MirrorLink connection

Unplug the USB cable from your device and the vehicle.

## Download booster

Set the device to download files larger than 30 MB, faster via Wi-Fi and mobile networks simultaneously. A stronger Wi-Fi signal will provide a faster download speed.

On the Settings screen, tap **Connections** → **More connection settings** → **Download booster**.



- This feature may not be supported by some devices.
- You may incur additional charges when downloading files via the mobile network.
- When you download large files, the device may heat up. If the device exceeds a set temperature, the feature will turn off.
- If network signals are unstable, the speed and performance of this feature may be affected.
- If the Wi-Fi and mobile network connections have significantly different data transfer speeds, the device may use only the fastest connection.
- This feature supports Hypertext Transmission Protocol (HTTP) 1.1 and Hypertext Transmission Protocol Secure (HTTPS). The feature cannot be used with other protocols, such as FTP.



## Sounds and vibration

### Options



Change settings for various sounds on the device.

On the Settings screen, tap **Sounds and vibration**.

- **Sound mode:** Set the device to use sound mode, vibration mode, or silent mode.
- **Vibrate while ringing:** Set the device to vibrate and play a ringtone for incoming calls.
- **Ringtone:** Change the call ringtone.
- **Vibration pattern:** Select a vibration pattern.
- **Notification sounds:** Change the notification sound.
- **Volume:** Adjust the volume level for call ringtones, music and videos, system sounds, and notifications.
- **Vibration intensity:** Adjust the force of the vibration notification.
- **Use Volume keys for media:** Set the device to adjust the media volume level when you press the Volume key.
- **System feedback:** Set the device to sound or vibrate for actions, such as turning the screen on or off or controlling the touchscreen.
- **Advanced sound settings:** Optimise the settings for when media is being played. Refer to [Dolby Atmos \(surround sound\)](#) or [Separate app sound](#) for more information.

### Dolby Atmos (surround sound)

Select a surround sound mode optimised for various types of audio, such as movies, music, and voice. With Dolby Atmos, you can experience moving audio sounds that flows all around you.

On the Settings screen, tap **Sounds and vibration** → **Advanced sound settings** → **Sound quality and effects** → **Dolby Atmos**, tap the switch to activate it, and then select a mode.





## Separate app sound

Set the device to play media sound from a specific app on the connected Bluetooth speaker or headset separate from the sound of other apps.

For example, you can listen to the Navigation app through your device's speaker while listening to playback from the Music app through the vehicle's Bluetooth speaker.

- 1 On the Settings screen, tap **Sounds and vibration** → **Advanced sound settings** → **Separate app sound** and tap the switch to activate it.
- 2 Select an app to play media sounds separately and tap the Back button.
- 3 Select a device for playing the selected app's media sound.

## Notifications

Change the notification settings.

On the Settings screen, tap **Notifications**.

- **App icon badges:** Change the settings for app icon badges.
- **Do not disturb:** Set the device to mute incoming calls, notification sounds, and media, except for allowed exceptions.
- **Status bar:** Set the device to display only three recent notifications and whether to show the remaining battery level in percentage on the status bar.
- **Recently sent:** View the apps that received recent notifications and change the notification settings. To customise notification settings for more apps, tap **See all** → ▼ → **All** and select an app from the app list.



# Display

## Options

Change the display and the Home screen settings.

On the Settings screen, tap **Display**.

- **Brightness:** Adjust the brightness of the display.
- **Adaptive brightness:** Set the device to keep track of your brightness adjustments and apply them automatically in similar lighting conditions.
- **Blue light filter:** Activate the blue light filter and change the filter settings. Refer to [Blue light filter](#) for more information.
- **Night mode:** Reduce eye strain by applying the dark theme when using the device at night or in a dark place. Refer to [Night mode](#) for more information.
- **Screen mode:** Change the screen mode to adjust the display's colour and contrast. Refer to [Changing the screen mode or adjusting the display colour](#) for more information.
- **Font size and style:** Change the font size and style.
- **Screen zoom:** Change the screen zoom setting.
- **Screen resolution:** Change the screen resolution. Refer to [Screen resolution](#) for more information.
- **Full screen apps:** Select apps to use with the full screen aspect ratio.
- **Screen timeout:** Set the length of time the device waits before turning off the display's backlight.
- **Home screen:** Change the size of the grid to display more or fewer items on the Home screen and more.
- **Edge screen:** Change the settings for the Edge screen. Refer to [Edge screen \(Galaxy S10+, Galaxy S10\)](#) for more information.



- **Easy mode:** Switch to easy mode to display larger icons and apply a simpler layout to the Home screen.
- **Navigation bar:** Change the navigation bar settings. Refer to [Navigation bar \(soft buttons\)](#) for more information.
- **Accidental touch protection:** Set the device to prevent the screen from detecting touch input when it is in a dark place, such as a pocket or bag.
- **Touch sensitivity:** Increase the touch sensitivity of the screen for use with screen protectors.
- **Screensaver:** Set the device to launch a screensaver when the device is charging. Refer to [Screensaver](#) for more information.

## Blue light filter

Reduce eye strain by limiting the amount of blue light emitted by the screen.



While you are watching HDR videos from HDR-exclusive video services, the blue light filter may not be applied.

- 1 On the Settings screen, tap **Display** → **Blue light filter** and tap the **Turn on now** switch to activate it.
- 2 Drag the adjustment bar to adjust the filter's opacity.
- 3 To set the schedule to apply the blue light filter to the screen, tap the **Turn on as scheduled** switch to activate it and select an option.
  - **Sunset to sunrise:** Set the device to apply the blue light filter at night and turn it off in the morning based on your current location.
  - **Custom schedule:** Set a specific time to apply the blue light filter.



## Night mode

Reduce eye strain by applying the dark theme when using the device at night or in a dark place.



The dark theme may not be applied in some apps.



- 1 On the Settings screen, tap **Display** → **Night mode** and tap the **Turn on now** switch to activate it.
- 2 To set the schedule to apply night mode to the screen, tap the **Turn on as scheduled** switch to activate it and select an option.
  - **Sunset to sunrise:** Set the device to turn on night mode at night and turn it off in the morning based on your current location.
  - **Custom schedule:** Set a specific time to turn on and off night mode.

## Changing the screen mode or adjusting the display colour

Change the screen mode or adjust the display colour to your preference.

### Changing the screen mode

On the Settings screen, tap **Display** → **Screen mode** and select a mode you want.

- **Vivid:** This optimises the colour range, saturation, and sharpness of your display. You can also adjust the display colour balance by colour value.
- **Natural:** This adjusts the screen to a natural tone.




- You can adjust the display colour only in **Vivid** mode.
- **Vivid** mode may not be compatible with third-party apps.
- You cannot change the screen mode while applying the blue light filter.

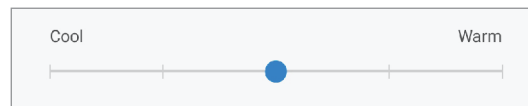


## Optimising the full screen colour balance

Optimise the display colour by adjusting the colour tones to your preference.



When you drag the colour adjustment bar towards **Cool**, the blue colour tone will increase. When you drag the bar towards **Warm**, the red colour tone will increase.

- 1 On the Settings screen, tap **Display** → **Screen mode** → **Vivid**.
- 2 Tap .
- 3 Adjust the colour adjustment bar under **Full screen colour balance**.  
The colour balance of the screen will be optimised.



## Adjusting the screen tone by colour value

Increase or lower certain colour tones by adjusting the **Red**, **Green**, or **Blue** value individually.

- 1 On the Settings screen, tap **Display** → **Screen mode** → **Vivid**.
- 2 Tap .
- 3 Tick **Advanced options**. 
- 4 Adjust the **Red**, **Green**, or **Blue** colour bar to your preference.  
The screen tone screen will be adjusted.



## Screen resolution


Change the screen resolution. It is set to FHD+ by default. Higher resolutions make the display more vivid, however they will consume more battery power.

- 1 On the Settings screen, tap **Display** → **Screen resolution**.
- 2 Select a resolution option and tap **Apply**.

Some currently running apps may close when you change the resolution.

## Screensaver

You can set to display images as a screensaver when the screen turns off automatically. The screensaver will be displayed when the device is charging.

- 1 On the Settings screen, tap **Display** → **Screensaver** and tap the switch to activate it.
- 2 Select an option.  
If you select **Photo Frame**, a slideshow with selected images will start. If you select **Photo Table**, selected images will appear as small cards and overlap.
- 3 Tap  to select albums for displaying images.
- 4 When you are finished, tap the Back button.  
To preview the selected option, tap **Preview**.



When you tap the screen while your screensaver is displayed, the screen will turn on.

## Wallpapers and themes

Change the wallpaper settings for the Home screen and the locked screen or apply various themes to the device.

On the Settings screen, tap **Wallpapers and themes**.

- **Wallpapers:** Change the wallpaper settings for the Home screen and the locked screen.
- **Themes:** Change the device's theme.
- **Icons:** Change the icon style.
- **AODs:** Select an image to display on the Always On Display.

## Lock screen

### Options

Change the settings for the locked screen.

On the Settings screen, tap **Lock screen**.



The available options may vary depending on the screen lock method selected.

- **Screen lock type:** Change the screen lock method.
- **Smart Lock:** Set the device to unlock itself when trusted locations or devices are detected. Refer to [Smart Lock](#) for more information.
- **Secure lock settings:** Change screen lock settings for the selected lock method.
- **Always On Display:** Set the device to display information while the screen is turned off. Refer to [Always On Display](#) for more information.
- **Clock style:** Change the type and colour of the clock on the locked screen.
- **Roaming clock:** Change the clock to show both the local and home time zones on the locked screen when roaming.



- **FaceWidgets:** Change the settings of the items displayed on the locked screen.
- **Contact information:** Set the device to show contact information, such as your email address, on the locked screen.
- **Notifications:** Set how to show notifications on the locked screen.
- **App shortcuts:** Select apps to display shortcuts to them on the locked screen.
- **About Lock screen:** View the Locked screen version and legal information.

## Smart Lock

You can set the device to unlock itself and remain unlocked when trusted locations or devices are detected.

For example, if you have set your home as a trusted location, when you get home your device will detect the location and automatically unlock itself.



- This feature will be available to use after you set a screen lock method.
- If you do not use your device for four hours or when you turn on the device, you must unlock the screen using the pattern, PIN, or password you set.

- 1 On the Settings screen, tap **Lock screen** → **Smart Lock**.
- 2 Unlock the screen using the preset screen lock method.
- 3 Select an option and follow the on-screen instructions to complete the setting.



## Biometrics and security

### Options



Change the settings for securing the device.

On the Settings screen, tap **Biometrics and security**.

- **Face recognition:** Set the device to unlock the screen by recognising your face. Refer to [Face recognition](#) for more information.
- **Fingerprints:** Register your fingerprints to unlock the screen. Refer to [Fingerprint recognition](#) for more information.
- **Biometrics preferences:** Change the settings for biometric data.
- **Biometrics security patch:** View the version of the biometrics security patch and check for updates.
- **Google Play Protect:** Set the device to check for harmful apps and behaviour and warn about potential harm and remove them.
- **Find My Mobile:** Activate or deactivate the Find My Mobile feature. Access the Find My Mobile website ([findmymobile.samsung.com](http://findmymobile.samsung.com)) to track and control your lost or stolen device.

You can also allow the Google location service to provide more accurate information about the location of your device.

- **Security update:** View the version of your device's software and check for updates.
- **Samsung Pass:** Verify your identity easily and securely via your biometric data. Refer to [Samsung Pass](#) for more information.
- **Install unknown apps:** Set the device to allow the installation of apps from unknown sources.
- **Secure Folder:** Create a secure folder to protect your private content and apps from others. Refer to [Secure Folder](#) for more information.
- **Encrypt SD card:** Set the device to encrypt files on a memory card.



If you reset your device to the factory defaults with this setting enabled, the device will not be able to read your encrypted files. Disable this setting before resetting the device.



- **Other security settings:** Configure additional security settings.
- **Location:** Change settings for location information permissions.
- **App permissions:** View the list of features and apps that have permission to use them. You can also edit the permission settings.
- **Send diagnostic data:** Set the device to automatically send the device's diagnostic and usage information to Samsung.
- **Receiving marketing information:** Set whether to receive Samsung marketing information, such as special offers, membership benefits, and newsletters.

## Face recognition

You can set the device to unlock the screen by recognising your face.



- If you use your face as a screen lock method, your face cannot be used to unlock the screen for the first time after turning on the device. To use the device, you must unlock the screen using the pattern, PIN, or password you set when registering the face. Be careful not to forget your pattern, PIN, or password.
- If you change the screen lock method to **Swipe** or **None**, which are not secure, all of your biometric data will be deleted. If you want to use your biometric data in apps or features, you must register your biometric data again.



### Precautions for using face recognition

Before using the face recognition to unlock your device, keep the following precautions in mind.

- Your device could be unlocked by someone or something that looks like your image.
- Face recognition is less secure than Pattern, PIN, or Password.

### For better face recognition

Consider the following when using face recognition:


- Consider the conditions when registering, such as wearing glasses, hats, masks, beards, or heavy makeup
- Ensure that you are in a well-lit area and that the camera lens is clean when registering
- Ensure your image is not blurry for better match results

## Registering your face

For better face registration, register your face indoors and out of direct sunlight.

- 1 On the Settings screen, tap **Biometrics and security** → **Face recognition**.
- 2 Unlock the screen using the preset screen lock method.  
If you have not set a screen lock method, create one.
- 3 Read the on-screen instructions and tap **Continue**.
- 4 Select whether you are wearing glasses or not and tap **Continue**.
- 5 Hold the device with the screen facing towards you and look at the screen.



- 6 Position your face inside the frame on the screen.  
The camera will scan your face.  
When the useful face recognition screen appears, turn on a switch to activate a feature and tap **OK**.
-  If unlocking the screen with your face is not working properly, tap **Remove face data** to remove your registered face and register your face again.


## Deleting the registered face data

You can delete face data that you have registered.

- 1 On the Settings screen, tap **Biometrics and security** → **Face recognition**.
- 2 Unlock the screen using the preset screen lock method.
- 3 Tap **Remove face data** → **Remove**.  
Once the registered face is deleted, all the related features will also be deactivated.

## Unlocking the screen with your face

You can unlock the screen with your face instead of using a pattern, PIN, or password.

- 1 On the Settings screen, tap **Biometrics and security** → **Face recognition**.
- 2 Unlock the screen using the preset screen lock method.
- 3 Tap the **Face unlock** switch to activate it.
  -  • If you want to set the device to unlock the screen without swiping on the locked screen after recognising your face, tap the **Stay on Lock screen** switch to deactivate it.
  - If you want to reduce the possibility of recognising faces in photos or videos, tap the **Faster recognition** switch to deactivate it. This may decrease the face recognition speed.
  - If you want to increase the recognition rate in a dark place, tap the **Brighten screen** switch to activate it.
- 4 On the locked screen, look at the screen.  
When your face is recognised, you can unlock the screen without using any additional screen lock method. If your face is not recognised, use the preset screen lock method.

## Fingerprint recognition

In order for fingerprint recognition to function, your fingerprint information needs to be registered and stored in your device. After registering, you can set the device to use your fingerprint for the features below:

- Screen lock
- Secure Folder



- This feature may not be available depending on the region or service provider.
- Fingerprint recognition uses the unique characteristics of each fingerprint to enhance the security of your device. The likelihood of the fingerprint sensor confusing two different fingerprints is very low. However, in rare cases where separate fingerprints are very similar the sensor may recognise them as identical.
- If you use your fingerprint as a screen lock method, your fingerprint cannot be used to unlock the screen for the first time after turning on the device. To use the device, you must unlock the screen using the pattern, PIN, or password you set when registering the fingerprint. Be careful not to forget your pattern, PIN, or password.
- If your fingerprint is not recognised, unlock the device using the pattern, PIN, or password you set when registering the fingerprint, and then re-register your fingerprints. If your pattern, PIN, or password is forgotten, you will not be able to use the device if you do not reset it. Samsung is not responsible for any data loss or inconvenience caused by forgotten unlock codes.
- If you change the screen lock method to **Swipe** or **None**, which are not secure, all of your biometric data will be deleted. If you want to use your biometric data in apps or features, you must register your biometric data again.

## For better fingerprint recognition

When you scan your fingerprints on the device, be aware of the following conditions that may affect the feature's performance:

- Ensure that the fingerprint recognition sensor is not scratched or damaged by metal objects, such as coins, keys, and necklaces.
- Covering the fingerprint recognition sensor with protective films, stickers, or other accessories may decrease the fingerprint recognition rate. If the fingerprint recognition sensor is initially covered with a protective film, remove it before using the fingerprint recognition sensor.
- The device may not recognise fingerprints if you attach a thick or tempered glass screen protector. Using a Samsung-approved screen protector is recommended. (Galaxy S10+, Galaxy S10)
- Ensure that the fingerprint recognition sensor and your fingers are clean and dry.
- The device may not recognise fingerprints that are affected by wrinkles or scars.
- The device may not recognise fingerprints from small or thin fingers.
- If you bend your finger or use a fingertip, the device may not recognise your fingerprints. Make sure to cover the entire fingerprint recognition sensor with your finger.
- To improve recognition performance, register fingerprints of the hand used most often to perform tasks on the device.
- In dry environments, static electricity can build up in the device. Avoid using this feature in dry environments or before using the feature, discharge static electricity by touching a metal object.

## Registering fingerprints

- 1 On the Settings screen, tap **Biometrics and security** → **Fingerprints**.
- 2 Unlock the screen using the preset screen lock method.  
If you have not set a screen lock method, create one.



### 3 Register your fingerprint.

► **Galaxy S10+, Galaxy S10:** Place your finger on the fingerprint recognition sensor at the bottom of the screen. After the device detects your finger, lift it up and place it on the fingerprint recognition sensor again.



► **Galaxy S10e:** Place your finger on the Power key. After the device detects your finger, lift it up and place it on the Power key again.



Repeat this action until the fingerprint is registered.

### 4 When you are finished registering your fingerprints, tap **Done**.



## Checking registered fingerprints

You can check whether your fingerprint is registered by placing your finger on the fingerprint recognition sensor.

- 1 On the Settings screen, tap **Biometrics and security** → **Fingerprints**.
- 2 Unlock the screen using the preset screen lock method.
- 3 Tap **Check added fingerprints**.
- 4 Place your finger on the fingerprint recognition sensor.  
The recognition result will be displayed.

## Deleting registered fingerprints

You can delete registered fingerprints.

- 1 On the Settings screen, tap **Biometrics and security** → **Fingerprints**.
- 2 Unlock the screen using the preset screen lock method.
- 3 Select a fingerprint to delete and tap **Remove**.

## Unlocking the screen with your fingerprints

You can unlock the screen with your fingerprint instead of using a pattern, PIN, or password.

- 1 On the Settings screen, tap **Biometrics and security** → **Fingerprints**.
- 2 Unlock the screen using the preset screen lock method.
- 3 Tap the **Fingerprint unlock** switch to activate it.
- 4 On the locked screen, place your finger on the fingerprint recognition sensor and scan your fingerprint.





## Changing the fingerprint recognition icon setting (Galaxy S10+, Galaxy S10)

Set the device to show or hide the fingerprint recognition icon when you pick up your device or tap on the screen while the screen is turned off.

- 1 On the Settings screen, tap **Biometrics and security** → **Fingerprints**.
- 2 Unlock the screen using the preset screen lock method.
- 3 Tap the **Adaptive icon** switch to activate or deactivate it.

## Samsung Pass

Samsung Pass allows you to sign in to your Samsung account, websites, or apps more easily and securely via your biometric data rather than entering your login information. Also, Samsung Pass allows you to enter the personal information, such as your address or payment card information, more easily and quickly via your registered biometric data.

Register your biometric data to Samsung Pass and set to sign in to supported websites or apps using the data via Samsung Pass.



- To use this feature, your device must be connected to a Wi-Fi or mobile network.
- To use this feature, you must register and sign in to your Samsung account. For more information, refer to [Samsung account](#).
- The website sign-in feature is only available for websites that you access via the **Internet** app. Some websites may not support this feature.
- Registered biometric data and saved payment card information are only saved to your device and are not synced with other devices or servers.

## Registering Samsung Pass

Before using Samsung Pass, register your biometric data to Samsung Pass.

- 1 On the Settings screen, tap **Biometrics and security** → **Samsung Pass**.
- 2 Read the on-screen instructions and tap **Sign-in**.
- 3 Enter your Samsung account ID and password and tap **Sign in**.
- 4 Agree to the terms and conditions of Samsung Pass.
- 5 Enter your Samsung account password and tap **OK**.
- 6 Tap **Register fingerprints** and register your fingerprints.  
Refer to [Fingerprint recognition](#) for more information.
- 7 Scan your fingerprint and tap **Next** to complete the Samsung Pass registration.
  - If the **Add Samsung Pass to Home screen** option is ticked, the Samsung Pass icon will be added on the Home screen.
  - If the **Use Samsung Pass to sign in to your Samsung account** option is ticked, you can use your registered biometric data to verify your identity instead of entering the Samsung account password.

## Verifying the Samsung account password

You can use your registered biometric data to verify your identity instead of entering your Samsung account password when, for example, you purchase content from **Galaxy Store**.

- 1 On the Settings screen, tap **Biometrics and security** → **Samsung Pass**.
- 2 Unlock the screen using the preset screen lock method.
- 3 Tap **⋮** → **Settings** → **Samsung account**, and then tap the **Use with Samsung Pass** switch to activate it.



## Using Samsung Pass to sign in to websites

You can use Samsung Pass to easily sign in to websites that support ID and password autofill.

- 1 Open a website that you want to sign in to.
- 2 Enter your user name and password, and then tap the website's sign in button.
- 3 When a pop-up window asking whether you want to save the sign-in information appears, tick **Sign in using fingerprints via Samsung Pass** and tap **Remember**.

You can now use the biometric data you registered to Samsung Pass when signing in to the website.

## Using Samsung Pass to sign in to apps

You can use Samsung Pass to easily sign in to apps that support ID and password autofill.




- 1 Open an app that you want to sign in to.
- 2 Enter your user name and password, and then tap the app's sign in button.
- 3 When a pop-up window asking whether you want to save the sign-in information appears, tap **Save**.

You can now use the biometric data you registered to Samsung Pass when signing in to the app.




## Managing sign-in information

View the list of websites and apps you have set to use Samsung Pass and manage your sign-in information.


- 1 On the Settings screen, tap **Biometrics and security** → **Samsung Pass**. 
- 2 Unlock the screen using the preset screen lock method.
- 3 Tap **Sign-in** and select a website or app from the list.
- 4 Tap  → **Edit** and modify your ID, password, and the website's or app's name.  
To delete the website or app, tap  → **Delete**.

## Using Samsung Pass with websites and apps

When using websites or apps that support Samsung Pass, you can easily sign in with Samsung Pass.

To see the list of websites and apps that support Samsung Pass, on the Settings screen, tap **Biometrics and security** → **Samsung Pass**, unlock the screen using your preset screen lock method, and then tap  → **Partners**. If there are no websites or apps that support Samsung Pass, **Partners** will not appear.




- Available websites and apps may vary depending on the region or service provider.
- Samsung is not responsible for any loss or inconvenience caused by signing in to websites or apps via Samsung Pass. 



## Entering your personal information automatically


You can use Samsung Pass to easily enter your address or payment card information on apps that support autofilling personal information.

- 1 On the Settings screen, tap **Biometrics and security** → **Samsung Pass**. 
- 2 Unlock the screen using the preset screen lock method.
- 3 Tap **Autofill forms** and select **Add address** or **Add card**.
- 4 Enter the information and tap **Save**.

You can now use the biometric data you registered to Samsung Pass when entering the personal information automatically on supported apps.

## Deleting your Samsung Pass data

You can delete your biometric data, sign-in information, and app data registered to Samsung Pass. Your agreement to the terms and conditions and your Samsung account will remain active.

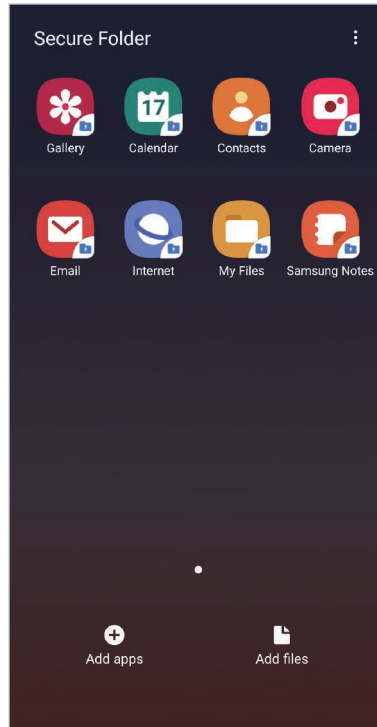
- 1 On the Settings screen, tap **Biometrics and security** → **Samsung Pass**.
- 2 Unlock the screen using the preset screen lock method.
- 3 Tap **⋮** → **Settings** → **Delete data**. 
- 4 Enter your Samsung account password and tap **OK**.

Your Samsung Pass data will be deleted.



## Secure Folder

Secure Folder protects your private content and apps, such as photos and contacts, from being accessed by others. You can keep your private content and apps secure even when the device is unlocked.



Secure Folder is a separate, secured storage area. The data in Secure Folder cannot be transferred to other devices via unapproved sharing methods, such as USB or Wi-Fi Direct. Attempting to customise the operating system or modifying software will cause Secure Folder to be automatically locked and inaccessible. Before saving data in Secure Folder, make sure to back up a copy of the data in another secure location.



## Setting up Secure Folder

- 1 Launch the **Settings** app and tap **Biometrics and security** → **Secure Folder**.
- 2 Tap **Continue**.
- 3 Enter your Samsung account ID and password and tap **Sign in**.
- 4 Select a lock method to use for Secure Folder and follow the on-screen instructions to complete the setup.


To change the name or icon colour of Secure Folder, tap  → **Customise icon**.



- When you launch the **Secure Folder** app, you must unlock the app using your preset lock method.
- If you forget your Secure Folder unlock code, you can reset it using your Samsung account. Tap the button at the bottom of the locked screen, and enter your Samsung account password.

## Setting auto lock for Secure Folder

Set the device to automatically lock Secure Folder when it is not being used.

- 1 Launch the **Secure Folder** app and tap  → **Settings** → **Auto lock Secure Folder**.
- 2 Select a lock option.



To manually lock your Secure Folder, tap  → **Lock**.

## Moving content to Secure Folder

Move content, such as photos and contacts, to Secure Folder. The following actions are an example of moving an image from the default storage to Secure Folder.

- 1 Launch the **Secure Folder** app and tap **Add files**.
- 2 Tap **Images**, tick images to move, and then tap **Done**.
- 3 Tap **Move**.  
The selected items will be deleted from the original folder and moved to Secure Folder.  
To copy items, tap **Copy**.



The method for moving content may vary depending on the content type.

## Moving content from Secure Folder

Move content from Secure Folder to the corresponding app in the default storage. The following actions are an example of moving an image from Secure Folder to the default storage.

- 1 Launch the **Secure Folder** app and tap **Gallery**.
- 2 Select an image and tap **⋮** → **Move out of Secure Folder**.  
The selected items will be moved to **Gallery** in the default storage.





## Adding apps

Add an app to use in Secure Folder.

- 1 Launch the **Secure Folder** app and tap **Add apps**.
- 2 Tick one or more apps installed on the device and tap **Add**.  
To install apps from **Play Store** or **Galaxy Store**, tap **Download from Play Store** or **Download from Galaxy Store**.

## Removing apps from Secure Folder

Tap and hold an app to delete, and tap **Uninstall**.

## Adding accounts

Add your Samsung and Google accounts, or other accounts, to sync with the apps in Secure Folder.

- 1 Launch the **Secure Folder** app and tap **:** → **Settings** → **Accounts** → **Add account**.
- 2 Select an account service.
- 3 Follow the on-screen instructions to complete the account setup.

## Hiding Secure Folder

You can hide the Secure Folder shortcut from the Apps screen.

Launch the **Secure Folder** app, tap **:** → **Settings**, and then tap the **Show Secure Folder** switch to deactivate it.


Alternatively, drag the status bar downwards to open the notification panel. Then, swipe downwards on the notification panel and tap **Secure Folder** to deactivate the feature.





## Backing up and restoring Secure Folder

Back up content and apps in Secure Folder to Samsung Cloud using your Samsung account and restore them later.

### Backing up data


- 1 Launch the **Secure Folder** app and tap  → **Settings** → **Backup and restore**.
- 2 Tap **Add account** and sign in to your Samsung account.
- 3 Tap **Back up Secure Folder data**.
- 4 Tick items you want to back up and tap **Back up now**.  
Data will be backed up to Samsung Cloud.

### Restoring data

- 1 Launch the **Secure Folder** app and tap  → **Settings** → **Backup and restore**.
- 2 Tap **Restore**.
- 3 Tap  to select a device to restore the data.
- 4 Select the data types you want to restore and tap **Restore now**.  
Backed up data will be restored to your device.

## Uninstalling Secure Folder

You can uninstall Secure Folder, including the content and apps in it.

Launch the **Secure Folder** app and tap  → **Settings** → **More settings** → **Uninstall**.

To back up content before uninstalling Secure Folder, tick **Move media files out of Secure Folder** and tap **Install**. To access data backed from Secure Folder, open the **Samsung** folder, launch the **My Files** app, and then tap **Internal storage** → **Secure Folder**.



Notes saved in **Samsung Notes** will not be backed up.

## Accounts and backup

### Options

Sync, back up, or restore your device's data using Samsung Cloud. You can also register and manage accounts, such as your Samsung account or Google account, or transfer data to or from other devices via Smart Switch.

On the Settings screen, tap **Accounts and backup**.

- **Accounts:** Add your Samsung and Google accounts, or other accounts, to sync with.
- **Backup and restore:** Keep your personal information, app data, and settings safe on your device. You can back up your sensitive information and access it later. You must sign in to your Google or Samsung account to back up or restore data.
- **Samsung Cloud:** Manage the content that you want to store securely in Samsung Cloud. Check the usage status of your Samsung Cloud storage, and sync, back up, and restore your data. Refer to [Samsung Cloud](#) for more information.
- **Smart Switch:** Launch Smart Switch and transfer data from your previous device. Refer to [Transferring data from your previous device \(Smart Switch\)](#) for more information.



Regularly back up your data to a safe location, such as Samsung Cloud or a computer, so that you can restore it if the data is corrupted or lost due to an unintended factory data reset.

## Samsung Cloud

Sync the data saved in your device, such as images and videos, with Samsung Cloud and view the data you have saved on Samsung Cloud. You can also back up your device's data to Samsung Cloud and restore it later.



To use Samsung Cloud, you must register and sign in to your Samsung account.

### Syncing data

You can sync data saved in your device, such as images, videos, and events, with Samsung Cloud and access it from other devices.

- 1 On the Settings screen, tap **Accounts and backup** → **Samsung Cloud**.
- 2 Tap **:** → **Settings** → **Sync and auto backup settings** → **Sync**.
- 3 Tap the switches next to the items you want to sync with.



You can check the saved data or change the settings by tapping the **Gallery**, **Other synced data**, or **Samsung Cloud Drive**.



## Backing up data

You can back up your device's data to Samsung Cloud.

- 1 On the Settings screen, tap **Accounts and backup** → **Samsung Cloud** → **Back up this phone**.
- 2 Tick items you want to back up and tap **Back up**.
- 3 Tap **Done**.



- Some data will not be backed up. To check which data will be backed up, on the Settings screen, tap **Accounts and backup** → **Samsung Cloud** → **Back up this phone**.
- To view the backup data for other devices in your Samsung Cloud, on the Settings screen, tap **Accounts and backup** → **Samsung Cloud** → **Restore data** → ▼, and then select a device you want.

## Restoring data

You can restore your backup data from Samsung Cloud to your device.

- 1 On the Settings screen, tap **Accounts and backup** → **Samsung Cloud**.
- 2 Tap **Restore data** → ▼ and select a device you want.
- 3 Tick the data types you want to restore and tap **Restore**.

## Google

Configure settings for some features provided by Google.

On the Settings screen, tap **Google**.



## Advanced features

### Options

Activate advanced features and change the settings that control them.

On the Settings screen, tap **Advanced features**.



Excessive shaking or an impact to the device may cause an unintended input for some features using sensors.

- **Bixby Routines:** Add routines to automate settings that you use repeatedly. The device also suggests useful routines according to your frequent situations. Refer to [Bixby Routines](#) for more information.
- **Smart pop-up view:** Select apps to view their notifications via pop-up windows. When using this feature, you can quickly view the contents via pop-up windows by tapping the icon on the screen.



This feature is only available in apps that support the Multi window feature.

- **Smart capture:** Set the device to capture the current screen and scrollable area, and crop and share the screenshot immediately.
- **Direct share:** Set the device to display the people you contacted on the sharing options panel to allow you to share content directly.
- **Reduce animations:** Set the device to reduce certain screen effects if you are sensitive to animations or screen movement.
- **Motions and gestures:** Activate the motion feature and configure settings. Refer to [Motions and gestures](#) for more information.
- **Game Launcher:** Activate the Game Launcher. Refer to [Game Launcher](#) for more information.
- **Dual Messenger:** Install the second app and use two separate accounts for the same messenger app. Refer to [Dual Messenger](#) for more information.



- **Video enhancer:** Enhance the image quality of your videos to enjoy brighter and more vivid colours.



This feature may not be available in some apps.

- **Send SOS messages:** Set the device to send help messages by pressing the Power key three times. You can also send sound recordings along with the message to the recipients.

## Bixby Routines

Bixby Routines are a service that automates settings you use repeatedly and suggests useful features according to your frequent situations by learning your usage patterns.


For example, you can create a 'good night' routine that reflects your sleep patterns that will turn on the blue light filter and adjust the screen brightness for your comfort when you go to bed.

### Adding routines

Add routines to use your device more conveniently. When you add a routine, you can set its running condition to auto or manual.

#### Adding recommended routines

View the list of useful features and add them as your own routines.

- 1 On the Settings screen, tap **Advanced features** → **Bixby Routines**.
- 2 On the **Recommended** list, select a routine you want and tap **Save**.
  - To set the routine's conditions and actions, tap . If you want to set the routine's running condition to manual, tap **Start button tapped**.
  - For manual routines, you can add them to the Home screen as widgets and access them quickly. When a pop-up windows appears, tap **Add**.



## Adding your own routines

Add your frequently used features as routines.

- 1 On the Settings screen, tap **Advanced features** → **Bixby Routines** → **+**.
- 2 Enter a routine name.
- 3 Tap **+**, set conditions, and then tap **Next**.  
If you want to set the routine's running condition to manual, tap **Start button tapped**.
- 4 Tap **+**, set actions, and then tap **Done**.  
For manual routines, you can add them to the Home screen as widgets and access them quickly. When a pop-up windows appears, tap **Add**.

## Running routines

Auto routines will run automatically when their conditions are detected.

For manual routines which you set the running condition as **Start button tapped**, you can run them manually by tapping the button whenever you want. On the Settings screen, tap **Advanced features** → **Bixby Routines** → **My routines** and tap **▶** next to the routine you want to run. Alternatively, tap the routine's widget on the Home screen.

Currently running routines will appear on the notification panel. To view a routine's details, tap the notification.

## Managing routines

On the Settings screen, tap **Advanced features** → **Bixby Routines** → **My routines**. Your routines will appear.

To deactivate a routine, tap the routine's switch or **⏸**.

To edit a routine, select a routine and tap **✎**.

To delete routines, tap **⋮** → **Delete**, tick routines to delete, and then tap **Delete**.



## Motions and gestures

Activate the motion feature and configure settings.

On the Settings screen, tap **Advanced features** → **Motions and gestures**.

- **Lift to wake:** Set the device to turn on the screen when you pick it up.
- **Double tap to wake up:** Set the device to turn on the screen by double-tapping anywhere on the screen while the screen is turned off.
- **Smart stay:** Set the device to prevent the display from turning off while you are looking at it.
- **Smart alert:** Set the device to alert you if you have missed calls or new messages when you pick up the device.



This feature may not work if the screen is turned on or the device is not on a flat surface.

- **Easy mute:** Set the device to mute incoming calls or alarms by using palm motions or facing the device's screen downwards.
- **Direct call:** Set the device to make a voice call by picking up and holding the device near your ear while viewing message or contact details.
- **One-handed mode:** Activate one-handed operation mode for your convenience when using the device with one hand.



This feature may not be available depending on the region or service provider.

- **Palm swipe to capture:** Set the device to capture a screenshot when you swipe your hand to the left or right across the screen. You can view the captured images in **Gallery**.






It is not possible to capture a screenshot while using some apps and features.

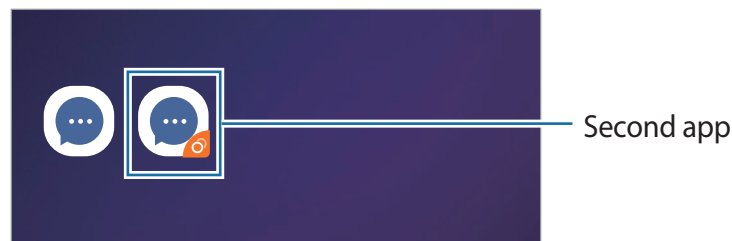
- **Swipe to call or send messages:** Set the device to make a call or send a message when you swipe to the right or left on a contact or a phone number in the **Phone** or **Contacts** app.




## Dual Messenger


Install the second app and use two separate accounts for the same messenger app.


- 1 On the Settings screen, tap **Advanced features** → **Dual Messenger**.  
Supported apps will appear. 
- 2 Tap the switch of an app to install the second app.  
The second app will be installed. The second app's icon will be displayed with . When you receive notifications from the second app, the notifications will be displayed with  to distinguish them from the first app's notifications.



-  • The Dual Messenger feature may not be available depending on the app.
- Some features of the app may be limited for the second app.

## Uninstalling a second app

- 1 On the Settings screen, tap **Advanced features** → **Dual Messenger**. 
- 2 Tap the switch of the app you want to disable and tap **Disable** or **Uninstall**.  
All data related to the second app will be deleted.

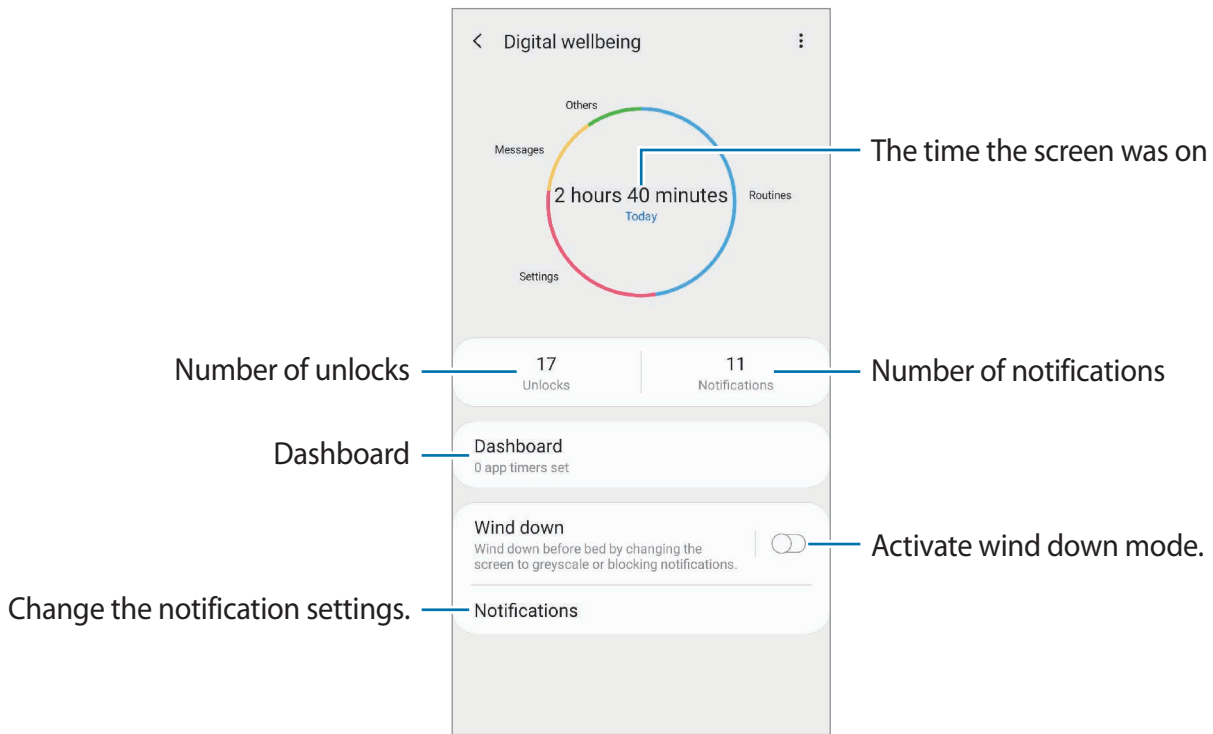
-  If you uninstall the first app, the second app will also be deleted.



## Digital wellbeing

View the daily usage history of your device. You can see information such as how long the screen was on and how many times you opened apps or used certain features. You can also limit usage time or change the notification settings for each app.

On the Settings screen, tap **Digital wellbeing**.



## Setting timers for apps

You can limit the daily usage time for each app by setting a timer. When you reach the limit, the app will be deactivated and you cannot use it.

- 1 On the Settings screen, tap **Digital wellbeing** → **Dashboard**.
- 2 Tap **No timer** next the app you want and set the time.



## Activating wind down mode

You can activate wind down mode to reduce eye strain before sleeping and prevent your sleep from being disturbed.

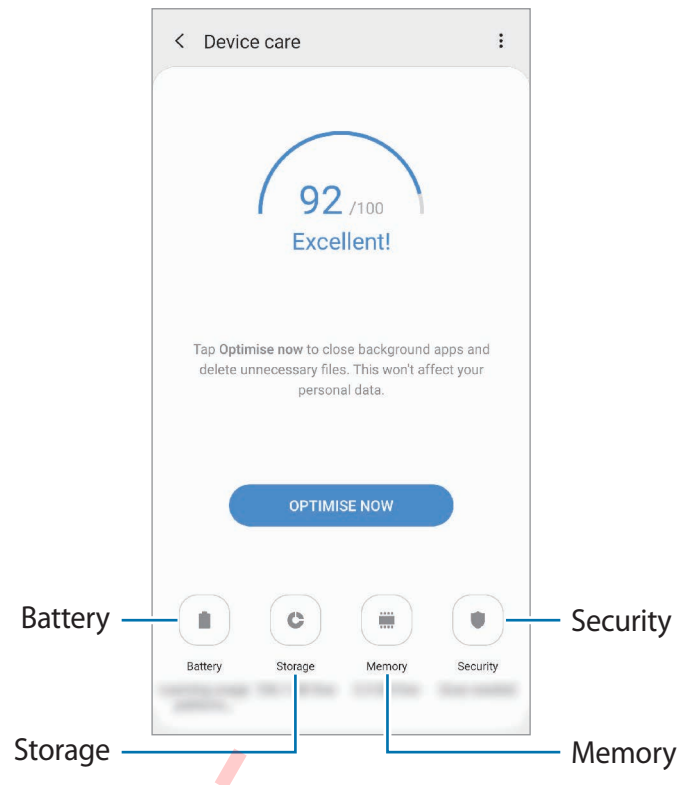
- 1 On the Settings screen, tap **Digital wellbeing** → **Wind down** and tap the **Turn on now** switch to activate it.
- 2 Turn on the switch to activate the feature you want.
  - **Greyscale:** Displays colours on the screen as grey tones.
  - **Do not disturb:** Set the device to mute incoming calls, notification sounds, and media, except for allowed exceptions.
- 3 To set the schedule to activate wind down mode, tap the **Turn on as scheduled** switch to activate it, tap **Set schedule**, and then set the time.



## Device care

### Introduction

The device care feature provides an overview of the status of your device's battery, storage, memory, and system security. You can also automatically optimise the device with a tap of your finger.




### Using the optimisation feature

On the Settings screen, tap **Device care** → **FIX NOW** or **OPTIMISE NOW**.

The quick optimisation feature improves device performance through the following actions.

- Clearing some memory.
- Deleting unnecessary files and closing apps running in the background.
- Managing abnormal battery usage.
- Scanning for crashed apps and malware.

## Using the auto optimisation feature

You can set the device to perform auto optimisation when your device is not in use. Tap  → **Auto optimisation** and tap the switch to activate it. If you want to set the time to perform auto optimisation, tap **Time**.

## Battery

Check the remaining battery power and time to use the device. For devices with low battery levels, conserve battery power by activating power saving features.

On the Settings screen, tap **Device care** → **Battery**.




- The usage time left shows the time remaining before the battery power runs out. Usage time left may vary depending on your device settings and operating conditions.
- You may not receive notifications from some apps that use power saving mode.

## Power mode

Select a power mode that suits your device usage purposes.

Tap **Power mode** and select an option.

- **High performance:** The screen is as bright as possible and at maximum resolution. The battery may drain quickly.
- **Optimised:** Optimised for a balance between the device's performance and battery usage.
- **Medium power saving:** Activate power saving mode to extend the battery's usage time.
- **Maximum power saving:** In maximum power saving mode, the device decreases battery consumption by activating night mode and limiting the apps and features available. Network connections, except for the mobile network, will be deactivated.

You can set the device to charge the battery more quickly. Tap  → **Settings** and tap the **Fast cable charging** switch to activate it.



## Adaptive power saving

You can set the device to activate power saving mode automatically based on your usage patterns and the remaining battery power.

Tap the **Adaptive power saving** switch to activate it. Your device will activate power saving mode based on the situation to extend the battery's usage time.

## Managing battery usage for each app

You can save battery power by preventing apps that are running in the background from using battery power when they are not being used. Select apps from the apps list and tap the **Put app to sleep** switch to activate the feature.

## Storage

Check the status of the used and available memory.

On the Settings screen, tap **Device care** → **Storage**.



- The actual available capacity of the internal memory is less than the specified capacity because the operating system and default apps occupy part of the memory. The available capacity may change when you update the device.
- You can view the available capacity of the internal memory in the Specification section for your device on the Samsung website.

## Managing the memory

To delete residual files, such as cache, tap **CLEAN NOW**. To delete files or uninstall apps that you do not use any more, select a category under **User data**. Then, tick items to select and tap **DELETE** or **UNINSTALL**.

## Memory

On the Settings screen, tap **Device care** → **Memory**.

To speed up your device by stopping apps running in the background, tick apps from the apps list, and tap **CLEAN NOW**.



## Security

Check the device's security status. This feature scans your device for malware.

On the Settings screen, tap **Device care** → **Security** → **SCAN PHONE**.



## Apps

Manage the device's apps and change their settings. You can view the apps' usage information, change their notification or permission settings, or uninstall or disable unnecessary apps.

On the Settings screen, tap **Apps**.

## General management

Customise your device's system settings or reset the device.

On the Settings screen, tap **General management**.

- **Language and input:** Select device languages and change settings, such as keyboards and voice input types. Some options may not be available depending on the selected language. Refer to [Adding device languages](#) for more information.
- **Date and time:** Access and alter the settings to control how the device displays the time and date.



If the battery remains fully discharged, the time and date is reset.

- **Contact us:** Ask questions or view frequently asked questions. Refer to [Samsung Members](#) for more information.
- **Reset:** Reset your device's settings or perform a factory data reset. You can reset all your settings, or only network settings, or accessibility settings. You can also set the device to restart at a preset time for device optimisation.






## Adding device languages

You can add languages to use on your device.


**1** On the Settings screen, tap **General management** → **Language and input** → **Language** → **Add language**.

To view all the languages that can be added, tap  → **All languages**.

**2** Select a language to add.

**3** To set the selected language as the default language, tap **Set as default**. To keep the current language setting, tap **Keep current**.

The selected language will be added to your languages list. If you changed the default language, the selected language will be added to the top of the list.

To change the default language from your languages list, drag  next to a language and move it to the top of the list. Then, tap **Apply**. If an app does not support the default language, the next supported language in the list will be used.

## Accessibility

Configure various settings to improve accessibility to the device. Refer to [Accessibility](#) for more information.


On the Settings screen, tap **Accessibility**.



## Software update

Update your device's software via the firmware over-the-air (FOTA) service. You can also schedule software updates.

On the Settings screen, tap **Software update**.

 If emergency software updates are released for your device's security and to block new types of security threats, they will be installed automatically without your agreement.

- **Download and install:** Check for and install updates manually.
- **Auto download over Wi-Fi:** Set the device to download updates automatically when connected to a Wi-Fi network.
- **Last update:** View information about the last software update.

## Security updates information

Security updates are provided to strengthen the security of your device and protect your personal information. For security updates for your model, visit [security.samsungmobile.com](https://security.samsungmobile.com).

 The website supports only some languages.

## User manual

View help information to learn how to use the device and apps or configure important settings.

On the Settings screen, tap **User manual**.

## About phone

Access your device's information.

On the Settings screen, tap **About phone**.

To change your device's name, tap **Edit**.

- **Status:** View various device information, such as the SIM card status, Wi-Fi MAC address, and serial number.
- **Legal information:** View legal information related to the device, such as safety information and the open source licence.
- **Software information:** View the device's software information, such as its operating system version and firmware version.
- **Battery information:** View the device's battery status and information.


# Appendix



## Accessibility

### About Accessibility

Improve accessibility with features that make the device easier to use for users who have impaired vision, hearing, and reduced dexterity.

Launch the **Settings** app and tap **Accessibility**. You can check the accessibility feature you are using at the top of the screen. Tap  to view features you are currently using or tap **Turn off** to disable the features quickly.

### Voice Assistant (Voice feedback)

#### Activating or deactivating Voice Assistant

When you activate Voice Assistant, the device will start voice feedback. When you tap the selected feature once, the device will read the text on the screen aloud. Tapping the feature twice will activate the feature.

Launch the **Settings** app, tap **Accessibility** → **Screen reader**, and then tap the **Voice Assistant** switch to activate it. 

To deactivate Voice Assistant, tap the switch and tap anywhere on the screen twice quickly.

To view how to use Voice Assistant, tap **Tutorial**.



Some features are not available while you are using Voice Assistant.



## Controlling the screen with finger gestures

You can use various finger gestures to control the screen while you are using Voice Assistant.

### One finger gestures

- Tapping: Read aloud the item under your finger. To explore the screen, place a finger on the screen and move it on the screen.
- Tapping twice: Open the selected item. While selected items are read aloud, when you hear the item you want, release your finger from the item. Then, tap anywhere on the screen twice quickly.
- Double-tapping and holding the screen: Move an item or access an available option.
- Swiping to the left: Read the previous item.
- Swiping to the right: Read the next item.
- Swiping upwards or downwards: Change the most recent contextual menu settings.
- Swiping to the left then right in one motion: Scroll up the screen.
- Swiping to the right then left in one motion: Scroll down the screen.
- Swiping upwards then downwards in one motion: Move to the first item on the screen.
- Swiping downwards then upwards in one motion: Move to the last item on the screen.

### Two finger gestures

- Tapping twice: Start, pause, or resume the current action.
- Tapping three times: Check the current time, remaining battery power, and more. To change items that are read aloud, launch the **Settings** app and tap **Accessibility** → **Screen reader** → **Settings** → **Status bar information**.
- Tapping four times: Activate or deactivate voice feedback.
- Swiping to the left: Move to the next page.
- Swiping to the right: Return to the previous page.
- Swiping upwards: Scroll down the list.
- Swiping downwards: Scroll up the list.

- Swipe upwards or downwards on the Home screen: Open the Apps screen.
- Swipe upwards or downwards on the Apps screen: Return to the Home screen.
- Swiping in any direction on the locked screen: Unlock the screen.
- Swiping downwards from the top of the screen: Open the notification panel.

### Three finger gestures

- Tapping: Start reading items aloud from the top.
- Tapping twice: Start reading from the next item.
- Tapping three times: Read the last selected text and copy it to the clipboard.
- Swiping to the left or right: Open the contextual menu and scroll through the options.
- Swiping upwards or downwards: Change the text reading and selecting granularity.
- Swiping upwards then downwards in one motion: Return to the previous screen.
- Swiping downwards then upwards in one motion: Return to the Home screen.

### Four finger gestures

- Tapping: Return to the previous screen.
- Tapping twice: Return to the Home screen.
- Tapping three times: Open the list of recent apps.

### Using the contextual menu

While you are using Voice Assistant, swipe to the left or right with three fingers. The contextual menu will appear and the device will read the options aloud. Swipe to the left or right with three fingers to scroll through the options. When you hear the option you want, swipe upwards or downwards to use the option or adjust the settings for the option. For example, when you hear **Speech rate**, you can adjust the speech rate by swiping upwards or downwards.



## Adding and managing image labels

You can assign labels to images on the screen. The device reads aloud the labels when the images are selected. Add labels to unlabelled images by tapping the screen twice with three fingers and holding.

To manage the labels, launch the **Settings** app and tap **Accessibility** → **Screen reader** → **Settings** → **Manage custom labels**.

## Configuring settings for Voice Assistant

Configure settings for Voice Assistant for your convenience.

Launch the **Settings** app and tap **Accessibility** → **Screen reader** → **Settings**.

- **Text-to-speech:** Change the settings for text-to-speech features used when Voice Assistant is activated, such as languages, speed, and more.
- **Verbosity:** Customise the detailed settings for voice feedback.
- **Mute with proximity sensor:** Set the device to pause voice feedback when you place your hand over the sensor at the top of the device.
- **Shake for continuous reading:** Set the device to read aloud the text displayed on the screen when you shake the device. You can select from various shaking intensity.
- **Speak passwords:** Set the device to read the characters aloud when you enter your password.
- **Read out caller ID:** Set the device to read the caller's name aloud when you have an incoming call.
- **Vibration feedback:** Set the device to vibrate when you control the screen, such as selecting an item.
- **Sound feedback:** Set the device to emit a sound when you control the screen, such as selecting an item. You can also adjust the volume of the sound played when you touch the screen to control it.
- **Focus on speech audio:** Set the device to turn the media volume down when the device reads an item aloud.



- **Focus indicator:** Set the device to thicken the border of the focus indicator that appears when you tap items. You can also change the colour of the indicator.
- **Single-tap activation:** Set the device to activate the selected item with a single tap.
- **Single-tap navigation bar:** Set the device to use the buttons on the navigation bar with a single tap.
- **Quick menu:** Select contextual menu options to display when you swipe to the left or right with three fingers.
- **Manage custom labels:** Manage the labels you added.
- **Keyboard shortcuts:** Set key shortcuts to use when using an external keyboard.
- **Status bar information:** Select items to read aloud when you tap the screen three times with two fingers.
- **Developer options:** Set options for app development.

## Entering text using the keyboard

To display the keyboard, tap the text input field, and then tap anywhere on the screen twice quickly.

To activate the rapid key input feature, launch the **Settings** app, tap **Accessibility** → **Screen reader**, and then tap the **Quick typing** switch to activate it.

When you touch the keyboard with your finger, the device reads aloud the character keys under your finger. When you hear the character you want, release your finger from the screen to select it. The character is entered and the device reads the text aloud.

If **Quick typing** is not activated, release your finger from the character you want, and then tap anywhere on the screen twice quickly.



This feature will appear only when Voice Assistant has been activated.

## Entering additional characters

Tap and hold a key on the keyboard to enter additional characters available for the key. A pop-up window appears above the key showing available characters. To select a character, drag your finger on the pop-up window until you hear the character you want, and release it.





## Visibility enhancements

### Using the high contrast theme

Apply a clear theme that displays light-coloured content on a dark background.

Launch the Settings app, tap **Accessibility** → **Visibility enhancements** → **High contrast theme**, and then select a theme you want.

### Using the high contrast font

Adjust the colour and outline of fonts to increase the contrast between the text and the background.

Launch the **Settings** app, tap **Accessibility** → **Visibility enhancements**, and then tap the **High contrast fonts** switch to activate it.

### Using the high contrast keyboard

Change the colours of the Samsung keyboard to increase the contrast between the text and the background.

Launch the **Settings** app, tap **Accessibility** → **Visibility enhancements**, and then tap the **High contrast keyboard** switch to activate it.

### Displaying button shapes

Display button shapes with frames to make them stand out.

Launch the **Settings** app, tap **Accessibility** → **Visibility enhancements**, and then tap the **Show button shapes** switch to activate it.

### Reversing the display colours

Improve screen visibility to help users recognise text on the screen more easily.

Launch the **Settings** app, tap **Accessibility** → **Visibility enhancements**, and then tap the **Negative colours** switch to activate it.



## Colour adjustment

Adjust how colours are displayed on the screen if you have difficulty in distinguishing colours. The device changes the colours into more recognisable colours.

Launch the **Settings** app, tap **Accessibility** → **Visibility enhancements** → **Colour adjustment**, and then tap the switch to activate it. Select an option.

To adjust the intensity of colour, drag the adjustment bar under **Intensity**.

If you select **Personalised colour**, you can personalise the colour of the screen. Follow the on-screen instructions to complete the colour adjustment procedure.

## Colour lens

Adjust the screen colours if you have difficulty in reading the text.

Launch the **Settings** app, tap **Accessibility** → **Visibility enhancements** → **Colour lens**, and then tap the switch to activate it. Select a colour you want.

To adjust the transparency level, drag the adjustment bar under **Opacity**.

## Reducing screen motion effects

Reduce animation effects if you are sensitive to animations or screen movement.

Launch the **Settings** app, tap **Accessibility** → **Visibility enhancements**, and then tap the **Remove animations** switch to activate it.

## Using a magnifier

Activate a magnifier to zoom in on the screen to view a larger version of the content.

Launch the **Settings** app, tap **Accessibility** → **Visibility enhancements**, and then tap the **Magnifier window** switch to activate it. The magnifier will appear on the screen.



Drag the edge of the magnifier frame to move the magnifier to where you want to zoom in on the screen.



## Magnifying the screen


Magnify the screen and zoom in on a specific area.

Launch the **Settings** app and tap **Accessibility** → **Visibility enhancements** → **Magnification**.

- **Triple tap screen to magnify:** Zoom in by tapping the screen three times. To return to the normal view, tap the screen three times again.
- **Tap button to magnify:** Zoom in by tapping  on the navigation bar, and then tapping where you want to magnify the screen. To return to the normal view, tap .

To explore the screen, drag two or more fingers across the magnified screen.

To adjust zoom ratio, pinch two or more fingers on the magnified screen or spread them apart.

You can also temporarily magnify the screen by tapping the screen three times and holding. Or, tap , and then tap and hold the screen. While holding the screen, drag your finger to explore the screen. Release your finger to return to the normal view.



- Keyboards and the navigation bar on the screen cannot be magnified.
- When this feature is activated, the performance of some apps may be affected.

## Enlarging mouse or touchpad pointers

Enlarge the pointer when using an external mouse or touchpad.

Launch the **Settings** app, tap **Accessibility** → **Visibility enhancements**, and then tap the **Large mouse/touchpad pointer** switch to activate it.

## Changing font

Change the font size and style.

Launch the **Settings** app and tap **Accessibility** → **Visibility enhancements** → **Font size and style**.



## Changing screen zoom

Change the screen zoom setting.

Launch the **Settings** app and tap **Accessibility** → **Visibility enhancements** → **Screen zoom**.

## Hearing enhancements

### Sound detectors

Set the device to detect a baby crying or your doorbell. The device will vibrate when it detects sound and the alert will be saved as a log.



While this feature is enabled, the voice recognition will not operate.

### Baby crying detector

Launch the **Settings** and tap **Accessibility** → **Hearing enhancements** → **Sound detectors** → **Baby crying detector** → **Start**.

### Doorbell detector

- 1 Launch the **Settings** and tap **Accessibility** → **Hearing enhancements** → **Sound detectors** → **Doorbell detector**.
- 2 Tap **Record** to make a recording of your doorbell.  
The device will detect and record the doorbell.
- 3 Tap **Test** and ring your doorbell to check if it is recorded correctly. When the device detects the doorbell sound, tap **Start**.  
To change the doorbell sound, tap **Change doorbell sound**.



## Turning off all sounds

Set the device to mute all device sounds, such as media sounds, and the caller's voice during a call.

Launch the **Settings** app, tap **Accessibility** → **Hearing enhancements**, and then tap the **Mute all sounds** switch to activate it.

## Hearing aid support

Set the device to enhance the sound quality to work better with hearing aids.

Launch the **Settings** app, tap **Accessibility** → **Hearing enhancements**, and then tap the **Hearing aid support** switch to activate it.

## Adjusting the sound balance

Set the device to adjust the sound balance when using an earphone.

- 1 Connect an earphone to the device and wear it.
- 2 Launch the **Settings** app and tap **Accessibility** → **Hearing enhancements**.
- 3 Drag the adjustment bar under **Left/right sound balance** to the left or right and adjust the sound balance.

## Mono audio

Mono output combines stereo sound into one signal that is played through all earphone speakers. Use this if you have a hearing impairment or if a single earbud is more convenient.

Launch the **Settings** app, tap **Accessibility** → **Hearing enhancements**, and then tap the **Mono audio** switch to activate it.



## Caption settings

Launch the **Settings** app, tap **Accessibility** → **Hearing enhancements** → **Samsung subtitles (CC)** or **Google subtitles (CC)**, and then tap the switch to activate it.


Select an option for configuring the caption settings.



## Speech-to-text

The device records your voice and simultaneously converts it to on-screen text.

1 Launch the **Settings** app and tap **Accessibility** → **Hearing enhancements** → **Speech-to-text**.

2 Tap  and record with the microphone.

3 When you are finished recording, tap **DONE**.



To view recorded files or change the voice memo system language, launch the **Voice Recorder** app.



## Interaction and dexterity

### Universal switch

You can control the touchscreen by connecting an external switch, by tapping the screen, or by using head movements and face gestures.

- 1 Launch the **Settings** app and tap **Accessibility** → **Interaction and dexterity** → **Universal switch**.
- 2 Read the on-screen instructions and tap **Done**.
- 3 Tap the switch to activate it.
- 4 If the universal switches are not registered on the device, tap **Add switch** and set switches to control the device.



To activate the universal switch feature, at least one switch must be registered on the device.

To set switches to control the device, tap the switch under **Switches**.

To deactivate this feature, press the Power key and the Volume Up key simultaneously.

### Assistant menu

#### Displaying the assistive shortcut icon

Set the device to display the assistive shortcut icon for accessing apps, features, and settings. You can easily control the device by tapping the assistive menus in the icon.

- 1 Launch the **Settings** app and tap **Accessibility** → **Interaction and dexterity** → **Assistant menu**.
- 2 Tap the switch to activate it.  
The assistive shortcut icon appears at the bottom right of the screen.  
To adjust the assistant shortcut icon's transparency level, drag the adjustment bar under **Transparency**.

## Accessing assistive menus




The assistive shortcut icon appears as a floating icon for easy access to the assistive menus from any screen.

When you tap the assistive shortcut icon, the icon expands slightly and the assistive menus appear on the icon. Tap the left or right arrow to move to other panels or swipe to the left or right to select other menus.

## Using the cursor




On the assistive menu, tap **Cursor**. You can control the screen using small finger movements on the touch area. Drag your finger on the touch area to move the cursor. Also, tap the screen to select items under the cursor.

Use the following options:

-  : Scroll left or right on the screen.
-  : Scroll up or down the screen.
-  : Magnify the area where the cursor is located.



Turn off the Always On Display before using this feature.

-  : Change the touchpad and cursor settings.
-  : Move the touch area to another location.
-  : Close the touch area.

## Using enhanced assistive menus

Set the device to display enhanced assistive menus for selected apps.

Launch the **Settings** app, tap **Accessibility** → **Interaction and dexterity** → **Assistant menu** → **Assistant plus**, tap the switch to activate it, and then tap the switches next to the apps you want to activate.





## Click after pointer stops

Set the device to select an item automatically when you place the mouse pointer over the item.

Launch the **Settings** app, tap **Accessibility** → **Interaction and dexterity**, and then tap the **Click after pointer stops** switch to activate it.

## Answering or ending calls

Change the method for answering or ending calls. You can also set the device to read the caller's name aloud when you have an incoming call.

Launch the **Settings** app and tap **Accessibility** → **Interaction and dexterity** → **Answering and ending calls**.

Select the desired method.

## Using single tap mode

When an alarm sounds or a call comes in, tap the button to stop the alarm, or answer or reject the call instead of dragging the button.

Launch the **Settings** app and tap **Accessibility** → **Interaction and dexterity**, and then tap the **Single tap to swipe** switch to activate it.

## Easy screen turn on

Turn on the screen by moving your hand above the sensor at the top of the device. You can turn on the screen without pressing a key. When you use this feature, place the device on a flat surface with the screen facing upwards or hold the device securely to prevent it from moving.

Launch the **Settings** app, tap **Accessibility** → **Interaction and dexterity**, and then tap the **Easy screen turn on** switch to activate it.



## Interaction control

Activate interaction control mode to restrict the device's reaction to inputs while using apps.

- 1 Launch the **Settings** app and tap **Accessibility** → **Interaction and dexterity** → **Interaction control**.
- 2 Tap the switch to activate it.
- 3 Press and hold the Power key and the Volume Up key simultaneously while using an app.
- 4 Adjust the size of the frame or draw a line around an area that you want to restrict.
- 5 Tap **Done**.

The device displays the restricted area. The restricted area will not react when you touch it and the device's keys will be disabled. However, you can enable functions for the Power key, Volume key, and keyboard in interaction control mode.

To deactivate interaction control mode, press and hold the Power key and the Volume Up key simultaneously.

To set the device to lock the screen after deactivating interaction control mode, launch the **Settings** screen, tap **Accessibility** → **Interaction and dexterity** → **Interaction control**, and then tap the **Lock when deactivated** switch to activate it.

## Touch and hold delay

Set the recognition time for tapping and holding the screen.

Launch the **Settings** app, tap **Accessibility** → **Interaction and dexterity** → **Touch and hold delay**, and then select an option.

## Tap duration

Set the duration you must touch the screen for the device to recognise it as a tap.

Launch the **Settings** app, tap **Accessibility** → **Interaction and dexterity** → **Tap duration**, tap the switch to activate it, and then set the time.



## Ignore repeated touches

Set the device to recognise only the first tap within a set time when you tap the screen repeatedly.

Launch the **Settings** app, tap **Accessibility** → **Interaction and dexterity** → **Ignore repeated touches**, tap the switch to activate it, and then set the time.

## Advanced settings

### Launching accessibility features quickly

Set to open accessibility features quickly.

Launch the **Settings** app, tap **Accessibility** → **Advanced settings** → **Power and Volume up keys**, and then tap the switch to activate it. Then, select an accessibility feature to open when you simultaneously press the Power key and the Volume Up key.

You can access the following accessibility features:

- **Accessibility**
- **Voice Assistant**
- **Universal switch**
- **Magnifier window**
- **Negative colours**
- **Colour adjustment**
- **Colour lens**
- **Interaction control**
- **High contrast fonts**



## Launching the shortcut services quickly

Set to start a shortcut services quickly.

Launch the **Settings** app, tap **Accessibility** → **Advanced settings** → **Volume up and down keys**, and then tap the switch to activate it. Then, tap **Selected service** and select a shortcut service to start when you simultaneously press and hold the Volume Up key and the Volume Down key for three seconds.

You can access the following shortcut services:

- **Universal switch**
- **Voice Assistant**

## Setting light notification

Set the device to blink the flash or the screen when an alarm sounds or when you have notifications, such as incoming calls or new messages.

Launch the **Settings** app, tap **Accessibility** → **Advanced settings** → **Flash notification**, and then tap the switches next to the options you want to activate.

## Notification reminders

Set the device to alert you to notifications that you have not checked at the interval.

Launch the **Settings** app, tap **Accessibility** → **Advanced settings** → **Notification reminders**, and then tap the switch to activate it.

- **Vibrate when sound plays:** Set the device to vibrate and play a notification sound when you have unchecked notifications.
- **Remind every:** Set an interval between alerts.
- **Selected reminders:** Set apps to alert you to notifications.




## Adding voice recordings to voice labels

You can use voice labels to distinguish objects of similar shape by attaching labels to them. You can record and assign a voice recording to an NFC-enabled voice label. The voice recording is played back when you place your device near the label.



Turn on the NFC feature before using this feature.

- 1 Launch the **Settings** app and tap **Accessibility** → **Advanced settings** → **Voice Label**.  
The voice recorder will launch.
- 2 Tap  to start recording. Speak into the microphone.
- 3 When you are finished recording, tap **DONE** to stop.
- 4 Hold the back of your device over the voice label.  
The information in the voice recording will be written to the voice label.

## Installed services

View accessibility services installed on the device.

Launch the **Settings** app and tap **Accessibility** → **Installed services**.

## Troubleshooting

Before contacting a Samsung Service Centre, please attempt the following solutions. Some situations may not apply to your device.



### When you turn on your device or while you are using the device, it prompts you to enter one of the following codes:

- Password: When the device lock feature is enabled, you must enter the password you set for the device.
- PIN: When using the device for the first time or when the PIN requirement is enabled, you must enter the PIN supplied with the SIM or USIM card. You can disable this feature by using the Lock SIM card menu.
- PUK: Your SIM or USIM card is blocked, usually as a result of entering your PIN incorrectly several times. You must enter the PUK supplied by your service provider.
- PIN<sup>2</sup>: When you access a menu requiring the PIN<sup>2</sup>, you must enter the PIN<sup>2</sup> supplied with the SIM or USIM card. For more information, contact your service provider.

### Your device displays network or service error messages

- When you are in areas with weak signals or poor reception, you may lose reception. Move to another area and try again. While moving, error messages may appear repeatedly.
- You cannot access some options without a subscription. For more information, contact your service provider.

### Your device does not turn on

When the battery is completely discharged, your device will not turn on. Fully charge the battery before turning on the device.



## The touchscreen responds slowly or improperly

- If you attach a screen protector or optional accessories to the touchscreen, the touchscreen may not function properly.
- If you are wearing gloves, if your hands are not clean while touching the touchscreen, or if you tap the screen with sharp objects or your fingertips, the touchscreen may malfunction.
- The touchscreen may malfunction in humid conditions or when exposed to water.
- Restart your device to clear any temporary software bugs.
- Ensure that your device software is updated to the latest version.
- If the touchscreen is scratched or damaged, visit a Samsung Service Centre.

## Your device freezes or encounters a fatal error

Try the following solutions. If the problem is still not resolved, contact a Samsung Service Centre.

### Restarting the device

If your device freezes or hangs, you may need to close apps or turn off the device and turn it on again.

### Forcing restart

If your device is frozen and unresponsive, press and hold the Power key and the Volume Down key simultaneously for more than 7 seconds to restart it.

### Resetting the device

If the methods above do not solve your problem, perform a factory data reset.

Launch the **Settings** app and tap **General management** → **Reset** → **Factory data reset** → **Reset** → **Delete all**. Before performing the factory data reset, remember to make backup copies of all important data stored in the device.



## Calls are not connected

- Ensure that you have accessed the right cellular network.
- Ensure that you have not set call barring for the phone number you are dialling.
- Ensure that you have not set call barring for the incoming phone number.

## Others cannot hear you speaking on a call

- Ensure that you are not covering the built-in microphone.
- Ensure that the microphone is close to your mouth.
- If using an earphone, ensure that it is properly connected.

## Sound echoes during a call

Adjust the volume by pressing the Volume key or move to another area.

## A cellular network or the Internet is often disconnected or audio quality is poor

- Ensure that you are not blocking the device's internal antenna.
- When you are in areas with weak signals or poor reception, you may lose reception. You may have connectivity problems due to issues with the service provider's base station. Move to another area and try again.
- When using the device while moving, wireless network services may be disabled due to issues with the service provider's network.

## The battery icon is empty

Your battery is low. Charge the battery.





## The battery does not charge properly (For Samsung-approved chargers)

- Ensure that the charger is connected properly.
- Visit a Samsung Service Centre and have the battery replaced.



## The battery depletes faster than when first purchased

- When you expose the device or the battery to very cold or very hot temperatures, the useful charge may be reduced.
- Battery consumption will increase when you use certain features or apps, such as GPS, games, or the Internet.
- The battery is consumable and the useful charge will get shorter over time.

## Error messages appear when launching the camera

Your device must have sufficient available memory and battery power to operate the camera app. If you receive error messages when launching the camera, try the following:

- Charge the battery.
- Free some memory by transferring files to a computer or deleting files from your device.
- Restart the device. If you are still having trouble with the camera app after trying these tips, contact a Samsung Service Centre.

## Photo quality is poorer than the preview

- The quality of your photos may vary, depending on the surroundings and the photography techniques you use.
- If you take photos in dark areas, at night, or indoors, image noise may occur or images may be out of focus.



## Error messages appear when opening multimedia files

If you receive error messages or multimedia files do not play when you open them on your device, try the following:

- Free some memory by transferring files to a computer or deleting files from your device.
- Ensure that the music file is not Digital Rights Management (DRM)-protected. If the file is DRM-protected, ensure that you have the appropriate licence or key to play the file.
- Ensure that the file formats are supported by the device. If a file format is not supported, such as DivX or AC3, install an app that supports it. To confirm the file formats that your device supports, visit [www.samsung.com](http://www.samsung.com).
- Your device supports photos and videos captured with the device. Photos and videos captured by other devices may not work properly.
- Your device supports multimedia files that are authorised by your network service provider or providers of additional services. Some content circulated on the Internet, such as ringtones, videos, or wallpapers, may not work properly.

## Bluetooth is not working well

If another Bluetooth device is not located or there are connection problems or performance malfunctions, try the following:

- Ensure that the device you wish to connect with is ready to be scanned or connected to.
- Ensure that your device and the other Bluetooth device are within the maximum Bluetooth range (10 m).
- On your device, launch the **Settings** app, tap **Connections**, and then tap the **Bluetooth** switch to re-activate it.
- On your device, launch the **Settings** app, tap **General management** → **Reset** → **Reset network settings** → **Reset** → **Reset** to reset network settings. You may lose registered information when performing the reset.

If the tips above do not solve the problem, contact a Samsung Service Centre.



## A connection is not established when you connect the device to a computer

- Ensure that the USB cable you are using is compatible with your device.
- Ensure that you have the proper driver installed and updated on your computer.
- If you are a Windows XP user, ensure that you have Windows XP Service Pack 3 or higher installed on your computer.

## Your device cannot find your current location

GPS signals may be obstructed in some locations, such as indoors. Set the device to use Wi-Fi or a mobile network to find your current location in these situations.

## Data stored in the device has been lost

Always make backup copies of all important data stored in the device. Otherwise, you cannot restore data if it is corrupted or lost. Samsung is not responsible for the loss of data stored in the device.

## A small gap appears around the outside of the device case

- This gap is a necessary manufacturing feature and some minor rocking or vibration of parts may occur.
- Over time, friction between parts may cause this gap to expand slightly.

## There is not enough space in the device's storage

Delete unnecessary data, such as cache, using the device care feature or manually delete unused apps or files to free up storage space.



## The Apps button does not appear on the Home screen

Without using the Apps button, you can open the Apps screen by swiping upwards or downwards on the Home screen. To display the Apps button at the bottom of the Home screen, launch the **Settings** app, tap **Display** → **Home screen**, and then tap the **Apps button** switch to activate it.


## The Home button does not appear

The navigation bar containing the Home button may disappear while using certain apps or features. To view the navigation bar, drag upwards from the bottom of the screen.

## Bixby does not respond

- Restart your device to clear any temporary software bugs.
- Ensure that your device software is updated to the latest version.
- If you are still having trouble with Bixby after trying these tips, contact a Samsung Service Centre.

## The screen brightness adjustment bar does not appear on the notification panel

Open the notification panel by dragging the status bar downwards, and then drag the notification panel downwards. Tap  next to the brightness adjustment bar and tap the **Show control on top** switch to activate it.

## Samsung Cloud does not work

- Ensure that you are connected to a network properly.
- During a Samsung Cloud's service check, you cannot use Samsung Cloud. Try again later.



## Removing the battery

- **To remove the battery, contact an authorised service centre. To obtain battery removal instructions, please visit [www.samsung.com/global/ecodesign\\_energy](http://www.samsung.com/global/ecodesign_energy).**
- For your safety, you **must not attempt to remove** the battery. If the battery is not properly removed, it may lead to damage to the battery and device, cause personal injury, and/or result in the device being unsafe.
- Samsung does not accept liability for any damage or loss (whether in contract or tort, including negligence) which may arise from failure to precisely follow these warnings and instructions, other than death or personal injury caused by Samsung's negligence.

## FCC Information

**NOTE:** This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

# Exposure to Radio Frequency (RF) Signals

## Certification Information (SAR)

Your wireless mobile device is a radio transmitter and receiver. It is designed and manufactured not to exceed the exposure limits for radio frequency (RF) energy set by the Federal Communications Commission (FCC) of the U.S. government. These FCC exposure limits are derived from the recommendations of two expert organizations, the National Council on Radiation Protection and Measurement (NCRP) and the Institute of Electrical and Electronics Engineers (IEEE). In both cases, the recommendations were developed by scientific and engineering experts drawn from industry, government, and academia after extensive reviews of the scientific literature related to the biological effects of RF energy.

The exposure limit set by the FCC for wireless mobile devices employs a unit of measurement known as the Specific Absorption Rate (SAR). The SAR is a measure of the rate of absorption of RF energy by the human body expressed in units of watts per kilogram (W/kg). The FCC requires wireless mobile devices to comply with a safety limit of 1.6 watts per kilogram (1.6 W/kg). The FCC exposure limit incorporates a substantial margin of safety to give additional protection to the public and to account for any variations in measurements.

SAR tests are conducted using standard operating positions accepted by the FCC with the wireless mobile devices transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the wireless mobile devices while operating can be well below the maximum value. This is because the wireless mobile device is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

Before a new model wireless mobile device is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the exposure limit established by the FCC. Tests for each model wireless mobile devices are performed in positions and locations as required by the FCC.

For body worn operation, this model phone has been tested and meets the FCC RF exposure guidelines when used with a Samsung accessory designated for this product or when used with an accessory that contains no metal and that positions the handset a minimum of 1.5 cm from the body. Any other accessories with metal may affect the RF exposure condition and are not recommended.

This equipment complies with FCC RF Radiation exposure limits set (wireless charging sharing mode) forth for an uncontrolled environment.

This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Non-compliance with the above restrictions may result in violation of FCC RF exposure guidelines.

SAR information on this and other model wireless mobile devices can be viewed on-line at [www.fcc.gov/oet/fccid](http://www.fcc.gov/oet/fccid). This site uses the wireless mobile device FCC ID number A3LSMG973F.

Sometimes it may be necessary to remove the battery pack to find the number. Once you have the FCC ID number for a particular wireless mobile device, follow the instructions on the website and it should provide values for typical or maximum SAR for a particular wireless mobile device. Additional product specific SAR information can also be obtained at [www.fcc.gov/cgb/sar](http://www.fcc.gov/cgb/sar).

## FCC Hearing Aid Compatibility (HAC) Regulations for Wireless Devices

The U.S. Federal Communications Commission (FCC) has established requirements for digital wireless mobile devices to be compatible with hearing aids and other assistive hearing devices.

When individuals employing some assistive hearing devices (hearing aids and cochlear implants) use wireless mobile devices, they may detect a buzzing, humming, or whining noise. Some hearing devices are more immune than others to this interference noise, and mobile devices also vary in the amount of interference they generate.

The wireless telephone industry has developed a rating system for wireless mobile devices to assist hearing device users find mobile devices that may be compatible with their hearing devices. Not all mobile devices have been rated. Mobile devices that are rated have the rating on their box or a label located on the box.

The ratings are not guarantees. Results will vary depending on the user's hearing device and hearing loss. If your hearing device happens to be vulnerable to interference, you may not be able to use a rated mobile device successfully. Trying out the mobile device with your hearing device is the best way to evaluate it for your personal needs.

**M-Ratings:** Wireless mobile devices rated M3 or M4 meet FCC requirements and are likely to generate less interference to hearing devices than mobile devices that are not labeled. M4 is the better/higher of the two ratings. M-ratings refer to enabling acoustic coupling with hearing aids that do not operate in telecoil mode.

**T-Ratings:** Mobile devices rated T3 or T4 meet FCC requirements and are likely to generate less interference to hearing devices than mobile devices that are not labeled. T4 is the better/higher of the two ratings. T-ratings refer to enabling inductive coupling with hearing aids operating in telecoil mode.

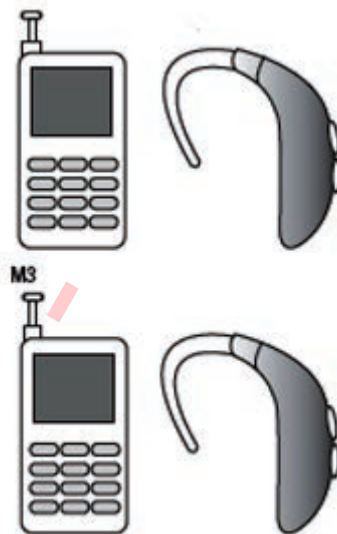
Hearing devices may also be rated. Your hearing aid manufacturer or hearing health professional may help you find this rating. Higher ratings mean that the hearing device is relatively immune to interference noise.

Under the current industry standard, American National Standards Institute (ANSI) C63.19, the hearing aid and wireless mobile device rating values are added together to indicate how usable they are together. For example, if a hearing aid meets the M2 level rating and the wireless mobile device meets the M3 level rating, the sum of the two values equals M5.

Under the standard, this should provide the hearing aid user with normal use while using the hearing aid with the particular wireless mobile device. A sum of 6 or more would indicate excellent performance.

However, these are not guarantees that all users will be satisfied.

T ratings work similarly.



The HAC rating and measurement procedure are described in the American National Standards Institute (ANSI) C63.19 standard.





## HAC for Newer Technologies

This phone has been tested and rated for use with hearing aids for some of the wireless technologies that it uses. However, there may be some newer wireless technologies used in this phone that have not been tested yet for use with hearing aids.

It is important to try the different features of this phone thoroughly and in different locations, using your hearing aid or cochlear implant, to determine if you hear any interfering noise. Consult your service provider or the manufacturer of this phone for information on hearing aid compatibility. If you have questions about return or exchange policies, consult your service provider or phone retailer.



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