

# Understanding Frustration-Free Setup

## Frustration Free Setup Overview

Frustration-Free Setup (FFS) technology lowers the complexities of set up for connected devices by using a peer-assisted model for set up. Under this model, a device connected to the internet (provisioner) aids a new device (provisionee) in setting up its internet connection. To do all this, FFS registers the device to a customer's Amazon account, configures the device based on account preferences, and connects it with the Alexa services. FFS does not replace your device's normal setup procedure. If FFS does not work for a specific customer, your normal setup procedure should be the fall back mechanism. The high-level steps of the FFS process are:

1. The provisionee, a participating device that requires set up, broadcasts a 'need for setup' message with its identity information.
2. Provisioner devices, Amazon devices already registered to the customer account or non-Amazon routers with FFS, continually scan for such messages and forward them to the Amazon Device Setup Service, the cloud service that drives FFS.
3. The Amazon Device Setup Service identifies the provisionee device and attempts to confirm its association to the customer.
4. If the Amazon Device Setup Service can confirm the association of the new device to the customer, the Device Setup Service sends the following data to the provisioner device:
  - a. A challenge test to confirm provisionee device identity.
  - b. The customer's Wi-Fi credentials.
  - c. Configuration parameters

## Understanding the Different FFS Modes

Frustration-Free Setup has two different modes of operation: Zero-Touch Setup (ZTS) and Barcode Setup (BCS). The FFS process first attempts ZTS to setup a device, and falls back to BCS if ZTS is not possible.

### Zero-Touch Setup

Zero-Touch Setup (ZTS), a mode of FFS, requires the customer to purchase the device for themselves from a participating retailer, such as Amazon.com, provide Amazon their Wi-Fi credentials as part of the setup process of another device, and have a provisioner device within range during the setup process. The customer must also have an Alexa skill linked to their account. This linkage associates the customer account

on your side with their Amazon account. In environments that meet these criteria, FFS attempts to configure the device for use with no customer intervention. The customer takes the device out of its packaging, and powers it on to initiate FFS.

**Prerequisites for ZTS:**

- The customer purchased the your provisionee device from Amazon.com.
- The customer did not purchase or receive your provisionee device as a gift.
- The customer's Wi-Fi Credentials are available in the Amazon Wi-Fi Locker.
- An Amazon approved barcode is clearly visible on your provisionee device's packaging
- The customer has an Alexa Skill linked to their Amazon account.
- You have implemented Login with Amazon

## Barcode Setup

Barcode Setup (BCS) is a mode of Frustration-Free Setup, where the customer uses an app on their mobile device to scan the device's barcode and trigger the setup process. When a customer purchases a device offline or as a gift when purchased on Amazon.com, Amazon is not able to pre-associate the device with a customer's account. By scanning the device barcode with their mobile device, the customer establishes the association between the device and their Amazon account. Successful barcode scanning associates the device with the customer's account and enables the continuation of the setup process. triggers the setup process and it continues in the same way as ZTS. To use Barcode Setup, the customer plugs in the device and uses a mobile app to scan a special 2D barcode printed on the device.

**Prerequisites for Barcode Setup::**

- The customer's Wi-Fi Credentials are available in the Amazon Wi-Fi Locker.
- The product barcode is clearly visible on the device
- You have implemented Login with Amazon
- You have implemented App to App linking

Barcode Setup is optional; however, excluding this functionality prevents ZTS for products purchased as a gift or not purchased from a participating retailer (e.g. Amazon.com).

Barcode Setup enables the customer to benefit from the Frustration-Free Setup experience in following situations where ZTS is not possible:

- The Zero-Touch Setup flow fails.
- The customer purchases the device from an off-line retailer.
- The customer receives the device as a gift.

# Implementing Frustration-Free Setup

There are a number of other steps required implement with Frustration-Free Setup on your device:

1. **Review the documentation**
2. **Download the SDK**
3. **Get a device Key**
4. **Integrate with the SDK**
5. **Generate your device's barcode**
6. **Start the Certification Process**

You perform each of these steps from the [Frustration-Free Setup developer portal](#).

## Frustration-Free Setup Technical Documentation

The technical documentation contains important information about implementing Frustration-Free Setup. Amazon recommends that you review all the documentation for your specific needs. The following technical documents are available:

[Understanding Frustration-Free Setup](#) - This Guide

[Provisionee C SDK Integration Guide](#) - Integrating the FFS Provisionee SDK into your firmware

[Provisionee App and Backend Integration Guide](#) - Mobile application and cloud APIs required to complete post Wi-Fi and account association with the customer.

[Provisionee Manufacturing](#) - The provisioning of DHA/barcode material during the manufacturing of devices

[Provisionee Certification](#) - Information necessary for getting your FFS Provisionee certified from Amazon

## Downloading the SDK

Device manufacturers implement Frustration-Free Setup by integrating with the Provisionee SDK. Amazon makes the SDK available for download from <https://developer.amazon.com/frustration-free-setup>. The Provisionee SDK handles most of the device-server communication on behalf of device manufacturers. Device manufacturers only need to implement the various compatibility-layer functions within SDK. For example, one function enables the SDK to make an HTTPS request to an endpoint. Another function provides a list of network credentials to the integrator's code so that they can hand the credentials off to their Wi-Fi connectivity layer and connect the device to the network.

## Getting a Device Key

A device key enables authenticated and encrypted communications between your device and the Amazon Frustration-Free Setup backend. You requests devices keys through the [Amazon Frustration-Free Setup developer portal](#).

## Integrating with the SDK

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After the device has successfully connected to the customer's home Wi-Fi network, the Simple Setup Provisionee SDK provides the device with a Session Token. The provisionee uses this token to complete *Post-Wi-Fi Workflows*. You must also complete an account association using two Smart Home APIs, Skill Device Association Event (SDAE) and Customer Device Association Directive (CDAD). The App & Backend Integration Guide provides detailed API specs. For more information, see the [Provisionee App and Backend Integration Guide](#).

## Manufacturing Requirements for Amazon barcode specification

In addition to integrating the Provisionee SDK into your device, there are important manufacturing considerations required to support the Frustration-Free Setup functionality. These require firmware changes on the device that allow you to install unique chained certificates per device and physical changes on the device and associated printed material (including exterior packaging) to support the inclusion of a specific 2D barcode. The Manufacturing Guide provides detailed guidance on 2D Barcode and installing certificates into your device firmware. For more information, see [Provisionee Manufacturing](#).

## Starting the Certification Process

Amazon requires your devices (and application if applicable) to go through our simple setup certification process. This certification process is different than other Amazon certifications, such as Works with Alexa and Built for Alexa. For more information, see [Provisionee Certification](#).





amazon developer

Your Setup Console Sign In ?

Frustration-Free Setup Documentation Help

# Getting started with Frustration-Free Setup

Walk through steps required to integrate Amazon's Frustration-Free Setup Technology

- **1. Integrate SDK or APIs**  
Use our library or integrate APIs based on your device constraints and use case
- **2. Request device keys**  
Create a new device on the developer console and integrate the device keys and test certificates provided
- **3. Update packaging**  
Add Amazon barcode specs, so your device is associated with a customer's account at our fulfillment center
- **4. Submit for certification**  
Ensure your device meets customers' expectations through our certification process

## What Do I Need to Get Started with FFS?

In addition to understanding what makes an FFS device, there are a few other things that you need to set up and understand to get started using FFS.

### Wi-Fi simple setup (WSS)

To get started with Wi-Fi simple setup, just use our SDK or integrating with our APIs. We recommend 64kb of flash and heap when using the C SDK. If your device is memory constrained, check out our API integration overview.

[Learn more »](#)

### Zigbee simple setup (ZSS)

If your device uses Zigbee, it must be Zigbee 3.0 certified.

[Learn more »](#)

### Bluetooth simple setup (BSS)

BSS is currently in developer preview. To gain access, contact us and let us know about your device and use case.

[Contact us »](#)

## Security Keys and Certificates

Once you're able to bring up your device with FFS, you'll need to request keys and development certificates from Amazon for your new device. Each new SKU you plan to launch needs its own set of keys, and each unique device needs a certificate as well. We commonly refer to these keys and certificates as Device Hardware Authentication (DHA) material. DHA is a requirement for FFS to create secure communications between FFS enabled devices and the device setup service. Once you integrate the keys and development certificates into your FFS implementation, you can use commercially available Amazon Echo (second-generation and above) and Fire TV devices (first-generation and above) during your device testing.

## Barcode Integration

When a customer purchases your device on Amazon.com and enables simple setup, Amazon captures the serial number and public key from your packaging and associates it with the customer's account. To do this, you need to include a unique Amazon barcode on your packaging. This barcode is a requirement for FFS to create secure communications between your device and Amazon's device setup service. The barcode is added to the exterior of your product packaging, scanned at the Amazon fulfillment center, and used as a requirement for FFS to protect customers and create secure communications between your device and Amazon's device setup service.

[Learn more »](#)

## Get Started

OPEN DEVELOPER CONSOLE

VIEW DOCUMENTATION

DOWNLOAD THE SDK

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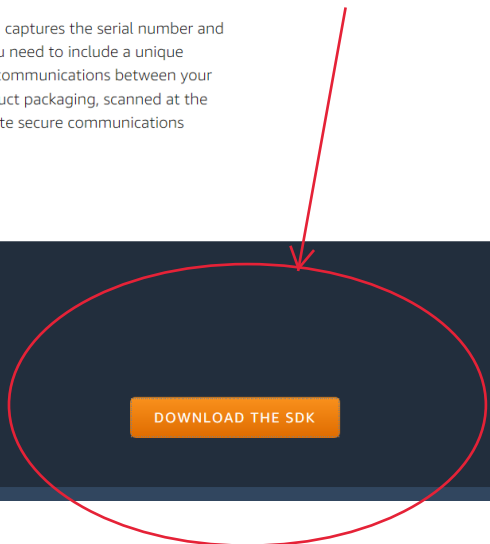
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## Get Started

OPEN DEVELOPER CONSOLE

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DOWNLOAD THE SDK



## Downloading the SDK

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<https://developer.amazon.com/docs/frustration-free-setup/understanding-ffs.html#downloading-the-sdk>

## Welcome to the Frustration-Free Setup developer console

Use this console to setup new or manage existing devices that simplify setup for your customers. Choose the protocol that best aligns with your device to get started.

📘 Looking to be a simple setup provisioner? Request access to developer preview [here](#).

**Wi-Fi Simple Setup**

Zigbee Simple Setup

Bluetooth Simple Setup

**1. View Provisionee Documentation**

View the C, backend, and app integration guides.

[View Docs](#)

**2. Download SDK**

Download our Wi-Fi simple setup SDK to integrate simple setup into your existing device.

[Download SDK](#)

**3. Request Static Keys And Certificates**

Send a request for a new set of device keys to start your integration. These keys are used in the Wi-Fi simple setup library to identify your device with our setup service.

[Request Static Keys](#)

**4. Login With Amazon**

Create a Login With Amazon (LWA) account and register your mobile application. LWA enables customers to link their Amazon account to your backend through your mobile app.

[Launch LWA Portal](#)

**5. Request Manufacturing Security Keys**

Submit a request for security keys used to generate X.509 certificates during manufacturing.

[Request Manufacturing Keys](#)

**6. Submit Test Devices**

Upload information about test devices to the Amazon device setup service.

[Download Template](#)

[Submit Devices](#)

**7. Request Certification**