TAKE CONTROL OF
APPLE HOME AUTOMATION

Get started with HomeKit-compatible smart home products

by JOSH CENTERS
$14.99

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# Table of Contents

**Read Me First** ................................................................. 4  
  Updates and More ............................................................. 5  
  What’s New in Version 1.2 .................................................. 5  
  What Was New in Version 1.1 ............................................. 6  

**Introduction** ................................................................... 7  

**HomeKit Quick Start** ...................................................... 9  

**Get Started with HomeKit** .............................................. 10  
  Understand What HomeKit Is ............................................. 10  
  Understand What HomeKit Does ........................................ 11  
  Learn the HomeKit Hierarchy ............................................. 13  
  Understand HomeKit in Practice ........................................ 14  

**Plan Your HomeKit Home** ............................................. 17  
  Learn the Types of Accessories ........................................ 17  
  Consider Your Needs ...................................................... 23  
  Choose Your First Accessories ......................................... 25  

**Set Up Accessories** ..................................................... 28  
  Identify the HomeKit Code .............................................. 28  
  Activate Accessories .................................................... 29  
  Tweak Accessories .......................................................... 36  
  Troubleshooting Accessory Additions ............................... 43  

**Use Accessories** .......................................................... 45  
  Control Your Accessories .............................................. 45  
  Deal with Switches ........................................................ 52  

**Explore Homes, Rooms, and Zones** .............................. 54  
  Set Up Homes ................................................................. 54  
  Establish and Configure Rooms ...................................... 59  

**Set Scenes** .................................................................... 64  
  Consider Your Scenes .................................................... 64  

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<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make a Scene</td>
<td>66</td>
</tr>
<tr>
<td>Control Scenes</td>
<td>69</td>
</tr>
<tr>
<td>Ponder These Scene Ideas</td>
<td>73</td>
</tr>
<tr>
<td><strong>Set Your Home on Autopilot</strong></td>
<td>77</td>
</tr>
<tr>
<td>Set Up a Home Hub</td>
<td>77</td>
</tr>
<tr>
<td>Plan Automations Carefully</td>
<td>81</td>
</tr>
<tr>
<td>Create Automations</td>
<td>85</td>
</tr>
<tr>
<td>Automate Your Music</td>
<td>97</td>
</tr>
<tr>
<td>Convert Automations to Shortcuts</td>
<td>98</td>
</tr>
<tr>
<td>Adjust Automations</td>
<td>100</td>
</tr>
<tr>
<td>Automate with Eve for HomeKit</td>
<td>101</td>
</tr>
<tr>
<td><strong>Install Advanced Accessories</strong></td>
<td>110</td>
</tr>
<tr>
<td>Install a Door and Window Sensor</td>
<td>110</td>
</tr>
<tr>
<td>Work with Electricity Safely</td>
<td>116</td>
</tr>
<tr>
<td>Install a Light Switch</td>
<td>122</td>
</tr>
<tr>
<td>Install a Thermostat</td>
<td>132</td>
</tr>
<tr>
<td><strong>Troubleshoot HomeKit</strong></td>
<td>154</td>
</tr>
<tr>
<td>Fix Unresponsive Accessories</td>
<td>154</td>
</tr>
<tr>
<td>Update Accessory Firmware</td>
<td>155</td>
</tr>
<tr>
<td>Fix Remote Automations</td>
<td>156</td>
</tr>
<tr>
<td>Fix Home Sharing</td>
<td>157</td>
</tr>
<tr>
<td>Reset HomeKit</td>
<td>157</td>
</tr>
<tr>
<td><strong>About This Book</strong></td>
<td>158</td>
</tr>
<tr>
<td>Ebook Extras</td>
<td>158</td>
</tr>
<tr>
<td>About the Author</td>
<td>159</td>
</tr>
<tr>
<td>About the Publisher</td>
<td>160</td>
</tr>
<tr>
<td>Credits</td>
<td>160</td>
</tr>
<tr>
<td><strong>Copyright and Fine Print</strong></td>
<td>161</td>
</tr>
</tbody>
</table>
Welcome to *Take Control of Apple Home Automation*, version 1.2, published in December 2019 by alt concepts inc. This book was written by Josh Centers and edited by Dan Frakes (version 1.0), Joe Kissell (version 1.1), and Lynnea Fleming (version 1.2).

This book explains how to use Apple’s HomeKit home automation platform to control smart devices in your home, such as lights, outlets, thermostats, and more.

If you want to share this ebook with a friend, we ask that you do so as you would with a physical book: “lend” it for a quick look, but ask your friend to buy a copy for careful reading or reference. Discounted classroom and Mac user group copies are available.

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**Sponsored by Elgato/Eve**

This book was sponsored by Elgato, the original makers of the Eve line of HomeKit accessories before Eve was spun off into its own company. Special thanks to Adam Steinberg for his support, without which this book wouldn’t be possible.
Updates and More

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What’s New in Version 1.2

Version 1.2 reflects changes to HomeKit in iOS 13, iPadOS 13, and macOS 10.15 Catalina:

- **New interface:** The Home app interface has been overhauled in parts, which I reference throughout the book.

- **HomeKit Secure Video:** Apple now lets you securely store footage from HomeKit security cameras in iCloud, but right now support is severely limited. See the Cameras section in Learn the Types of Accessories for more information.

- **HomeKit-enabled routers:** iOS 13.2 and iPadOS 13.2 introduced support for HomeKit-enabled routers from Eero, Linksys, and Spectrum, which can, in theory, isolate your HomeKit accessories from the rest of your network. However, none of those vendors have yet added support to their routers as of December 2019, so it’ll be covered in a future edition and/or on TidBITS.
• **HomePod and AirPlay 2 speakers:** AirPlay 2 devices like the Apple TV and HomePod can be controlled and automated with HomeKit. See [Control Your Accessories](#) and [Automate Your Music](#).

• **Siri Shortcuts:** You can now incorporate Siri Shortcuts into HomeKit automations. See [Convert Automations to Shortcuts](#).

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### What Was New in Version 1.1

Version 1.1 of this book brings the text up to date with the release version of iOS 12. Changes include:

• Instructions for the new Home app in macOS 10.14 Mojave. Since it’s a direct port of the iOS app, the interface is almost identical, but I point out differences when necessary.

• Discussion of HomeKit support in third-party TV sets. Yes, you read that correctly! See [Learn the Types of Accessories](#).

• Elgato has spun Eve off into its own company, and I’ve updated the text accordingly.
Introduction

If you’ve never used home automation, it can seem like a gimmick at best, and a potential nightmare at worst.

Untold numbers of movies and TV shows have explored the potential horrors of home automation. In an episode of “Mr. Robot,” a woman is driven from her home after hackers make her apartment go haywire.

Even if complete takeover of your home by revolutionary hackers is far-fetched, problems could be annoying. By definition, home automation takes place in your personal space, and buggy code or simple human error, even in Apple’s somewhat simplified offering, could have a real impact on your life. It’s prudent to think carefully before diving in.

But once you begin to use home automation, you start to see the everyday problems it can solve. Home automation may not change your world, but it can remove friction from your daily existence. Think about how many times a day you turn lights on and off, set your thermostat, adjust a ceiling fan, or check door locks. Even if it’s just a matter of making sure everything is as you want before bed, that’s a win. It can also compensate for the thoughtlessness of others—those people in your household who forget to turn off lights or check that the fridge is closed.

When you set up home automation intelligently, you’ll feel empowered, not overwhelmed. For Apple users, HomeKit offers the easiest, most secure way to achieve that goal.

Maybe you picked up this book because you’re curious about home automation, but you’re hesitant to try it yourself. Here are some common misconceptions that surround home automation:

- **It’s a gimmicky luxury:** Is home automation a luxury? Sure! So are electricity, computers, and the internet, depending on your point of view. And, yes, it can be gimmicky (flashing dance lights!). But it can also be a powerful tool that can solve real problems.
around your house (say, if you’re stuck in a chair with an injured leg and just want to turn the stupid light off). It’s all in how you implement it.

- **It’s expensive:** You could easily spend several thousand dollars on home automation, but spending that much is entirely unnecessary. Even an inexpensive smart outlet (usually $50 or less) can solve a lot of problems around the house.

- **It’s complex:** There’s a mistaken belief that you have to automate your *entire* home before home automation pays off, but that’s not true at all. You’d be surprised at what just a few devices and scenes can accomplish. In fact, I recommend starting simple to get a feel for it.

- **I rent:** There are some HomeKit accessories that you permanently install in your house, but many of them plug into an outlet or use batteries.

- **I’ll lose control of my house!** It’s true, if you go hog-wild on devices and automations, you can suffer what I call “haunted house syndrome,” but any sufficiently powerful tool can be a hindrance if used incorrectly. Follow the methodology I lay out in this book, and you’ll always feel in control.

- **Hackers will take over my home!** Any time you connect a device to the internet, there is a real risk that bad actors could use it against you. Compared to some smart home platforms, Apple’s HomeKit offers superior security, backed by two-factor authentication, but of course, nothing is perfect.

Home automation with HomeKit is not only safe, but potentially life-changing, and it’s only as complex and as expensive as you want it to be. In other words, it’s like any other kind of computing! Let’s start making your life easier...
HomeKit Quick Start

You should read this book from beginning to end, as it will walk you through the process of automating your home using Apple’s HomeKit framework. But if you’ve already done so and want to refer back to certain topics covered in the book, this Quick Start can help:

**Set up home automation:**
- Learn the basics of HomeKit—what it is and how it works—in Get Started with HomeKit.
- Identify problems around your home and consider your needs; see Plan Your HomeKit Home.
- Once you have some devices, learn how to set them up in HomeKit with Set Up Accessories.
- Discover how to teach HomeKit about the makeup of your home and other dwellings in Explore Homes, Rooms, and Zones.
- Learn how to install advanced HomeKit accessories in Install Advanced Accessories.

**Use home automation:**
- Find out how to control individual accessories in Use Accessories.
- Learn how to group individual actions together as scenes in Set Scenes.
- Fully automate your home with HomeKit automations; see Set Your Home on Autopilot.

**Solve home automation problems:**
- Learn how to fix common HomeKit problems in Troubleshoot HomeKit.
Get Started with HomeKit

Perhaps I’ve enticed you into considering home automation with Apple’s HomeKit, but where to begin? Before you start shopping for devices, familiarize yourself with what HomeKit is, what it does, and how HomeKit devices are arranged.

Understand What HomeKit Is

HomeKit is many things, but for the sake of simplicity, it’s a smart home platform. Think of it as an operating system like iOS for your iPhone or macOS for your Mac, but designed to manage your home automation gizmos.

It’s far from the only home automation platform; others include Amazon Alexa, Belkin Wemo, Google Home, Philips Hue, Samsung SmartThings, and X10. Like most modern home automation platforms, HomeKit aims to integrate devices from several manufacturers, but you can only manage HomeKit using Apple’s own iOS, macOS, tvOS, and watchOS devices.

HomeKit’s main competitors are Amazon Alexa and Google Home. All three try to do the same things: offer a certain standard of quality for home automation devices, offer a unified interface for working with devices from different vendors (so you don’t need a separate app to control each device), and integrate control of those devices into each company’s voice assistant.

These home automation platforms often overlap. For example, Philips Hue lights interact with everything I’ve mentioned above except Wemo and X10.
Understand What HomeKit Does

Apple’s HomeKit home automation platform gives hardware manufacturers and software developers a unified way to interact with home automation devices on iOS, macOS, tvOS, and watchOS.

Home automation isn’t new—the X10 home automation protocol has existed since 1975, and I’ve heard from readers who controlled home automation setups with Apple II computers!

By comparison, HomeKit is a baby. It debuted in 2014 with iOS 8, although HomeKit-compatible devices didn’t start hitting the market until after iOS 9 was available in 2015. Even then, HomeKit control was rudimentary, relying on third-party apps and Siri. iOS 10 and watchOS 3 introduced Apple’s Home app, which offers a centralized, standardized way to manage and control HomeKit devices.

Standard is good, but HomeKit is far from a complete home automation solution. Even though you can use the Home app to control compatible devices, every home automation vendor provides its own software, and some of those solutions offer capabilities beyond what the HomeKit framework provides. I cover one of those—the Eve app—in Automate with Eve for HomeKit.

The other downside of HomeKit is that not every smart home device is compatible—manufacturers must work with Apple to have their devices certified for HomeKit, and Apple has until recently been quite strict about which devices were certified. As a result, the HomeKit ecosystem doesn’t offer as many options as more established and more open standards like X10.

Why use HomeKit at all? Here are a few of the most compelling reasons:

- **Security:** Apple has arguably the best security of any large consumer-oriented tech company, and HomeKit is similarly the most-secure smart home platform right now. Remote access to HomeKit devices is disabled by default, and can’t even be turned on unless you’ve enabled two-factor authentication on your Apple ID.
Plan Your HomeKit Home

Now that you have a grasp of how HomeKit works, let’s take a look at the physical side of HomeKit—the devices themselves! And once you have an idea of what’s on the market, we’ll discuss how you might use those devices around your house to solve problems.

Learn the Types of Accessories

There are several types of HomeKit accessories on the market (or coming soon). Here’s a brief survey of what’s out there (you can always find an up-to-date list of products on Apple’s website):

- **Lights:** Smart lights cover things such as Wi-Fi-enabled light bulbs, light strips, and other standalone lights.

  At bare minimum, smart lights can be turned on and off or dimmed via HomeKit. More-advanced bulbs let you change their colors on the fly.

  The most notable line of smart lights is the Philips Hue series, which includes both white and colored lights, and is a rich ecosystem in its own right. However, Hue lights require a special hub, which plugs into your internet router, for the lights to work.

  **Note:** I explain how to Set Up Hue Lights later on.

- **Outlets:** A smart outlet is one of the least expensive and most useful home automation gizmos you can own. You just plug a smart outlet like a Wemo Mini or Eve Energy into a wall outlet and then plug some sort of electrical appliance into the smart outlet (Figure 1). You can then remotely turn the smart outlet on and off.

  Some appliances work better with smart outlets than others. The chief consideration is whether the appliance can be powered on and off by simply plugging or unplugging it from a wall outlet. Box fans,
dehumidifiers, electric heaters, and window air conditioners are all good candidates to be connected to a smart outlet.

Figure 1: The Wemo Mini can make any old “dumb” fan smart.

- **Thermostats:** You know what stinks? Getting out of your bed to adjust the thermostat—especially if it’s on another level of your house, and even more especially if it’s freezing outside. That’s why smart thermostats are one of the most popular home automation devices.

Perhaps the most well-known smart thermostat is the Google-owned (sorry, *Alphabet*-owned!) Nest, but it unfortunately isn’t HomeKit compatible, and I kind of doubt it ever will be, due to competition between Apple and Google. The most well-reviewed line of HomeKit-compatible thermostats are those made by ecobee (Figure 2).

**Note:** I tell you how to Install a Thermostat later.
Set Up Accessories

You understand the basic gestalt of HomeKit, and you’ve chosen some accessories to start with. Now it’s time to install them and set them up.

The instructions that come with many devices tell you to download that company’s app for setup, but you may not need to—you can set up most HomeKit devices right in the Home app. In cases where the company’s own app provides more features, you can still use it later—devices you set up using Home are automatically configured in the other app.

Note: See Install Advanced Accessories for advice on installing complex accessories that require wiring, such as light switches and thermostats.

Identify the HomeKit Code

The first step in setting up a HomeKit accessory is identifying the HomeKit code on the accessory itself. The HomeKit code is used to authenticate the accessory with HomeKit. There are two formats for the HomeKit code label: the older format with just an 8-digit code, and the new format, which is much smaller and features the QR code alongside the 8-digit code (Figure 4).

Figure 4: There are two styles of HomeKit code: the older, larger style (left), and the new, tiny QR code (right).
Treat the HomeKit code like a password—a password you can’t change or reset! Don’t share the HomeKit code, and be sure to copy it down in a secure location. I’ve created a secure note in 1Password to store my HomeKit codes. When you write down the code, be sure to clearly label which accessory is associated with that code. If you have multiple units of the same device, you may even want to write down the serial number associated with each HomeKit code. Your accessory may also come with a card featuring the HomeKit code—if so, store those in a secure place.

When you set up an accessory, you can either scan the numeric code with your iPhone or iPad’s camera, scan the QR code with the camera, enter the code manually, or on some newer devices, use near-field communication (NFC) to wirelessly authenticate the device—look for the NFC icon on the accessory if you have an iPhone 7 or later.

**Note:** You must use iOS to add accessories.

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**Activate Accessories**

Now that you’re caught up on the code, it’s time to set up your first HomeKit accessory. For this part, you’ll need:

- The accessory itself
- The HomeKit code for the accessory
- Your primary iOS device: iPhone, iPad, or iPod touch
- A power source for the accessory

The precise setup steps depend on your device—for instance, you have to first set up the Philips Hue system with its own app before setting it up with HomeKit—so check your manufacturer’s documentation (see *Set Up Hue Lights*). But most HomeKit accessories can be configured directly from Home. Here’s how (using an Eve Energy as an example):

1. Launch the Home app on the iOS device. If you’ve never launched it before, you’ll be prompted to tap Add Accessory. Otherwise, tap the
Use Accessories

Now we get to the real meat of the book: doing stuff with all this fancy equipment you bought! Thankfully, that’s pretty easy. In this chapter, I talk about basic control of accessories; I get into more advanced HomeKit features in subsequent chapters.

Note: Unless you Set Up a Home Hub, you can control your HomeKit accessories only when in range of them, which means either Bluetooth range (roughly 30 feet) or connected to your Wi-Fi router.

Control Your Accessories

Apple’s operating systems offer a cornucopia of ways to control your HomeKit devices: inside the Home app, from the iOS and iPadOS Control Center, with an Apple Watch, and through Siri.

Use the Home App

At this point in the book, I’m going to assume that you have only a handful of accessories (maybe just one!) and that you’ve set them all as favorites in the Home app, since that is the default, and it makes things easier when you’re just starting out.

When you open the Home app, it should start you on the Home screen, which at this point probably looks something like Figure 15.

Figure 15: The Home app’s Home screen shows any accessory you’ve set as a Favorite.
All the displayed accessories can perform actions: TV Room Dehumidifier (an Eve Energy smart outlet connected to a dehumidifier), Kitchen Light (a grouping of two Hue bulbs in a light fixture), TV Room TV Corner (a Hue bulb in a floor lamp), TV Room Ceiling Light (an Eve Light Switch), and Office Floor Lamp (an Eve Energy outlet). Tapping any one of those accessory tiles turns that accessory on or off. Touch and hold one of those tiles to display additional options. In macOS, click an accessory to activate it, and to see more controls, Control-click it and chose Show Controls.

For my smart outlets and the light switch, the additional options are pretty basic: just a big on/off switch and the gear icon I covered in Tweak Accessories. However, for a color smart bulb, things get a lot more interesting: you get a brightness slider, which you can drag up and down to adjust the bulb brightness, and color buttons, which you can click or tap to choose a preset light color. The word Edit appears on the selected color button, meaning that you can click or tap that button again to change the color or temperature of that preset. Drag the circle to choose a color or temperature. Click or tap Done to set the light to that color and change the preset (Figure 16).
Explore Homes, Rooms, and Zones

Where things really get interesting from here is with the exciting world of scenes, but before I get to that, you need to be familiar with the concepts of homes, room, and zones.

I briefly explained these ideas back in Learn the HomeKit Hierarchy, but to refresh, homes and rooms are exactly what they say they are (assuming you set things up correctly), while a Zone is a collection of rooms within a home, most typically a level such as upstairs or downstairs.

Taking a few minutes to fully understand these concepts is critical to a smooth home automation experience. Just imagine what a mess it’d be if you told Siri to turn off the kitchen lights and the lights in the living room turned off instead! Scenes and automations are especially powerful home automation tools, but you’ll likely use them with rooms and zones, so it’s crucial that you understand these basics before moving on to those topics.

Set Up Homes

Chances are, you need only one Home in your HomeKit setup—the one you establish when you first set up HomeKit—but you’ll want to know how to tweak that home in the home app to get the most from your HomeKit home (Thanks to Apple for making that clear!).

When do you need more than one Home? If you have a second home, such as a cottage or vacation home, you’ll want to set that up as a second home if you plan to use HomeKit there. However, if you have something like a detached garage, should that be treated as a separate home, or as a room?
An important consideration here is that you cannot easily transfer accessories between homes. To move an accessory from one home to another, you must first completely remove it from HomeKit in the current home (open accessory settings, scroll down, and tap Remove Accessory), and then set it up from scratch with the other Home.

**Tips for Moving a HomeKit Home**

Moving sucks, and having to move and set up home automation stuff again makes it even worse. But when and if the time comes, you have two choices: move everything at once, keep the same HomeKit home, and just adjust settings for accessories as needed, or create a new HomeKit home, slowly remove accessories from the old one, transfer them to the new one, and then delete the old Home.

I recommend the first option. When I moved recently, I used the latter method, and it *sucked*, even though it was the “proper” thing to do. Removing each accessory and setting it back up was a pain. However, the upside was that it forced me to carefully consider my needs before setting each device back up, instead of kind of haphazardly sprinkling my new house with home automation.

If I ever have to move again (God forbid), I’ll probably move all my home automation stuff wholesale, along with my Wi-Fi router, keep the same HomeKit Home, and reconfigure stuff as needed.

Of course, it’s your choice, but moving is already hard. I recommend the easy way.

To create a Home, go to the Home view of the Home app, tap the home button in the upper-left corner and tap Add Home. Give the new home a name, choose a custom photo if you like (more on this in a bit), and tap Save. This drops you into the new Home’s settings.

**Note:** You cannot add a new Home in macOS.

To switch between homes in iOS and iPadOS, go to the Home screen and tap the home button in the upper-left corner, and then choose a home from the menu. On macOS, click the home icon and choose the home from the list. If you have multiple homes, the Home Switching option automatically switches between homes based on your
Set Scenes

As your accessory collection grows, home automation can go from being a novelty to a pain—constantly tinkering with accessories gets tiresome. Thankfully, HomeKit offers shortcuts, called scenes, that let you combine actions. For example, you could have a scene called Good Morning that turns on all of your lights, a scene called Leave Home that turns off your lights and turns down the thermostat, and a silly party scene that turns your living room red.

I argue that scenes are the most important aspect of home automation, and now that you’re thoroughly familiar with the basics of HomeKit, it’s time to learn about this powerful—and perhaps even life-changing—aspect.

Creating scenes is easy. Figuring out the right scenes to make is the tricky part.

Consider Your Scenes

I don’t recommend rushing into scene creation (that’s why I’ve taken so long to get to it!). As you tinker with your accessories, you’re probably going to come up with scene ideas naturally. For instance, when it’s getting late, you probably want to dim or turn off some lights all at once.

In fact, once you get into scene creation, you’ll probably want to create all sorts of fun scenes. And there’s nothing wrong with that! But I highly recommend starting with the four scenes Apple suggests: Good Morning, Good Night, Arrive Home, and Leave Home. If you plan carefully, these four scenes may be the only HomeKit control you ever need. In fact, you may need just two of them. For example, consider what you do in the morning before leaving home: turn off lights and lock the doors. Is your routine that much different than when you go to bed?
When you’re just starting out, I recommend starting with and focusing on your Good Morning and Good Night scenes. The next time you go to bed, write down everything you do before you get in bed. That’s going to be the basis for your Good Night scene (and maybe your next HomeKit-related shopping trip!).

**Tip:** If you have some sort of dimmable lighting setup, like a Hue bulb, consider dimming your lights at night instead of turning them off entirely. That way, if someone gets up in the middle of the night, they’re not stumbling around blindly, but they’re also not turning lights on and waking people up.

Similarly, when you wake up on a typical morning, think about what you need to turn on or adjust before you can even start the day. If you’re an early riser, there may be lights that need to be on before you can navigate to the bathroom or the coffee maker. And maybe you want to turn on the coffee maker from bed so it’s ready when you get to the kitchen (unfortunately, there aren’t any HomeKit coffee makers, so you’ll need a smart outlet and a dumb coffee maker). If it’s winter, maybe you want the house a little warmer.

The Good Morning scene inspires more creativity than Good Night, but don’t go crazy right away. Stick to just a few necessary actions until you get more comfortable with scenes.

One reason to keep it simple is that if you have a relatively simple setup, you can use Good Morning and Good Night as your main two scenes, which makes things all the simpler. Another reason is that it’s easy to overload a scene with so much stuff that it has unintended consequences, or you lose track of what’s going on. It’s better for both you and your housemates to start simple and add to scenes as needed, instead of starting with a confusing mess of a scene that you then have to scale back.

Also, when you create scenes, keep in mind that they’re the foundation for automations, which I cover in *Set Your Home on Autopilot*. For instance, you could make it so that your Good Morning scene activates before you even wake up!
Set Your Home on Autopilot

At this point, you should be up and running with HomeKit home control, and a master at adding and controlling accessories. But now I’m going to teach you literal automation—objects in your home doing things on their own, directed by your instructions—and that is powerful juju. It offers an incredible amount of power, but it can also make your home a living hell if you don’t set things up thoughtfully.

Set Up a Home Hub

Before you can automate HomeKit, you must have at least one device that can act as a hub: a HomePod, an Apple TV HD or 4K, or an iPad running iOS 10 or later. The hub is necessary because something has to be physically in the house and running 24/7 to trigger automations. Setting up a HomeKit hub confers an additional advantage: it lets you control your accessories while you’re away from home. It also extends the range at which you can use Bluetooth HomeKit devices. You can also set up more than one hub, which is a good thing to do so that you always have a backup. (For best results, I strongly recommend keeping the hub updated with the latest version of its operating system from Apple.)

Tip: The Apple HomePod smart speaker automatically acts as a HomeKit hub with no additional setup.

Make an Apple TV a Hub

If you own an Apple TV HD or 4K, it makes a better hub than the iPad, because it’s unlikely that you’ll take it out of the house. Also, it has better Bluetooth range. However, two-factor authentication must be
enabled on your iCloud account to use your Apple TV as a HomeKit hub. Here’s how to do that:

1. On an iOS device, go to Settings > Your Name > Password & Security

2. Tap Turn On-Two-Factor Authentication.

3. Tap Continue.

With two-factor authentication enabled, your username and password are no longer sufficient to log in to your Apple ID—you must also have a six-digit code that Apple sends to another device. You should have two-factor authentication enabled regardless of whether or not you use home automation, as it makes your account safer.

**Tip:** If you have a spare Apple TV lying around, it can function as a Bluetooth range extender without being connected to a TV. Just make sure Automatically Update is enabled in Settings > System > Software Updates so it requires less maintenance on your part.

Once you’re past that hurdle, using your Apple TV as a HomeKit hub is as simple as making sure that you’re signed in to your primary iCloud account on the Apple TV (under Settings > Users and Accounts > iCloud). You also need to have iCloud Keychain enabled on any iOS device, iPad, or Mac using the same Apple ID. In iOS and iPadOS, you can do that in Settings > Your Name > iCloud > Keychain. Then on your Apple TV, under Settings > AirPlay and HomeKit, you should see a Home Hub header, and under that, you should see **Home: Connected** *(Figure 29).* If you don’t, make sure you’re signed in properly.

**Figure 29:** Your Apple TV lets you know if the HomeKit hub functionality is working correctly.
Install Advanced Accessories

If you’re just getting started with HomeKit and have simple tastes, feel free to skip this chapter for now, because it deals with installing HomeKit devices that are more complicated than simply plugging in an outlet or screwing in a light bulb—the kind that require tools!

Install a Door and Window Sensor

A door/window sensor is one of the more interesting HomeKit accessories, as it can notify you if a door or window is open or closed, and launch automations accordingly.

The Eve Door & Window is one of the few such accessories that works with HomeKit, so I’m going to use it as an example here. While it isn’t a dangerous or particularly complicated installation, it’s something of a finicky setup.

The Eve Door & Window consists of two pieces (one of which holds a small battery) that compose what’s known as a contact sensor. When the two sensors are close, they report to HomeKit that they are closed. When they’re apart, they read as open.

Tip: Although the Eve Door & Window is marketed as a sensor to monitor doors and windows, it can also be used as a generic contact sensor. Ever wanted to catch whoever is stealing cookies out of the cookie jar?

The package consists of the two sensors, the battery, and a series of spacers, which you may need to use to line up the sensors just so (Figure 41).
Figure 41: Take note of the package contents. There should be two sensors, and a small bag with a battery and spacers.

**Note:** Eve notes that the battery lasts about 1.5 years.

First, install the battery in the larger of the two sensors. Maybe I’m not the brightest Hue bulb, but I had a bit of trouble figuring out exactly how you remove the cover, since it’s covered by a sticky pad—the trick is to slide it up, as I demonstrate in Figure 42. As for installing the battery, align it so the flat end meets the spring—pretty standard stuff.

**Tip:** Once the larger Door & Window sensor is mounted, you can just slide the unit away from the mounted battery cover to change the battery without unmounting it. This is by design.
Troubleshoot HomeKit

When it comes to home automation, there are a lot of things that can go wrong. I’ll try to address the most common causes and offer simple solutions.

Fix Unresponsive Accessories

Unresponsive accessories are the most frequent problem. Here are some common culprits:

- Is the accessory receiving power? In other words, is it turned on, are the batteries charged, or is the smart outlet plugged in?

- If it’s a Bluetooth accessory, is it too far away from the device running the Home app? Try moving closer to it, or consider placing a HomeKit hub near the accessory to help boost the signal—see Set Up a Home Hub.

- Sometimes a device can have software issues that, just like your computer, can be fixed by restarting the device. Remove and then reinsert the batteries, or unplug and replug the accessory, if possible. Give the device a few minutes to start up again and see if it’s now responding.

- The accessory has gone wonky and needs to be reset to factory settings. Check your device’s instructions to find out how to do that, but there is almost always a button on the device itself you need to hold down to reset it. Unfortunately, if you do this, you’ll have to set up the device again.

- The accessory may need a firmware update.
Update Accessory Firmware

If you’re having trouble with your HomeKit accessory, the manufacturer may have released a firmware update for it that addresses the problem. Sometimes you may even receive a notification from the Home app that an update is available (Figure 63).

![Image of Home app notification](image)

**Figure 63:** Home may notify you if a firmware update is available for an accessory.

If that notification appears, tapping it takes you to a screen in the Home app that lets you either open or download the vendor’s app. But sometimes you won’t get a notification—the settings screen for the accessory features a link to the vendor’s app (except for the Philips Hue system—go figure). And if your device is having trouble, you may want to check the vendor app to see if there’s an update that can fix the problem.

In any case, you need the device vendor’s app to update the accessory firmware. Here’s how to do it in the Eve for HomeKit app:

1. Enter the Settings screen. (If a firmware update is available, the icon for Settings has a red badge with a number on it.)

2. Tap Accessories. Again, if an update is available, Accessories are marked with a red badge with a number.

3. Look for accessories with a red circle with an upward-facing arrow. Tap any accessory that has that symbol.

4. Tap Update Firmware, and then tap Update *Device Name* (Figure 64).

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Shameless Plug

I have a Twitter if you enjoy bad tweets.
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