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What Is Amazon Pinpoint?

Amazon Pinpoint is an AWS service that you can use to engage with your customers across multiple messaging channels. You can send push notifications, emails, or text messages (SMS), depending on the purpose of your campaign.

The information in this user guide is intended for all Amazon Pinpoint users, including marketers, business users, and developers. This guide contains information that’s especially helpful for users who mainly interact with Amazon Pinpoint by using the AWS Management Console. If you’re new to Amazon Pinpoint, start by reading *Getting Started* (p. 3).

If you’re an application developer, also refer to the *Amazon Pinpoint Developer Guide* and the *Amazon Pinpoint API Reference*. These documents provide information about using the features of Amazon Pinpoint programmatically. They also contain information about integrating the features of Amazon Pinpoint into your applications.

Amazon Pinpoint Features

This section describes the major features of Amazon Pinpoint.

Define Audience Segments

Reach the right audience for your messages by defining audience segments (p. 59). A segment designates which users receive the messages that are sent from a campaign. You can define dynamic segments based on data that’s reported by your application, such as operating system or mobile device type. You can also import static segments that you define outside of Amazon Pinpoint.

Engage Your Audience with Messaging Campaigns

Engage your audience by creating a messaging campaign (p. 68). A campaign sends tailored messages on a schedule that you define. You can create campaigns that send mobile push, email, or SMS messages.

To experiment with alternative campaign strategies, set up your campaign as an A/B test, and analyze the results with Amazon Pinpoint analytics.

Send Direct Messages

Keep your customers informed by sending direct mobile push and SMS messages (p. 83)—such as new account activation messages, order confirmations, and password reset notifications—to specific users.

Analyze User Behavior

Gain insights about your audience and the effectiveness of your campaigns by using the analytics that Amazon Pinpoint provides. You can view trends about your users’ level of engagement, purchase activity, and demographics. You can monitor your message traffic with metrics for messages sent and opened. Through the Amazon Pinpoint API, your application can report custom data, which Amazon Pinpoint makes available for analysis.

To analyze or store the analytics data outside of Amazon Pinpoint, you can configure Amazon Pinpoint to stream the data (p. 102) to Amazon Kinesis.
Get Started

Get started with Amazon Pinpoint by creating a project in AWS Mobile Hub. Your Mobile Hub project becomes available in Amazon Pinpoint. For more information, see Getting Started with Amazon Pinpoint (p. 3).

Currently, Amazon Pinpoint is available in the US East (N. Virginia) Region.
Getting Started with Amazon Pinpoint

To begin using Amazon Pinpoint, add a project to AWS Mobile Hub. Then, choose your project in the Amazon Pinpoint console to define user segments, create push notification campaigns, and view analytics.

Adding a Project to Amazon Pinpoint

Before you can use Amazon Pinpoint, you must create a project in the AWS Mobile Hub console at https://console.aws.amazon.com/mobilehub/.

Mobile Hub is an AWS service that helps you create and configure mobile app backend features and integrate them into your app. When you create your project, add the Messaging & Analytics feature. After you create the project in Mobile Hub, it becomes available in Amazon Pinpoint.

When you add the Messaging & Analytics feature, you choose one or more messaging channels to enable. After you create a project that supports at least one channel, you can manage channel settings, or enable other channels, in the Amazon Pinpoint console. For more information about creating a project and enabling a specific channel, see:

- Setting up Amazon Pinpoint Mobile Push Channels (p. 13)
- Setting up the Amazon Pinpoint Email Channel (p. 17)
- Setting up the Amazon Pinpoint SMS Channel (p. 27)

Getting Started with Amazon Pinpoint

After you add a project to Amazon Pinpoint, you can choose your project in the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/ to do the following tasks.

1. Define a user segment (p. 59) so that you can engage a specific subset of your audience with a messaging campaign.
2. Create a campaign (p. 68) to send tailored messages to your segment according to a schedule that you define.
3. View analytics (p. 87) to learn how many users your campaign is sending messages to, how many users are viewing those messages, and other information.
Amazon Pinpoint Tutorials

The tutorials in this section are intended to show Amazon Pinpoint users how to complete several important tasks. If you’re new to Amazon Pinpoint, or if you’re just unfamiliar with certain features, these tutorials are a great place to start.

Topics in this section:
- Send an Email Using Amazon Pinpoint (p. 4)

Send an Email Using Amazon Pinpoint

This tutorial contains a complete set of procedures for using Amazon Pinpoint to send an email to a predefined segment of customers.

This tutorial is intended to be used by marketers, people who are new to Amazon Pinpoint, or existing Amazon Pinpoint customers who want to send email by using the Amazon Pinpoint console.

Topics in this section:
- Prerequisites (p. 4)
- Step 1: Create a New Amazon Pinpoint Project (p. 7)
- Step 2: Verify an Identity (p. 7)
- Step 3: Upload a List of Segment Members to Amazon S3 (p. 8)
- Step 4: Create a Segment (p. 9)
- Step 5: Create a Campaign (p. 10)
- Conclusion and Next Steps (p. 11)

Prerequisites

In order to complete the steps in this tutorial, you have to complete a few prerequisite steps first. This section provides procedures for creating your AWS account, creating an IAM user, and installing and configuring the AWS CLI.

Topics in this section:
- Create an AWS Account (p. 4)
- Create an IAM User and Obtain Credentials (p. 5)
- Install the AWS CLI (p. 5)
- Configure the AWS CLI (p. 6)

Create an AWS Account

If you haven’t done so already, you have to create an AWS account before you can use Amazon Pinpoint or other AWS services.

To create an AWS account

2. Follow the on-screen instructions to create your account.

Create an IAM User and Obtain Credentials

To send email using Amazon Pinpoint, you have to create an IAM user account. When you create your account, you're provided with a set of credentials that you use to configure the AWS CLI.

To create an account and obtain your credentials

1. Open the IAM console at https://console.aws.amazon.com/iam/.
2. In the navigation pane, choose Users.
3. Choose Add user.
4. Under Set user details, for User name, type a name for your user account.
5. Under Select AWS access type, do the following:
   a. For Access Type, select Programmatic access and AWS Management Console access.
   b. For Console password, select Autogenerated password.
   c. Select Require password reset.
   d. Choose Next: Permissions.
6. On the Set permissions page, do the following:
   a. Choose Attach existing policies directly.
   b. In the list of policies, choose PowerUserAccess.
      Tip
      To quickly find this role, use the search box at the top of the list of user roles.
   c. Choose Next: Review.
7. Choose Create user. The IAM console shows a list of the users that it just created.
8. Choose Download .csv. Save the .csv file to your computer, and then open the file. You need the values in the Access key ID and Secret access key columns to configure the AWS CLI.

Install the AWS CLI

Now that you’ve created an IAM user, you can install the AWS CLI. The process for installing the AWS CLI depends on what kind of computer you use.

Installing the AWS CLI on a Windows-based Computer

If you use a Windows-based computer, you can download a file that installs the AWS CLI to your computer.

To install the AWS CLI on a Windows-based computer

1. Download the AWS CLI installer from https://s3.amazonaws.com/aws-cli/AWSCLI64.msi.
2. Double-click the file that you downloaded to run the installer. Follow the instructions to install the AWS CLI on your computer.
3. Press the Windows key+R. The Run window appears.
4. Type cmd.exe, and then press Enter. Windows Command Prompt opens.
5. At the command prompt, type the following command, and then press Enter.

   `cd "c:\Program Files\Amazon\AWSCLI"`
Keep the Command Prompt window open.

Installing the AWS CLI on a macOS-based Computer

If you use a macOS-based computer, you can use the built-in `pip` command to download and install the AWS CLI.

**To install the AWS CLI on a macOS-based computer**

1. On the macOS menu bar, choose the Spotlight icon. Type `Terminal`, and then press Return. The macOS Terminal application opens.
2. At the command line, type the following command, and then press Return:

```
pip install awscli --upgrade --user
```

Keep the terminal window open, and proceed to the next section.

Installing the AWS CLI on a Linux-based Computer

If you use a Linux-based computer, you can use the built-in `pip` command to download and install the AWS CLI.

**To install the AWS CLI on a Linux-based computer**

1. Open the terminal emulator.
2. At the command line, type the following command, and then press Enter:

```
pip install awscli --upgrade --user
```

Keep the terminal window open, and proceed to the next section.

Configure the AWS CLI

After you install the AWS CLI, you have to configure it to use the credentials that are associated with your IAM user.

**To configure the AWS CLI**

1. At the command line, type the following command, and then press Enter:

```
aws configure
```

2. When prompted, provide the **AWS Access Key ID** and **AWS Secret Access Key** values from the spreadsheet you downloaded when you created your IAM user account.
3. For **Default region name**, type `us-east-1`.
4. For **Default output format**, press Enter.

Keep the Command Prompt or terminal window open, and proceed to the next section.

Next: Create a Project » (p. 7)
Step 1: Create a New Amazon Pinpoint Project

In Amazon Pinpoint, a *project* is a collection of settings, segments, campaigns, and analytics for a specific set of customer engagements. Before you can send email using Amazon Pinpoint, you first have to create a campaign.

The procedure in this section shows you how to create a project by using the AWS CLI.

**To create a new Amazon Pinpoint project**

- At the command line, type the following command to create a new project. Replace *My Email Project* with a unique name for your project.

```
aws pinpoint create-app --create-application-request Name="My Email Project"
```

When the command runs successfully, you see output similar to the following example:

```
{
   "ApplicationResponse": {
      "Id": "28268e0b68c54257bc66a1085EXAMPLE",
      "Name": "My Email Project"
   }
}
```

Next: Verify an Identity » (p. 7)

Step 2: Verify an Identity

In Amazon Pinpoint, an *identity* is an email address or domain that you use to send email. Before you can send email using Amazon Pinpoint, you must verify each identity that you plan to send email from to prove that you own it. When you verify an identity, you can choose to verify a *single email address* (p. 7) or an *entire domain* (p. 8).

**Verifying a Single Email Address**

When you verify an email address, you can use that specific address to send email from Amazon Pinpoint. Verifying an email address is the fastest and easiest way to verify an identity for sending email in Amazon Pinpoint. Additionally, if you want to send email from an address on a domain that you don't own, such as a domain that belongs to a commercial email provider, the only way to verify your identity is to verify an email address.

**To verify an email address**

1. Open the Amazon Pinpoint console at [https://console.aws.amazon.com/pinpoint/](https://console.aws.amazon.com/pinpoint/).
2. In the list of projects, choose the project that you created in the preceding section.
3. In the navigation pane, choose *Settings*.
4. On the *Channels* tab, under *Choose the channels to enable*, choose *Email*.
5. Choose *Enable email channel*, and then choose *Email address*.
6. For *Email address*, type the email address that you want to verify, and then choose *Verify*.
7. Check the inbox for the email address that you submitted in the previous step. Open the email from *no-reply-aws@amazon.com* with the following subject: "Amazon Web Services – Email Address Verification Request in region *regionName*.

Choose the link in the email to verify your email address.
Verifying an Entire Domain

When you verify an entire domain, you can send email from any address on that domain. Verifying a domain is helpful when, for example, you want to use one email address as the sender and another address on the same domain as the Return-Path address.

Verifying a domain is more complicated than verifying an email address, because you need to be able to modify the DNS records for your domain. If you aren’t able to modify the DNS records for your domain, or you’re not comfortable doing so, consider verifying an email address instead.

The procedures for adding a TXT record to the DNS settings for your domain vary depending on who provides the DNS services for your domain. If you use Amazon Route 53, see Creating Records by Using the Amazon Route 53 Console in the Amazon Route 53 Developer Guide. If you use another DNS provider, see that provider’s documentation for more information about adding TXT records to your DNS configuration.

To verify a domain

1. Open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. In the list of projects, choose the project that you created in the preceding section.
3. In the navigation pane, choose Settings.
4. On the Channels tab, under Choose the channels to enable, choose Email.
5. Choose Enable email channel, and then choose Email domain.
6. For Email domain, type the email domain that you want to verify, and then choose Verify.
7. In the Email domain verification dialog box, copy the entire TXT record that’s displayed, including the Name, Type, and Value. When you finish, choose Close.
8. Under Default from address, type the email address that you plan to send email from most often. You can change this value later. Choose Save.
9. In the DNS settings for your domain, add the TXT record that you copied in step 7. Amazon Pinpoint checks the DNS records for your domain periodically. When your domain is successfully verified, Amazon Pinpoint sends you a notification by email.

Note

The procedures for updating your domain’s DNS record vary depending on your domain provider. See your domain provider’s documentation for more information about updating the DNS records for your domain.

Next: Upload Contacts » (p. 8)

Step 3: Upload a List of Segment Members to Amazon S3

To create a segment of customers in Amazon Pinpoint, you first have to upload a spreadsheet that contains those customers’ contact details to an Amazon S3 bucket.

In Amazon S3, a bucket is a container that you use to store files and folders. Each bucket can have its own permission settings. For example, you can set up a bucket so that its contents are accessible to anyone who has the address of the bucket. Or you could set it up so that its contents are only available to you. To learn more about Amazon S3, see Introduction to Amazon S3 in the Amazon Simple Storage Service Developer Guide.

To create a list of contacts and upload it to Amazon S3

1. In a spreadsheet application, create a spreadsheet that contains information about the contacts that you want to send the email to. Use the following template as an example. Change the values...
in the **Address**, **User.UserAttributes.FirstName**, and **User.UserAttributes.LastName** fields to represent the people who you want to contact. Don't change the column headings or the values in the **ChannelType** column.

<table>
<thead>
<tr>
<th>ChannelType</th>
<th>Address</th>
<th>User.UserAttributes.FirstName</th>
<th>User.UserAttributes.LastName</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMAIL</td>
<td><a href="mailto:john.stiles@example.com">john.stiles@example.com</a></td>
<td>John</td>
<td>Stiles</td>
</tr>
<tr>
<td>EMAIL</td>
<td><a href="mailto:wang.xiulan@example.com">wang.xiulan@example.com</a></td>
<td>Xiulan</td>
<td>Wang</td>
</tr>
<tr>
<td>EMAIL</td>
<td><a href="mailto:carlos.salazar@example.com">carlos.salazar@example.com</a></td>
<td>Carlos</td>
<td>Salazar</td>
</tr>
</tbody>
</table>

**Note**
You can include additional fields if necessary. For a list of other fields you can specify, see the table in **Available Attributes** (p. 64).

2. Replace the values in the template with names and email addresses of people you want to contact.

**Important**
If this is your first time using Amazon Pinpoint, your account is in the sandbox. When your account is in the sandbox, you can only send email to verified identities. If you want to send email to identities you haven't verified, complete the procedure in **Requesting Production Access for Email** (p. 20).

When you finish, save the file to your computer in comma-separated values (CSV) format.

3. Open the Amazon S3 console at https://console.aws.amazon.com/s3/.

4. Choose **Create bucket**.

5. On the **Create bucket** dialog box, for **Bucket name**, type a name for the bucket, and then choose **Create**.

6. In the list of buckets, choose the bucket that you created in the previous step.

7. Choose **Create folder**. Type a name for the folder, and then choose **Save**.

   Make a note of both the name of the bucket and the name of the folder (you need to provide both of these values in a later step).

8. In the folder you just created, choose **Upload**, and then choose **Add files**. Upload the spreadsheet that you created earlier in this section.

**Next: Create a Segment » (p. 9)**

## Step 4: Create a Segment

Now that you've uploaded a spreadsheet that contains the contact information for your customers, you can use that spreadsheet to create a new **segment** in Amazon Pinpoint.

A segment is a group of customers that you want to target for a campaign. Usually, members of a segment have certain characteristics in common with each other. For example, segment members might all live in the same city, or they might have purchased the same item from you in the past.

When you create a segment in Amazon Pinpoint, you can reuse it later in a different campaign.

**To create a segment based on a spreadsheet that's stored in Amazon S3**

1. Open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.

2. Choose the project that you created in the first section of this topic.
3. In the navigation pane, choose **Segments**, and then choose **New segment**.
4. On the **Create a segment** page, do the following:
   a. For **Segment name**, type a name for the segment.
   b. Under **How would you like to define your segment**, choose **Import segment**.
   c. For **Amazon S3 URL**, type the following. Replace `bucketName` with the name of the Amazon S3 bucket that you created in the previous section. Replace `folderName` with the name of the folder that you created in the previous section.

   ```
s3://bucketName/folderName
   ```
   d. Under **IAM role**, choose **Automatically create a role**. For **Name for new role**, type `PinpointSegmentImportRole`.
   e. Under **What is the format of the file**, choose **CSV**.
   f. Choose **Import segment**. The **Jobs** page appears.
5. Wait for a few minutes, and then refresh the page. If the value in the **Status** column is **COMPLETED**, proceed to the next section. Otherwise, repeat this step until the segment import process is complete.

**Next:** Create a Campaign » (p. 10)

### Step 5: Create a Campaign

After you create a segment, you can create a *campaign* and schedule Amazon Pinpoint to send it to your segment.

In Amazon Pinpoint, a campaign refers to a single message that you send to a segment. If you’ve used other digital user engagement tools in the past, you might have used phrases like “tactics” or “campaign elements” to refer to the same concept.

#### To create a new campaign

1. In the navigation pane, choose **Campaigns**, and then choose **New campaign**.
2. For **Campaign name**, type a name for the campaign.
3. Under **What messaging channel do you want to use**, choose **Email**.
4. Under **Choose the campaign type**, choose **Standard campaign**, and then choose **Next step**.
5. On the **Segment** page, choose **Use a previously defined segment**. Then, for **Segment**, choose the segment that you created in the previous section. Choose **Next step**.
6. On the **Message** page, do the following:
   a. For **From address**, type the address that you want to send the email from.
   b. For **Subject**, type the subject line of the email.
   c. For **Message**, type the body of the email.

   **Tip**
   You can modify the HTML body of your message directly by choosing the **edit HTML** button in the message editor.
   You can also include personalized content in your message. You do this by adding the name of an attribute from the spreadsheet that you imported into Amazon Pinpoint.
   When you specify an attribute in this way, surround the attribute name with two sets of curly braces. For example, you could include the recipient’s first name in the body of the message by typing `{{User.UserAttributes.FirstName}}` in the body of the message.
d. When you finish, choose **Next step**.

7. On the **Schedule** page, choose **Immediate**, and then choose **Next step**.

   **Note**
   You can also choose to schedule the delivery of your message for a specific date and time. To schedule the delivery of your message, choose **Once**, and then specify the date and time when you want Amazon Pinpoint to send the email. If you want to send the message on a recurring basis, choose one of the other schedule options (**Hourly**, **Daily**, **Weekly**, or **Monthly**), and then specify the start and end times.

8. On the **Review and launch** page, choose **Launch campaign**.

**Next: Next Steps » (p. 11)**

### Conclusion and Next Steps

By completing this tutorial, you've accomplished the following:

- Created a new Amazon Pinpoint project.
- Verified an email address or domain that you can use to send email from Amazon Pinpoint.
- Created a spreadsheet that contains contact information for a list of contacts, and then uploaded that spreadsheet to Amazon S3.
- Created a new segment that uses the contact information in the spreadsheet that you uploaded to Amazon S3.
- Created a new email campaign and sent it to your segment.
- Reviewed the delivery and response metrics for your campaign.

### What's Next?

Now that you know how to send an email in Amazon Pinpoint, you're ready for some more advanced steps. The following sections provide information about other Amazon Pinpoint features that you can explore.

#### Get Out of the Sandbox

New Amazon Pinpoint customers are placed in a “sandbox” environment. When your account is in the sandbox, you can only send email to verified email addresses. Additionally, you can send a maximum of 200 messages in a 24-hour period, and a maximum of 1 message per second.

We put new accounts in the sandbox in order to prevent unscrupulous users from creating multiple accounts and using them to send unsolicited or malicious email. In order to have your account removed from the sandbox, you have to demonstrate that you follow industry best practices, and that your email sending practices abide by the policies in the AWS Service Terms and AWS Acceptable Use Policy documents.

For information about having your account removed from the sandbox, see **Opening a Sending Limits Increase Case (p. 23)**.

#### View Your Response Metrics

After you send a message, Amazon Pinpoint automatically monitors how your customers interact with that message. For example, when you send email to a segment of customers, Amazon Pinpoint keeps track of how many emails were delivered. It also tracks the number of customers that opened the email, and the number who unsubscribed after receiving the email. You can view these metrics directly in the Amazon Pinpoint console.
To view the response metrics for your campaign

1. Open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. Choose the project that you want to view response metrics for.
3. In the navigation pane, under Analytics, choose Campaigns.
4. In the list of campaigns at the bottom of the page, choose a campaign. The campaign details page appears. This page tells you how many messages were sent, how many were delivered, how many bounced, and how many were opened. It also tells you the date and time when each campaign run occurred. If you sent the message once, you only see information for one campaign run. If you sent a message on a recurring basis, you see information for each time Amazon Pinpoint sent the message.

Send Messages in Other Channels

If your customers consent to being contacted by other channels, such as SMS or mobile push notifications, you can use Amazon Pinpoint to send messages through those channels as well. The process for sending through other channels is similar to the process that you used to send email in this tutorial.

When you send messages by using other channels, you need to modify a few of the procedures in this tutorial:

- When you create a new project, specify a different channel type.
- When you upload a list of segment members, include their mobile numbers (for SMS messages) or their app tokens (for push notifications).

For more information about other messaging channels in Amazon Pinpoint, see Amazon Pinpoint Channels (p. 13).
Amazon Pinpoint Channels

A channel represents the platform through which you engage your audience segment with messages. For example, to send messages to your mobile app users, you must have an Amazon Pinpoint project in which the mobile push channel is enabled. Amazon Pinpoint supports the following channel types:

- Mobile push (p. 13)
- Email (p. 16)
- SMS (p. 24)

Before you can use Amazon Pinpoint to engage your audience, you must create an Amazon Pinpoint project, and that project must support one or more channels. To add a new project to Amazon Pinpoint, create a project using AWS Mobile Hub, and add the Messaging & Analytics feature to the project. After you create a project in Mobile Hub, it becomes available in Amazon Pinpoint.

After you create a project and enable a channel, you can use your project to send messages. You can define the audience segment (p. 59) that you want to engage and then define a campaign (p. 68) that sends messages to that segment. Or, to quickly send a message to a limited audience, you can send a direct message (p. 83) without creating a campaign.

Topics
- Amazon Pinpoint Mobile Push Channels (p. 13)
- Amazon Pinpoint Email Channel (p. 16)
- Amazon Pinpoint SMS Channel (p. 24)

Amazon Pinpoint Mobile Push Channels

With Amazon Pinpoint, you can engage your mobile app users by sending push notifications through a mobile push channel. You can send push notifications to Android and iOS apps using separate channels for the following push notification services:

- Firebase Cloud Messaging (FCM) or its predecessor, Google Cloud Messaging (GCM).
- Apple Push Notification service (APNs)
- Baidu Cloud Push
- Amazon Device Messaging (ADM)

To enable mobile push channels, you must first define your app as a project in AWS Mobile Hub. Then, integrate your app with Amazon Pinpoint.

Topics
- Setting up Amazon Pinpoint Mobile Push Channels (p. 13)
- Monitoring Mobile Push Activity with Amazon Pinpoint (p. 14)
- Managing Mobile Push Channels with Amazon Pinpoint (p. 15)

Setting up Amazon Pinpoint Mobile Push Channels

Before you can use Amazon Pinpoint to send push notifications to your app, you must define your app as a project in AWS Mobile Hub and integrate your app with Amazon Pinpoint. Mobile Hub is an AWS
service that helps you create and configure mobile app backend features and integrate them into your app.

When you define your project in Mobile Hub, you set up channels for Firebase Cloud Messaging (FCM), Google Cloud Messaging (GCM), or Apple Push Notification service (APNs). To set up channels for Baidu Cloud Push or Amazon Device Messaging (ADM), manage your channels using the Settings page for your project in the Amazon Pinpoint console.

After you add an app to Amazon Pinpoint, you can update your push notification credentials on the Settings page. For more information, see Managing Mobile Push Channels with Amazon Pinpoint (p. 15).

Monitoring Mobile Push Activity with Amazon Pinpoint

For push notifications that you send as part of a campaign, Amazon Pinpoint provides options for monitoring your mobile push activity.

**Note**
To monitor push notification activity, you must use a campaign. You cannot monitor push notification activity outside of a campaign.

Streaming Mobile Push Event Data

To monitor data, such as successful and failed mobile push deliveries, configure Amazon Pinpoint to stream mobile push event data to Amazon Kinesis Data Streams or Amazon Kinesis Data Firehose. Then, you can use the Kinesis platform to analyze this push data. For more information, see Streaming Amazon Pinpoint Events to Kinesis (p. 103).

For examples of the event data that Amazon Pinpoint streams to Kinesis, see Event Data in the Amazon Pinpoint Developer Guide.

Amazon Pinpoint Analytics

The Analytics page in the Amazon Pinpoint console shows trends related to user engagement, campaign outreach, revenue, and more. To monitor your mobile push activity, you can view metrics such as:

**Targeted**
User devices to which Amazon Pinpoint attempted to deliver messages.

**Delivered**
The number of successful message deliveries.

**Delivery rate**
The percentage of all delivery attempts that were successful.

**Total opened**
The number of app openings resulting from users tapping notifications sent by the campaign.

**Open rate**
Percentage of recipients who opened your app after receiving a push notification from a campaign.

**Opt out rate**
Percentage of users who chose not to receive push notifications for your app.
Managing Mobile Push Channels with Amazon Pinpoint

Using the console, you can update the credentials that allow Amazon Pinpoint to send push notifications to iOS and Android devices. You can provide credentials for the following push notification services, each of which is supported by an Amazon Pinpoint channel:

- Firebase Cloud Messaging (FCM) or its predecessor, Google Cloud Messaging (GCM).
- Apple Push Notification service (APNs).
- Baidu Cloud Push.
- Amazon Device Messaging (ADM).

For FCM, GCM, and APNs, you initially provide your credentials when you add your app as a mobile project in AWS Mobile Hub. For Baidu and ADM, you can provide your credentials only in the Amazon Pinpoint console.

To update mobile push settings

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose the project for which you want to manage mobile push settings.
3. In the navigation menu, choose Settings.
4. On the Settings page, choose Channels, and choose Mobile Push.
5. Under Choose the push notification services that you want to enable, you can update your credentials for the following services:
   - **FCM/GCM** – Requires an API key (also referred to as a server key), which you get from the Firebase console or the Google API console. For more information about getting FCM credentials, see Credentials in the Firebase documentation.
   - **APNs** – Requires an authentication token signing key or a TLS certificate, which you get from your Apple developer account. For more information, see the Managing APNs Settings section.
   - **Baidu** – Requires an API key and a secret key, which you get from your Baidu Cloud Push project.
   - **ADM** – Requires the OAuth Credentials (Client ID and Client Secret) from your Amazon Developer account. For more information, see Obtaining Amazon Device Messaging Credentials in the Amazon Developer documentation.
6. When you finish, choose Save.

Managing APNs Settings

On the Settings page, for APNs, you can authorize Amazon Pinpoint to send push notifications to your iOS app by providing information about your APNs key or certificate:

**Key**

A private signing key used by Amazon Pinpoint to cryptographically sign APNs authentication tokens. You obtain the signing key from your Apple developer account.

If you provide a signing key, Amazon Pinpoint uses a token to authenticate with APNs for every push notification that you send. With your signing key, you can send push notifications to APNs production and sandbox environments.
Unlike certificates, your signing key does not expire. You only provide your key once, and you don't need to renew it later. You can use the same signing key for multiple apps. For more information, see Communicate with APNs using authentication tokens in Xcode Help.

Certificate

A TLS certificate that Amazon Pinpoint uses to authenticate with APNs when you send push notifications. An APNs certificate can support both production and sandbox environments, or it can support only the sandbox environment. You obtain the certificate from your Apple developer account.

A certificate expires after one year. When this happens, you must create a new certificate, which you then provide to Amazon Pinpoint to renew push notification deliveries. For more information, see Communicate with APNs using a TLS certificate in Xcode Help.

To manage APNs settings

1. For Default authentication type, choose whether Amazon Pinpoint authenticates with APNs using your signing key or your TLS certificate. Amazon Pinpoint uses this default for every APNs push notification that you send using the console. You can override the default when you send a message programmatically using the Amazon Pinpoint API, the AWS CLI, or an AWS SDK. If your default authentication type fails, Amazon Pinpoint does not attempt to use the other authentication type.

2. For Authentication type, choose Key or Certificate to manage the settings for that type.

   • For Key, provide the following information from your Apple developer account at https://developer.apple.com/account/. Amazon Pinpoint requires this information to construct authentication tokens.
     - Key ID – The ID assigned to your signing key. To find this value, choose Certificates, IDs & Profiles, and choose your key in the Keys section.
     - Bundle identifier – The ID assigned to your iOS app. To find this value, choose Certificates, IDs & Profiles, choose App IDs in the Identifiers section, and choose your app.
     - Team ID – The ID assigned to your Apple developer account team. This value is provided on the Membership page.
     - Authentication key – The .p8 file that you download from your Apple developer account when you create an authentication key. Apple allows you to download your authentication key only once.
   
   • For Certificate, provide the following information:
     - SSL certificate – The .p12 file for your TLS certificate. You can export this file from Keychain Access after you download and install your certificate from your Apple developer account.
     - Certificate password – If you assigned a password to your certificate, specify it here.

3. If your certificate supports sending push notifications to the APNs production environment, enable certificate supports production environment. Do not enable this option if your certificate supports only the sandbox environment.

4. When you finish, choose Save.

Amazon Pinpoint Email Channel

To engage your user segment with an email campaign, enable the email channel in Amazon Pinpoint.

You can create an Amazon Pinpoint project with email support (p. 17) by creating a project in AWS Mobile Hub and adding the Messaging & Analytics feature. You can also enable the email channel in an existing project (p. 21) by using the Settings page in the Amazon Pinpoint console. Before you send email with Amazon Pinpoint, you must verify that you own the from address or the email domain.
When you first enable the email channel, your AWS account has access only to the email sandbox. With sandbox access, you can send 200 emails per 24-hour period at a maximum rate of one email per second. You can only send emails to addresses you verify. To increase your sending limits and to send email to unverified email addresses, see Requesting Production Access for Email (p. 20).

You can monitor your email activity (p. 20) by viewing analytics in the Amazon Pinpoint console or by streaming email events to Kinesis.

As your email needs change, you can manage your email channel by updating your email address or domain (p. 21), or requesting a sending limits increase (p. 22).

Topics
- Setting up the Amazon Pinpoint Email Channel (p. 17)
- Monitoring Email Activity with Amazon Pinpoint (p. 20)
- Managing the Amazon Pinpoint Email Channel (p. 21)

Setting up the Amazon Pinpoint Email Channel

To set up the Amazon Pinpoint email channel, you create a project in AWS Mobile Hub (p. 17), enable the email channel for that project, and verify your email address or domain.

When you enable the email channel for the first time, Amazon Pinpoint does not immediately provide production access for email messaging. Instead, your AWS account has access only to the email sandbox, which imposes restrictions on your email traffic. To gain production access, submit a sending limit increase request (p. 20) through AWS Support.

Topics
- Creating an Amazon Pinpoint Project with Email Support (p. 17)
- Verifying an Email Identity (p. 18)
- Requesting Production Access for Email (p. 20)

Creating an Amazon Pinpoint Project with Email Support

To send email messages with Amazon Pinpoint, you must create an Amazon Pinpoint project, and then enable the email channel in that project. There are two ways to create an Amazon Pinpoint project: by using the AWS Mobile Hub console, or by using the Amazon Pinpoint API.

Topics in this section
- Create a New Project by Using the Console (p. 17)
- Create a New Project by Using the Amazon Pinpoint API (p. 18)

Create a New Project by Using the Console

If your project is based on a mobile app, you can create a project by using the Mobile Hub console. By creating a project in the Mobile Hub console, you gain access to the features of Mobile Hub, such as user sign-in and cloud-based data storage. When you create a project by using the following procedure, your project automatically appears in the Amazon Pinpoint console.

To create a Mobile Hub project by using the console
1. Open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose Create a project in Mobile Hub.
3. For Enter a name for your Mobile Hub project, type a name, and then choose Create project.
4. Under **What engagement features do you want to enable**, choose **Messaging**.
5. Under **What messaging channels do you want to enable**, choose **Email**.
6. Under **Do you want to enable email messaging**, choose **Enable**.
7. Verify an identity by completing the procedures in **Verifying an Email Identity (p. 18)**.

Create a New Project by Using the Amazon Pinpoint API

You can also create a project by using the Amazon Pinpoint API. The steps in this section show you how to interact with the API by using the AWS CLI. These steps assume that you've configured the AWS CLI to interact with your AWS account. For more information about installing and configuring the AWS CLI, see the [AWS Command Line Interface User Guide](https://docs.aws.amazon.com/cli/latest/userguide/index.html).

**To create a project by using the AWS CLI**

1. At the command line, type the following command to create a new project:

   ```bash
   aws pinpoint create-app --create-application-request Name="My Email Project"
   ```

   Replace *My Email Project* in this command with a name for the project.
2. Verify an identity by completing the procedures in **Verifying an Email Identity (p. 18)**.

Verifying an Email Identity

In Amazon Pinpoint, an **identity** is an email address or domain that you use to send email. Before you can send email using Amazon Pinpoint, you must verify each identity that you'll use as a "From", "Source", "Sender", or "Return-Path" address to prove that you own it. If your account is still in the Amazon Pinpoint sandbox, you also need to verify the identities that you plan to send emails to.

Before you verify an identity, you must first create a project. For information about creating projects, see **Creating an Amazon Pinpoint Project with Email Support (p. 17)**.

**Topics in this section**

- Verifying an Email Address (p. 18)
- Verifying a Domain (p. 19)

Verifying an Email Address

You can verify an email address by using the Amazon Pinpoint console.

**To verify an email address**

1. Open the Amazon Pinpoint console at [https://console.aws.amazon.com/pinpoint/](https://console.aws.amazon.com/pinpoint/).
2. On the **Projects** page, choose the project that you want to verify the identity in.
   
   **Note**
   If you created the project in Mobile Hub, it appears in Amazon Pinpoint in lowercase letters, with all spaces removed, and with ".MobileHub" added to the end of the name. For example, if you created a project in Mobile Hub and named it "My New Project", it would appear in Amazon Pinpoint as "mynewproject_MobileHub". If you create a project by using the API, the name isn't changed.
3. Choose **Settings**.
4. On the **Channels** tab, under **Choose channels to enable**, choose **Email**.
5. Select the check box next to **Enable email channel**.
6. Under To use email messaging provide either an email address or email domain to start verifying your credentials, choose Email address.

7. For Email address, type the email address that you want to verify, and then choose Verify.

   **Note**
   The email address you specify must be one that you have access to, and that is able to receive email.

8. Check the inbox of the address that you specified for a message from no-reply-aws@amazon.com. Open the message, and then click the link to verify your email address.

When you verify email addresses, consider the following:

- The local part of the email address (the part that comes before the @ sign) is case sensitive. If you verify user@example.com, you can't send from USER@example.com unless you verify that address as well.

- Domain names are case insensitive. If you verify user@example.com, you can also send from user@EXAMPLE.com.

- You can verify up to 10,000 identities (domains and email addresses, in any combination) per AWS account.

- You can apply labels to verified email addresses by adding a plus sign (+) and a string of text after the local part of the address, and before the @ sign. For example, to add label1 to the address user@example.com, use the modified address user+label1@example.com.

   **Note**
   When you verify an unlabeled address, you are verifying all addresses that could be formed by adding a label to the address. However, if you verify a labeled address, you can't use other labels with that address.

**Verifying a Domain**

When you verify a domain, you're verifying all email addresses that are associated with that domain. Therefore, you don't need to verify email addresses from that domain individually. For example, if you verify the domain example.com, you can send email from user1@example.com, user2@example.com, or any other address in the example.com domain.

Before you can use Amazon Pinpoint to send emails from a domain, you must verify the domain to confirm that you own it, and to prevent others from using it.

   **Note**
   In order to complete the verification process, you must be able to modify the DNS settings for the domain. For more information about changing the DNS settings for your domain, see your hosting provider's documentation.

**To verify a domain**

1. Open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.

2. On the Projects page, choose the project that you want to verify the identity in.

   **Note**
   If you created the project in Mobile Hub, it appears in Amazon Pinpoint in lowercase letters, with all spaces removed, and with "_MobileHub" added to the end of the name. For example, if you created a project in Mobile Hub and named it “My New Project”, it would appear in Amazon Pinpoint as “mynewproject_MobileHub”. If you create a project by using the API, the name isn't changed.
Choose **Settings**.

4. On the **Channels** tab, under **Choose channels to enable**, choose **Email**.

5. Select the check box next to **Enable email channel**.

6. Under **To use email messaging provide either an email address or email domain to start verifying your credentials**, choose **Email domain**.

7. For **Email domain**, type the domain that you want to verify, and then choose **Verify**. Make a note of the TXT record values that appear on the **Email domain verification** pop-up.

8. Open the DNS configuration page for your email domain, and then add a new TXT record. In the new TXT record, paste the **Name** and **Value** that you received in the previous step.

   **Note**
   
   If your DNS provider doesn't allow DNS record names to contain underscores, you can omit `_amazonses` from the **Name**.
   
   Some DNS providers automatically add the domain name to the end of each DNS record name. To avoid duplication of the domain name, add a period to the end of the domain name in the DNS record. This step indicates to the provider that the domain name is fully qualified.

   Amazon Pinpoint automatically detects the TXT record within 72 hours.

When verifying your domain, consider the following:

- You can send from any subdomain of the verified domain without specifically verifying the subdomain. For example, if you verify `example.com`, you don't need to verify `a.example.com` or `a.b.example.com`. As specified in RFC 1034, each DNS label can have up to 63 characters, and the whole domain name must not exceed a total length of 255 characters.

- You can verify up to 10,000 identities (domains and email addresses, in any combination) per AWS account.

### Requesting Production Access for Email

We use a sandbox environment to help protect our customers from fraud and abuse. The sandbox environment also helps you establish your sender reputation with ISPs and email recipients. New Amazon Pinpoint email user accounts are placed in the sandbox environment. While your account is in the sandbox, you have full access to Amazon Pinpoint email sending methods, with the following restrictions:

- You can only send email from verified addresses and domains.
- You can only send email to addresses that you have verified, or to addresses associated with the mailbox simulator.
- You can send a maximum of 200 messages per 24-hour period.
- You can send a maximum of one message per second.

To remove these restrictions, see [Opening a Sending Limits Increase Case](p. 23).

### Monitoring Email Activity with Amazon Pinpoint

For emails that you send as part of a campaign, Amazon Pinpoint provides options for monitoring your email activity.

**Note**

To monitor email activity, you must use a campaign. You cannot monitor email activity outside of a campaign.
Streaming Email Event Data

To monitor data, such as successful and failed email deliveries, configure Amazon Pinpoint to stream email event data to Amazon Kinesis Data Streams or Amazon Kinesis Data Firehose. Then, you can use the Kinesis platform to analyze this email data. For more information, see Streaming Amazon Pinpoint Events to Kinesis (p. 103).

For examples of the event data that Amazon Pinpoint streams to Kinesis, see Event Data in the Amazon Pinpoint Developer Guide.

Amazon Pinpoint Analytics

On the Analytics page in the Amazon Pinpoint console, you can view metrics for the number of active targetable users that you can engage with the email channel.

Managing the Amazon Pinpoint Email Channel

You have the following options for managing your email channel with Amazon Pinpoint:

- To enable the email channel for an existing project, or to update your email address or domain, you can use the Amazon Pinpoint console.
- To increase your email sending limits, you can open a Sending Limits Increase case with AWS Support.

Topics

- Updating Email Settings (p. 21)
- Managing Email Sending Limits (p. 22)

Updating Email Settings

Use the Amazon Pinpoint console to update the email settings for your project. You can enable the email channel for an existing project, or you can update your email address or domain.

To set up a new project with email support, see Creating an Amazon Pinpoint Project with Email Support (p. 17).

To update your email settings

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose the project for which you want to update email settings.
3. In the navigation menu, choose Settings.
4. On the Settings page, choose Channels, and then choose Email.
5. If you haven't already, choose Enable email channel.
6. Choose the email identity that you want to add or update: Email address or Email domain.
7. Provide your email address or domain, and choose Verify. Then, follow the instructions displayed by the console.

If you verify an email address, Amazon Pinpoint sends a verification email to the address that you provide. Follow the instructions in the email to complete the verification process.

If you verify an email domain, the console displays a TXT record that you must add to the domain's DNS settings.
Managing Email Sending Limits

To regulate the number of email messages that you can send and the rate at which you can send them, your AWS account has sending limits. Sending limits benefit all Amazon Pinpoint users because they help to maintain the trusted relationship between Amazon Pinpoint and Internet service providers (ISPs). Sending limits help you gradually ramp up your sending activity. They decrease the likelihood that ISPs will block your emails because of sudden, unexpected spikes in your email sending volume or rate.

The following are Amazon Pinpoint sending limits:

### Sending Quota

The maximum number of emails that you can send in a 24-hour period. The sending quota reflects a rolling time period. Every time you try to send an email, Amazon Pinpoint checks how many emails you sent in the previous 24 hours. If the total number of emails that you have sent is less than your quota, your send request is accepted and your email is sent. If you have already sent your full quota, your send request is rejected with a throttling exception. For example, if your sending quota is 50,000, and you sent 15,000 emails in the previous 24 hours, then you can send another 35,000 emails right away. If you have already sent 50,000 emails in the previous 24 hours, you cannot send more emails until some of the previous sending rolls out of its 24-hour window.

### Maximum Send Rate

The maximum number of emails that Amazon Pinpoint can accept from your account per second. You can exceed this limit for short bursts, but not for a sustained period of time.

**Note**
The rate at which Amazon Pinpoint accepts your messages might be less than the maximum send rate.

When your account is in the Amazon Pinpoint sandbox, your sending quota is 200 messages per 24-hour period and your maximum sending rate is one message per second. To increase your sending limits, submit an Amazon Pinpoint Sending Limits Increase case. For more information, see Requesting Production Access for Email (p. 20). After your account moves out of the sandbox and you start sending emails, you can increase your sending limits further by submitting another Amazon Pinpoint Sending Limits Increase case.

### Increasing Your Sending Limits

When your account is out of the sandbox, your sending limits increase if you are sending high-quality content and we detect that your utilization is approaching your current limits. Often, the system automatically increases your quota before you need it, and no further action is needed.

If your existing quota is not adequate for your needs and the system did not automatically increase your quota, you can open an Amazon Pinpoint Sending Limits Increase case in AWS Support Center.

**Important**

- Plan ahead. Be aware of your sending limits and try to stay within them. If you anticipate needing a higher quota than the system allocated, open an Amazon Pinpoint Sending Limits Increase case well before the date that you need the higher quota.
- If you anticipate needing to send more than one million emails per day, you must open an Amazon Pinpoint Sending Limits Increase case.
For Amazon Pinpoint to increase your quota, use the following guidelines:

- **Send high-quality content** – Send content that recipients want and expect.
- **Send real production content** – Send your actual production email. This enables Amazon Pinpoint to accurately evaluate your sending patterns, and verify that you are sending high-quality content.
- **Send near your current quota** – If your volume stays close to your quota without exceeding it, Amazon Pinpoint detects this usage pattern and can automatically increase your quota.
- **Have low bounce and complaint rates** – Try to minimize the numbers of bounces and complaints. High numbers of bounces and complaints can adversely affect your sending limits.

  **Important**
  Test emails that you send to your own email addresses may adversely affect your bounce and complaint metrics, or appear as low-quality content to our filters. Whenever possible, use the Amazon Simple Email Service (Amazon SES) mailbox simulator to test your system. Emails that are sent to the mailbox simulator do not count toward your sending metrics or your bounce and complaint rates. For more information, see Testing Amazon SES Email Sending.

**Opening a Sending Limits Increase Case**

To apply for higher sending limits for Amazon Pinpoint, open a case in AWS Support Center by using the following instructions.

**To request a sending limit increase**

1. In your web browser, go to AWS Support Center. If you are not already signed in to the AWS Management Console, type your user name and password when prompted.
2. Choose **Create Case**.
3. Complete the sending limit increase request by providing the following information:

- **Regarding** – Choose **Service Limit Increase**.
- **For Limit Type** – Choose **Pinpoint**.
- **Region** – Select the AWS Region for which you are requesting a sending limit increase. Your sending limits are separate for each AWS Region. For supported regions, see **AWS Regions and Endpoints** in the **AWS General Reference**.
- **Limit** – Choose one of the following options:
  - Choose **Desired Daily Sending Quota** if you want to increase the number of messages you can send per day.
  - Choose **Desired Maximum Send Rate** if you want to increase the number of messages you can send per second.
- **New limit value** – Enter the amount you are requesting.

  **Note**
  Only request the amount you think you'll need. We cannot guarantee that you will receive the amount you request. The larger your request, the more justification you need to provide to have your request granted.

- **Mail type** – Choose the option that best represents your use case.
- **Website URL** – Type the URL of your website.

  **Note**
  You are not required to provide a website URL. However, providing a website URL helps us evaluate your request.

- **My email-sending complies with the AWS Service Terms and AWS Acceptable Use Policy (AUP)** – Select Yes or No.
- **I only send to recipients who have specifically requested my mail** – Select Yes or No.
- **I have a process to handle bounces and complaints** – Select Yes or No.
• **Use Case Description** – Describe how you plan to send email using Amazon Pinpoint in as much detail as possible. For example, describe the type of emails you are sending and how email sending fits into your business. The more information you provide that indicates that you send high-quality messages to recipients who want and expect them, the more likely we are to approve your request.

• For **Support Language**, choose the language in which you want to communicate with the AWS Support team.

• For **Contact method**, choose Web.

4. When you finish, choose **Submit**.

### Checking the Status of Your Request

After you submit your request, we review your case. Allow one full business day for processing.

**To check the status of your sending limit increase request**

1. In your web browser, go to AWS Support Center. If you are not already signed in to the AWS Management Console, type your user name and password when prompted.

2. In the navigation panel on the left side of the screen, choose **Dashboard**.

3. Under **Recent Cases**, choose your sending limit increase request case.

4. Review the messages in the **Correspondence** section. The messages in this section tell you if your request was accepted or rejected. If your request was accepted, the message specifies your daily and per-second sending limits.

If your account is currently in the email sandbox, and if you are granted a sending limit increase, your account is automatically taken out of the sandbox. After your account is out of the sandbox, you can send email to non-verified addresses. However, you must still verify your sending addresses and domains.

Over time, we will gradually increase your sending limits. If your needs exceed the gradual increase, you can open another Amazon Pinpoint Sending Limits Increase request.

### Amazon Pinpoint SMS Channel

You can use the SMS channel in Amazon Pinpoint to send SMS messages (text messages) to your customers' mobile devices. Amazon Pinpoint can send SMS messages to recipients in over 200 countries and regions (p. 44). In some countries and regions, you can also receive messages from your customers by using the two-way SMS feature.

To send text messages using Amazon Pinpoint, you have to enable the SMS channel in your project (p. 27). Depending on how you use Amazon Pinpoint to send SMS messages, you might also need to initiate a request with AWS Support (p. 28) to request that certain SMS options are enabled or modified for your account. For example, you can request an increase to your SMS spending limit, or request a short code to use when sending and receiving messages.

To receive text messages using Amazon Pinpoint, you should first obtain a dedicated short code (p. 31) or long code (p. 34). When you have a dedicated number, you can enable two-way SMS for it (p. 43). Finally, you can specify the messages that Amazon Pinpoint sends to customers when it receives incoming messages (p. 105).

In the **Account Settings** section of the Amazon Pinpoint console (p. 105), you can manage SMS channel settings for your use case and budget. For example, you can set your monthly SMS spending limit, or change your default message type.
Note
When you configure SMS channel settings in Amazon Pinpoint, your changes apply to other AWS services that send SMS messages, such as Amazon SNS.

Topics
- SMS Limits and Restrictions in Amazon Pinpoint (p. 25)
- Setting up the Amazon Pinpoint SMS Channel (p. 27)
- Requesting Support for SMS Messaging with Amazon Pinpoint (p. 28)
- Monitoring SMS Activity with Amazon Pinpoint (p. 38)
- Managing the Amazon Pinpoint SMS Channel (p. 40)
- Originating Identities for SMS Messages (p. 40)
- Using Two-Way SMS Messaging in Amazon Pinpoint (p. 43)
- Supported Countries and Regions (p. 44)
- SMS Best Practices (p. 52)
- Validating Phone Numbers with Amazon Pinpoint (p. 55)

SMS Limits and Restrictions in Amazon Pinpoint

The SMS protocol is subject to several restrictions and limitations. For example, there are technical limitations that limit the length of each SMS message. There are also restrictions on the type of content that you can send using SMS. This topic discusses several of these limitations.

When you send SMS messages using Amazon Pinpoint, you should consider these limits and restrictions. For best results, you should also implement the techniques discussed in SMS Best Practices (p. 52).

Character Limits

A single SMS message can contain up to 140 bytes of information. The number of characters you can include in a single SMS message depends on the type of characters the message contains.

If your message only uses characters in the GSM 03.38 character set (p. 25), also known as the GSM 7-bit alphabet, it can contain up to 160 characters. If your message contains characters outside the GSM 03.38 character set, it can have up to 70 characters. When you send an SMS message, Amazon Pinpoint automatically determines the most efficient encoding to use.

When a message contains more than the maximum number of characters, Amazon Pinpoint automatically splits the message. When Amazon Pinpoint splits a message into multiple messages, each message contains some additional information about the part of the message that came before it. When the recipient’s device receives messages separated in this way, it uses this additional information to join the incoming messages into one message. As a result of adding this data, when a long message is split into several messages, the maximum number of characters in each message is reduced to 153 (for messages that only contain GSM 03.38 characters) or 67 (for messages that contain other characters).

GSM 03.38 Character Set

The following table lists all of the characters that are present in the GSM 03.38 character set. If you send a message that only includes the characters shown in the following table, then the message can contain up to 160 characters.

<table>
<thead>
<tr>
<th>GSM 03.38 Standard Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
</tr>
<tr>
<td>N</td>
</tr>
</tbody>
</table>
The GSM 03.38 character set includes several symbols in addition to those shown in the preceding table. However, each of these characters is counted as two characters because it also includes an invisible escape character:

- ^
- {  
- }
- [
- ]
- ~
- |  
- €

Finally, the GSM 03.38 character set also includes the following non-printed characters:

- A space character.
- A line feed control, which signifies the end of one line of text and the beginning of another.
- A carriage return control, which moves to the beginning of a line of text (usually following a line feed character).
- An escape control, which is automatically added to the characters in the preceding list.

**Restrictions for Specific Countries or Regions**

Amazon Pinpoint is currently unable to send SMS messages to a small number of countries, including Cuba, Iran, North Korea, Syria, and Sudan. For a complete list of countries and regions that you can send SMS messages to, see Supported Countries and Regions (p. 44).

Most countries and regions place restrictions on the type of content that you can send using SMS. These restrictions vary, but the following types of content are restricted in most countries or regions:

- Pornographic content
- Content that is profane or hateful
- Content that depicts or endorses violence
- Content that endorses illegal drugs
In many countries and regions, if a customer receives restricted content and complains to a mobile carrier or regulatory agency, the sender might be subject to fines and penalties. Governments of a few countries and regions actively filter all incoming messages to remove content that they deem offensive or inappropriate. Always familiarize yourself with the laws and regulations about sending commercial SMS messages for the countries and regions where your customers are located.

**Originating Numbers**

In Amazon Pinpoint, an **originating number** or **originating ID** is the phone number or sender ID that appears on customers' devices when they receive messages from you. You can use Amazon Pinpoint to send SMS messages from the following types of originating IDs: short codes, long codes, and sender IDs. The appropriate type of originating ID to use depends on the rules related to sending commercial SMS messages in the countries and regions where your customers are located. For more information about originating IDs, see **Originating Identities for SMS Messages** (p. 40).

Each country or region has different rules related to the originating number or ID that commercial senders use when sending SMS messages. For example, in the United States and Canada, application-to-person (A2P) messages must be sent using a short code. In India, A2P messages must be sent using a six-digit sender ID that's preregistered with mobile carriers.

**Setting up the Amazon Pinpoint SMS Channel**

To send SMS messages with Amazon Pinpoint, you need an Amazon Pinpoint project in which the SMS channel is enabled. If your project is based on a mobile app, create it by using AWS Mobile Hub. Otherwise, create your project by using the AWS Command Line Interface (AWS CLI).

You can also enable the SMS channel for an existing project by using the **Settings** page in the Amazon Pinpoint console. For more information, see **Managing the Amazon Pinpoint SMS Channel** (p. 40).

**Creating an SMS Project with AWS Mobile Hub**

You can enable SMS messaging for a mobile app by creating a project with AWS Mobile Hub. In the Mobile Hub console, create a project, and add the **Messaging & Analytics** feature. Then, enable the SMS channel as part of that feature. After you create a project in Mobile Hub, the project becomes available in Amazon Pinpoint.

For more information, see the following topics in the **AWS Mobile Developer Guide**:

- To create a project in Mobile Hub, see [Get Started](#).
- After you create a project, to enable SMS messaging, see [Add Messaging to Your Mobile App with Amazon Pinpoint](#).

**Creating an SMS Project with the AWS CLI**

You can create an Amazon Pinpoint project that's enabled for SMS messaging by using the [AWS CLI](#). The AWS CLI requires at least Python 2 version 2.6.5 or later, or Python 3 version 3.3 or later. For more information about installing and configuring the AWS CLI, see [Installing the AWS Command Line Interface](#) in the **AWS Command Line Interface User Guide**.

To create a project that's enabled for SMS, use the `create-app` and `update-sms-channel` commands, as shown by the following examples.

**Example create-app command**

Use the `create-app` command to create an Amazon Pinpoint project:

```bash
aws pinpoint create-app --create-application-request Name="My SMS Project"
```
The following response is displayed:

```json
{
  "ApplicationResponse": {
    "Id": "1a2b3c4d5e6f7g8h9i0j1k2l3m4n5o6",
    "Name": "My SMS Project"
  }
}
```

Note the ID that's provided in the response because you'll use it when you enable the SMS channel.

**Example update-sms-channel command**

Use the `update-sms-channel` command to enable the SMS channel for a project:

```bash
$ aws pinpoint update-sms-channel --application-id application-id --sms-channel-request Enabled=true
```

The following response is displayed:

```json
{
  "SMSChannelResponse": {
    "ApplicationId": "1a2b3c4d5e6f7g8h9i0j1k2l3m4n5o6",
    "CreationDate": "2018-02-20T22:15:05.025Z",
    "Enabled": true,
    "Id": "sms",
    "IsArchived": false,
    "LastModifiedDate": "2018-02-20T22:15:05.025Z",
    "Platform": "SMS",
    "Version": 1
  }
}
```

After you create a project, it's available in the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.

**Next Steps**

You've created a project that's enabled for SMS messaging. Now you can use Amazon Pinpoint to send SMS messages.

To engage an audience segment with an SMS campaign, see Amazon Pinpoint Campaigns (p. 68).

To send an SMS message directly to a limited audience without creating a campaign, see Direct Messages with Amazon Pinpoint (p. 83).

Some SMS options, such as dedicated origination numbers or sender IDs, are unavailable until you contact AWS Support. For more information, see Requesting Support for SMS Messaging with Amazon Pinpoint (p. 28).

**Requesting Support for SMS Messaging with Amazon Pinpoint**

Certain SMS options with Amazon Pinpoint are unavailable until you contact AWS Support. Open a case in the AWS Support Center to request any of the following:

- An increase to your monthly SMS spend threshold
By default, the monthly spend threshold is $1.00 (USD). Your spend threshold determines the volume of messages that you can send with Amazon Pinpoint. Request a spend threshold that meets the expected monthly message volume for your SMS use case.

- **A dedicated number (short code or long code)**

Your dedicated origination number is assigned to your AWS account, and it's available exclusively to you. If you don't have a dedicated number, Amazon Pinpoint assigns a number to your messages. This number is shared with other Amazon Pinpoint users, and it varies based upon destination and message type (transactional or promotional). By reserving a short code or long code, you can send your messages with a persistent origination number. This makes it easier for your audience to recognize that your organization is the source of your messages. A dedicated long code or short code is required if you want to enable two-way SMS with Amazon Pinpoint. Long codes are supported only for two-way SMS.

- **A dedicated sender ID**

A *sender ID* is a custom ID that is shown as the sender on the recipient's device. For example, you can use your business brand to make the message source easier to recognize. Support for sender IDs varies by country or region. For more information, see Supported Countries and Regions (p. 44).

When you create your case in the AWS Support Center, include all the information that's required for the type of request you're submitting. Otherwise, AWS Support contacts you to obtain this information before proceeding. By submitting a detailed case, you help ensure that your case is fulfilled without delays. For the details that are required for specific types of SMS requests, see the following topics.

**Topics**
- Requesting Increases to Your Monthly SMS Spend Threshold for Amazon Pinpoint (p. 29)
- Requesting Dedicated Short Codes for SMS Messaging with Amazon Pinpoint (p. 31)
- Requesting Dedicated Long Codes for SMS Messaging with Amazon Pinpoint (p. 34)
- Requesting Sender IDs for SMS Messaging with Amazon Pinpoint (p. 36)

**Requesting Increases to Your Monthly SMS Spend Threshold for Amazon Pinpoint**

Your monthly spend threshold sets how much you can spend each calendar month on SMS messaging when you use Amazon Pinpoint. When Amazon Pinpoint determines that sending an SMS message would incur a cost that exceeds your spend threshold for that month, it stops publishing SMS messages within minutes.

**Important**

Because Amazon Pinpoint is a distributed system, it stops sending SMS messages within a time interval of minutes of the spend limit being exceeded. During that interval, if you continue to send SMS messages, you might incur costs that exceed your limit.

By default, the spend threshold is $1.00 (USD). For information about SMS pricing, see Amazon Pinpoint Pricing.

Typically, AWS Support processes your case within 2 business days. Depending on the spend limit you request and the complexity of your case, AWS Support might require an additional 3–5 days to ensure that your request can be processed.

To request a spend threshold increase, complete the following steps.

**Step 1: Open an Amazon Pinpoint SMS Case**

Open a case with AWS Support by completing the following steps.
1. Sign in to the AWS Management Console, and go to the AWS Support Center.
2. Choose Create case.
3. For Regarding, choose Service Limit Increase.
4. For Limit Type, choose Pinpoint SMS.

**Step 2: Specify Your Request**

Tell AWS Support that you're requesting a spend threshold increase by completing the following steps.

1. For Resource Type, choose General Limits.
2. For Limit, choose Account Spend Threshold Increase.
3. For New limit value, type the maximum amount in USD that you'll spend on SMS messages each calendar month.
4. (Optional) If you want to include multiple requests in this support case, choose Add another request. Then, specify the type of request.

If you include multiple requests, provide the required information for each. For the required information, see the other sections within Requesting Support for SMS Messaging with Amazon Pinpoint (p. 28).

**Step 3: Describe Your SMS Use Case**

Describe how you use SMS messaging by completing the following steps.

1. For Link to site or app which will be sending SMS, identify the website or application where your audience members will opt in to receive your SMS messages.
2. For Type of messages, choose the type of SMS message that you send:
   - **Transactional** – Important informational messages that support customer transactions, such as order confirmations or transaction alerts. Transactional messages must not contain promotional content.
   - **Promotional** – Noncritical messages that promote your business or service, such as special offers or announcements.
   - **One Time Passwords** – Messages that provide passwords to authenticate with your website or application.
3. For Targeted Countries, specify the countries that you send SMS messages to. For more information, see Supported Countries and Regions (p. 44).

If your list of countries exceeds the character limit for this text box, you can instead specify your countries in the Use Case Description box.

4. For Use Case Description, provide the following details:
   - The website or app of the company or service that's sending SMS messages.
   - The service that's provided by your website or app, and how your SMS messages contribute to that service.
   - How users sign up to voluntarily receive your SMS messages on your website, app, or other location.

If your requested spend threshold (the value you specified for New limit value) exceeds 10,000 USD, provide the following additional details for each country that you're messaging:
   - Whether you're using a sender ID or short code. If you're using a sender ID, provide:
     - The sender ID.
• Whether the sender ID is registered with wireless carriers in the country.
• The maximum expected transactions-per-second (TPS) for your messaging.
• The average message size.
• The template for the messages that you send to the country.
• (Optional) Character encoding needs, if any.

5. When you finish, choose Submit.

Step 4: Update Your SMS Settings in the Amazon Pinpoint Console

After AWS notifies you that your monthly spend threshold is increased, complete the following steps.

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose Account settings.
3. Under General, for Account spending limit, type the maximum amount, in USD, that you want to spend on SMS messages each calendar month. You can specify a value that's less than or equal to your total monthly spend threshold. By setting a lower value, you can control spending while retaining the capacity to scale up as needed.
4. Choose Save.

Requesting Dedicated Short Codes for SMS Messaging with Amazon Pinpoint

A short code is a five-digit or six-digit number that's meant for high-volume SMS messaging. Short codes are often used for application-to-person (A2P) messaging, two-factor authentication (2FA), and marketing.

To use short codes in multiple countries, request a separate short code for each country. You can use a short code only to message the same country in which it was approved by wireless carriers.

For information about short code pricing, see Amazon Pinpoint Pricing.

Important
If you're new to SMS messaging with Amazon Pinpoint, request a monthly SMS spend threshold that meets the expected demands of your SMS use case. By default, your monthly spend threshold is $1.00 USD. You can request to increase your spend threshold in the same support case that includes your request for a short code. Or, you can use a separate case. For more information, see Requesting Increases to Your Monthly SMS Spend Threshold for Amazon Pinpoint (p. 29).

After receiving your request, AWS works with the wireless carriers to provision your short code on your behalf. This provisioning process typically takes 8–12 weeks to complete, but some carriers may require additional time to complete the process.

To request a dedicated short code, complete the following steps.

Step 1: Open an Amazon Pinpoint SMS Case

Open a case with AWS Support by completing the following steps.

1. Sign in to the AWS Management Console, and go to the AWS Support Center.
2. Choose Create case.
3. For Regarding, choose Service Limit Increase.
4. For Limit Type, choose Pinpoint SMS.
Step 2: Specify Your Request

Tell AWS Support that you're requesting a dedicated short code by completing the following steps.

1. For **Resource Type**, choose **Dedicated SMS Short Codes**.
2. For **Limit**, choose the type of message that you'll send with your short code:
   - **One-time Passwords/Two-Factor Authentication** – Messages that provide passwords to authenticate with your website or application.
   - **Promotional/Marketing** – Noncritical messages that promote your business or service, such as special offers or announcements.
   - **Transactional** – Important informational messages that support customer transactions, such as order confirmations or transaction alerts. Transactional messages must not contain promotional content.
3. For **New limit value**, specify the number of short codes that you're requesting. Typically, this value is 1.
4. (Optional) If you want to include multiple requests in this support case, choose **Add another request**. Then, specify the type of request.

If you include multiple requests, provide the required information for each. For the required information, see the other sections within Requesting Support for SMS Messaging with Amazon Pinpoint (p. 28).

Step 3: Describe Your SMS Use Case

Describe how you'll use your dedicated short code by completing the following steps.

1. For **Link to site or app which will be sending SMS**, identify the website or application where your audience members will opt in to receive your SMS messages.
2. For **Type of messages**, choose the type of message that you'll send using your short code: **Transactional**, **Promotional**, or **One Time Passwords**.
3. For **Targeted Countries**, specify the country that you'll send SMS messages to with your short code.
4. For **Use Case Description**, provide the following details, which AWS requires to register your short code with wireless carriers:

   **Company information:**
   - Company name.
   - Company mailing address.
   - Name and phone number for the primary contact for your request.
   - Email address and toll-free number for support at your company.
   - Company tax ID.
   - Name of your product or service.

   **User sign-up process:**
   - Company website, or the website that your customers will sign up on to receive messages from your short code.
   - How users will sign up to receive messages from your short code. Specify one or more of the following options:
     - **Text messages**.
     - **Website**.
• **Mobile app.**
• **Other.** If other, explain.

The text for the option to sign up for messages on your website, app, or elsewhere.

The sequence of messages that you'll use for double opt-in. Provide:

1. The SMS message that you'll send when a user signs up. This message asks for the user's consent for recurring messages. For example:

   *ExampleCorp: Reply YES to receive account transaction alerts. Msg&data rates may apply.*

2. The opt-in response that you expect from the user. This is typically a keyword, such as **YES**.

3. The confirmation message that you'll send in response. For example:

   *You are now registered for account alerts from ExampleCorp. Msg&data rates may apply. Txt STOP to cancel or HELP for info.*

**The purpose of your messages:**

• The purpose of the messages that you'll send with your short code. Specify one of the following options:
  
  • **Promotions and marketing.**
  • **Location-based services.**
  • **Notifications.**
  • **Information on demand.**
  • **Group chat.**
  • **Two-factor authentication (2FA).**
  • **Polling and surveys.**
  • **Sweepstakes or contests.**
  • **Other.** If other, explain.

• Whether you'll use your short code for promotional or marketing messages for a business other than your own.

**Message content:**

• The message that you'll send when customers opt in to your messages by sending you a specific keyword. Be careful when you specify this keyword and message—it may take several weeks to change this message. When we create your short code, we register the keyword and message with the mobile phone carriers in the country where you use the short code. Your message may resemble the following example:

   *Welcome to ProductName alerts! Msg&data rates apply. 2 msgs per month. Reply HELP for help, STOP to cancel.*

• The message that you'll send in response to the **HELP** keyword. This message must include customer support contact information. For example:

   *ProductName Alerts: Help at example.com/help or (800) 555-0199. Msg&data rates apply. 2 msgs per month. Reply STOP to cancel.*

• The message that you'll send in response to the **STOP** keyword. This message must confirm that messages are no longer sent to the user. For example:

   *You are unsubscribed from ProductName Alerts. No more messages will be sent. Reply HELP for help or (800) 555-0199.*
Reminder: You are subscribed to account alerts from ExampleCorp. Msg&data rates may apply. Txt STOP to cancel or HELP for info.

- An example of each type of message that you'll send with your short code. Provide at least 3 examples, but if you are sending more than 3 types of messages, provide examples for all of them.

5. When you finish, choose Submit.

Step 4: Update Your SMS Settings in the Amazon Pinpoint Console

After AWS notifies you that your short code is registered with the wireless carriers, complete the following steps.

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose Account settings.
3. Under Number settings, choose the short code that AWS assigned to your account.
4. Under Default keywords, verify that the messages for the HELP and STOP keywords match the values you provided to AWS Support.
5. Under Registered keyword, verify that the opt-in keyword and message match the values you provided to AWS Support.
6. (Optional) If you want to specify additional keyword responses, or if you want to process inbound messages outside of Amazon Pinpoint, configure two-way SMS settings. For more information, see Two-Way SMS Settings (p. 108).
7. When you finish making your changes, choose Save.

Next Steps

You've registered a short code with wireless carriers and reviewed your settings in the Amazon Pinpoint console. Now you can use Amazon Pinpoint to send SMS messages with your short code as the origination number.

To engage an audience segment with an SMS campaign, see Amazon Pinpoint Campaigns (p. 68).

To send an SMS message directly to a limited audience without creating a campaign, see Direct Messages with Amazon Pinpoint (p. 83).

Requesting Dedicated Long Codes for SMS Messaging with Amazon Pinpoint

A long code (also referred to as a long virtual number, or LVN) is a standard 10-digit phone number. Long codes are meant for low-volume, person-to-person communication. For example, in the United States and Canada, sending rates for long codes are restricted to 1 TPS. Sending high-volume traffic to a long code might prompt wireless carriers to block the messages by blacklisting the long code. Long codes are useful for testing your SMS program before you invest in a short code. With Amazon Pinpoint, long codes are supported only for two-way SMS.

You can request up to 5 long codes for each country that you'll send SMS messages to.

Important

If you're new to SMS messaging with Amazon Pinpoint, request a monthly SMS spend threshold that meets the expected demands of your SMS use case. By default, your monthly spend threshold is 1.00 USD. You can request to increase your spend threshold in the same support case that includes your request for a long code. Or, you can submit a separate case. For more information, see Requesting Increases to Your Monthly SMS Spend Threshold for Amazon Pinpoint (p. 29).
After receiving your request, AWS registers your long code in the targeted countries on your behalf. Typically, AWS Support processes your case within 2 business days. Depending on the complexity of your case, AWS Support might require an additional 3–5 days to ensure that your request can be processed.

To request a dedicated long code, complete the following steps.

**Step 1: Open an Amazon Pinpoint SMS Case**

Open a case with AWS Support by completing the following steps.

1. Sign in to the AWS Management Console, and go to the AWS Support Center.
2. Choose **Create case**.
3. For **Regarding**, choose **Service Limit Increase**.
4. For **Limit Type**, choose **Pinpoint SMS**.

**Step 2: Specify Your Request**

Tell AWS Support that you're requesting a dedicated long code by completing the following steps.

1. For **Resource Type**, choose **Dedicated SMS Long Codes**.
2. For **Limit**, choose the type of message that you'll send with your long code:
   - **One-time Passwords/Two-Factor Authentication** – Messages that provide passwords to authenticate with your website or application.
   - **Promotional/Marketing** – Noncritical messages that promote your business or service, such as special offers or announcements.
   - **Transactional** – Important informational messages that support customer transactions, such as order confirmations or transaction alerts. Transactional messages must not contain promotional content.
3. For **New limit value**, specify the number of long codes that you're requesting. Typically, this value is 1. You can request up to 5 long codes for each country in your request.
4. (Optional) If you want to include multiple requests in this support case, choose **Add another request**. Then, specify the type of request.

   If you include multiple requests, provide the required information for each. For the required information, see the other sections in Requesting Support for SMS Messaging with Amazon Pinpoint (p. 28).

**Step 3: Describe Your SMS Use Case**

Describe how you'll use your dedicated long code by completing the following steps.

1. For **Link to site or app which will be sending SMS**, identify the website or application where your audience members will opt in to receive your SMS messages.
2. For **Type of messages**, choose the type of message that you'll send using your long code:
   - **Transactional**, **Promotional**, or **One Time Passwords**.
3. For **Targeted Countries**, specify the countries that you're requesting a long code for. For more information, see Supported Countries and Regions (p. 44).

   If your list of countries exceeds the character limit for this text box, you can instead specify your countries in the **Use Case Description** box.
4. For **Use Case Description**, provide the following details:
   - The AWS Region where you'll use Amazon Pinpoint to send SMS messages with your long code.
Because long codes are supported only for two-way SMS, confirm that you require your long code for two-way SMS purposes.

5. When you finish, choose Submit.

Step 4: Update Your SMS Settings in the Amazon Pinpoint Console

After AWS notifies you that your long code is registered in the targeted countries, complete the following steps.

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose Account settings.
3. Under Number settings, choose the long code that AWS assigned to your account. The console shows the Number settings page for your long code. Under Keywords, the console provides:
   - The keywords HELP and STOP, and their default response messages. You can edit the response messages, but you can't edit the keywords.
   - The default registered keyword and its default response message. You can edit both of these values.
4. In the table that contains the keyword or response that you want to edit, choose Edit, and make your changes.
5. (Optional) If you want to specify additional keyword responses, or if you want to process inbound messages outside of Amazon Pinpoint, configure two-way SMS settings. For more information, see Two-Way SMS Settings (p. 108).
6. When you finish making your changes, choose Save.

Next Steps

You've registered a long code and updated your settings in the Amazon Pinpoint console. Now you can use Amazon Pinpoint to send SMS messages with your long code as the origination number.

To engage an audience segment with an SMS campaign, see Amazon Pinpoint Campaigns (p. 68).

To send an SMS message directly to a limited audience without creating a campaign, see Direct Messages with Amazon Pinpoint (p. 83).

Requesting Sender IDs for SMS Messaging with Amazon Pinpoint

A sender ID is a custom name that's displayed as the message sender on the receiving device. For example, you can use your business brand to make the message source easier to recognize.

Support for sender IDs varies by country or region. For example, messages delivered to U.S. phone numbers don't display the sender ID. For the countries and regions that support sender IDs, see Supported Regions and Countries.

Important

If you're new to SMS messaging with Amazon Pinpoint, request a monthly SMS spend threshold that meets the expected demands of your SMS use case. By default, your monthly spend threshold is 1.00 USD. You can request to increase your spend threshold in the same support case that includes your request for a sender ID. Or, you can use a separate case. For more information, see Requesting Increases to Your Monthly SMS Spend Threshold for Amazon Pinpoint (p. 29).

To request a sender ID, complete the following steps.
Step 1: Open an Amazon Pinpoint SMS Case

Open a case with AWS Support by completing the following steps.

1. Sign in to the AWS Management Console, and go to the AWS Support Center.
2. Choose Create case.
3. For Regarding, choose Service Limit Increase.
4. For Limit Type, choose Pinpoint SMS.

Step 2: Specify Your Request

Tell AWS Support that you’re requesting a sender ID by completing the following steps.

1. For Resource Type, choose General Limits.
2. For Limit, choose SenderID Registration.
3. For New limit value, type the number of sender IDs that you're requesting. Typically, this value is 1.
4. (Optional) If you want to include multiple requests in this support case, choose Add another request. Then, specify the type of request.

If you include multiple requests, provide the required information for each. For the required information, see the other sections in Requesting Support for SMS Messaging with Amazon Pinpoint (p. 28).

Step 3: Describe Your SMS Use Case

Describe how you’ll use your sender ID by completing the following steps.

1. For Link to site or app which will be sending SMS, identify the website or application where your audience members will opt in to receive your SMS messages.
2. For Type of messages, choose the type of message that you’ll send using your sender ID:
   - Transactional – Important informational messages that support customer transactions, such as order confirmations or transaction alerts. Transactional messages must not contain promotional content.
   - Promotional – Noncritical messages that promote your business or service, such as special offers or announcements.
   - One Time Passwords – Messages that provide passwords to authenticate with your website or application.
3. For Targeted Countries, specify the countries where you want to register a sender ID. Support for sender IDs and sender ID registration requirements vary by country. For more information, see Supported Countries and Regions (p. 44).

If your list of countries exceeds the character limit for this text box, you can instead specify the countries in the Use Case Description box.

4. For Use Case Description, provide the following details:
   - The name of your organization (or the organization associated with the sender ID).
   - The sender ID to register. Typically, the sender ID can contain up to 11 alphanumeric characters, including at least one letter and no spaces. These requirements can vary depending on the country you're messaging.
   - How your sender ID relates to the name of your organization, if that relationship isn't clear. For example, if your sender ID is an acronym that includes your organization name when expanded, provide the expanded form.
Step 4: Update Your SMS Settings in the Amazon Pinpoint Console

After AWS notifies you that your sender ID is registered in the targeted countries, complete the following steps.

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose Account settings.
3. Under General, for Default sender ID, type your sender ID.
4. Choose Save.

Next Steps

You've registered a sender ID and updated your settings in the Amazon Pinpoint console. Now you can use Amazon Pinpoint to send SMS messages with your sender ID. SMS recipients in supported countries will see your sender ID as the message sender on their devices.

To engage an audience segment with an SMS campaign, see Amazon Pinpoint Campaigns (p. 68).

To send an SMS message directly to a limited audience without creating a campaign, see Direct Messages with Amazon Pinpoint (p. 83).

Monitoring SMS Activity with Amazon Pinpoint

Amazon Pinpoint provides the following options for monitoring your SMS activity.

Streaming SMS Event Data

To monitor your SMS activity, such as successful and failed message deliveries, you can configure Amazon Pinpoint to stream SMS event data to Amazon Kinesis Data Streams or Amazon Kinesis Data Firehose. Then, you can use the Kinesis platform to analyze your SMS data. For more information, see Streaming Amazon Pinpoint Events to Kinesis (p. 103).

For examples of the event data that Amazon Pinpoint streams to Kinesis, see Event Data in the Amazon Pinpoint Developer Guide.

Amazon Pinpoint Analytics

On the Analytics page in the Amazon Pinpoint console, you can view metrics for the number of active targetable users that you can engage with the SMS channel.

Monitoring SMS Spending Activity with Amazon Pinpoint

This topic contains information about viewing SMS spending metrics in CloudWatch. It also contains procedures for using CloudWatch to set up an alarm that sends you a notification when your monthly SMS spending goes over a certain amount.

View Your Monthly SMS Spending by Using CloudWatch

You can quickly determine how much money you've spent sending SMS messages in the current month by using the Metrics section of the CloudWatch console. CloudWatch retains metrics for 15 months, so you can view real-time data and analyze historical trends.
For more information about viewing metrics in CloudWatch, see Using Amazon CloudWatch Metrics in the Amazon CloudWatch User Guide.

**To view SMS spending metrics in CloudWatch**

2. In the navigation pane, choose **Metrics**.
3. On the **All Metrics** tab, choose **SNS**.
4. Choose **Metrics with no dimensions**.
5. Select **SMSMonthToDateSpendUSD**. The chart updates to display the amount of money that you've spent sending SMS messages in the current month using both Amazon Pinpoint and Amazon SNS.

   **Note**
   
   The **SMSMonthToDateSpendUSD** metric doesn't appear until you send at least one SMS message through Amazon Pinpoint or Amazon SNS.

**Create an SMS Spending Alarm**

In addition to viewing your monthly SMS spending metrics, you can also create alarms in CloudWatch that send you notifications when your SMS spending exceeds a certain amount. You can set up CloudWatch to deliver these notifications to you by sending them to an Amazon SNS topic.

For more information about creating alarms in CloudWatch, see Creating Amazon CloudWatch Alarms in the Amazon CloudWatch User Guide.

**To create an SMS spending alarm in CloudWatch**

1. If you haven't already done so, create an Amazon SNS topic and subscribe an endpoint to it. The endpoint that you subscribe to the topic should be the location where you want to receive spending notifications. For example, if you want to receive spending notifications by email, subscribe your email address to the Amazon SNS topic. If you want to receive spending notifications by text message, subscribe an SMS endpoint to the topic.

   For more information about creating and subscribing to topics, see Getting Started with Amazon Simple Notification Service in the Amazon Simple Notification Service Developer Guide.

2. Open the CloudWatch console at https://console.aws.amazon.com/cloudwatch/.
3. In the navigation pane, under **Alarms**, choose **Billing**.
4. Choose **Create Alarm**.
5. Under **SNS Metrics**, choose **Metrics with no dimensions**, and then select **SMSMonthToDateSpendUSD**. Choose **Next**.

   **Note**
   
   The **SMSMonthToDateSpendUSD** metric doesn't appear until you send at least one SMS message through Amazon Pinpoint or Amazon SNS.

6. Under **Alarm Threshold**, complete the following steps:
   - For **Name**, type a name for the alarm.
   - For **Description**, type a description of the alarm.
   - For **Whenever**, specify the dollar amount (in US Dollars) that should trigger the alarm. Also, specify the number of periods that the spending amount must exceed the threshold in order to trigger the alarm.

7. Under **Additional settings**, for **Treat missing data as**, choose **ignore**.
8. Under **Actions**, make the following selections:
   - For **Whenever this alarm**, choose **State is ALARM**.
• For Send notification to, choose the Amazon SNS topic that the notification should be sent to.

9. Choose Create Alarm.

Managing the Amazon Pinpoint SMS Channel

Use the Amazon Pinpoint console to enable the SMS channel and manage SMS settings, such as your default message type (transactional or promotional) and your monthly spending limit.

To update your SMS settings, use the Account settings page. For more information, see Managing Account Settings in Amazon Pinpoint (p. 105).

Before you can use Amazon Pinpoint to send SMS messages, you must enable the SMS channel for one or more projects. To create a new project with SMS support, see Setting up the Amazon Pinpoint SMS Channel (p. 27). To enable the SMS channel in an existing project, complete the following steps:

To enable the SMS channel for a project

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose the project for which you want to enable the SMS channel.
3. In the navigation menu, choose Settings.
4. On the Settings page, choose Channels, and then choose SMS.
5. Choose Enable SMS channel.
6. Choose Save.

SMS Opt Out

Where required by local laws and regulations (such as in the US and Canada), SMS recipients can use their devices to opt out by replying to the message with any of the following:

• ARRET (French)
• CANCEL
• END
• OPT-OUT
• OPTOUT
• QUIT
• REMOVE
• STOP
• TD
• UNSUBSCRIBE

To opt out, the recipient must reply to the same long code or short code that Amazon Pinpoint used to deliver the message. After opting out, the recipient no longer receives SMS messages from your AWS account.

Originating Identities for SMS Messages

When you send SMS messages using Amazon Pinpoint, you can identify yourself to your recipients in one of three ways: by using a sender ID, by using a long code, or by using a short code. These methods of identifying yourself to your customers are known as originating identities. Each of these types of
originating identities has its own advantages and disadvantages, which are discussed in the following sections.

**Sender IDs**

A sender ID is an alphabetic name that identifies the sender of an SMS message. When you send an SMS message using a sender ID, and the recipient is in an area where sender ID authentication is supported, your sender ID appears on the recipient's device instead of a phone number. A sender ID provides SMS recipients with more information about the sender than a phone number or short code provides.

Sender IDs are supported in several countries and regions around the world. In some places, if you're a business that sends SMS messages to individual customers, you must use a sender ID that's pre-registered with a regulatory agency or industry group. For a complete list of countries and regions that support or require sender IDs, see Supported Countries and Regions (p. 44).

**Advantages**

Sender IDs provide the recipient with more information about the message sender. It's easier to establish your brand identity by using a sender ID than by using a short or long code. There's no additional charge for using a sender ID.

**Disadvantages**

Support and requirements for sender ID authentication aren't consistent across all countries or regions. Several major markets (including Canada, China, and the United States) don't support sender ID. In some areas, you must have your sender IDs pre-approved by a regulatory agency before you can use them.

**Long Codes**

Long codes are phone numbers that use the number format of the country or region where your recipients are located. Long codes are also referred to as long numbers or virtual mobile numbers. For example, in the United States and Canada, long codes contain 11 digits: the number 1 (the country code), a three-digit area code, and a seven-digit phone number.

If you're using the two-way SMS feature to send and receive SMS messages, you can request up to five dedicated long codes per country. For more information about requesting long codes, see Requesting Dedicated Long Codes for SMS Messaging with Amazon Pinpoint (p. 34).

**Advantages**

Dedicated long codes are reserved for use by your Amazon Pinpoint account only—they aren't shared with other users. When you use dedicated long codes, you can specify which long code you want to use when you send each message. If you send multiple messages to the same customer, you can ensure that each message appears to be sent from the same phone number. For this reason, dedicated long codes can be helpful in establishing your brand or identity.

**Disadvantages**

If you send several hundred messages per day from a dedicated long code, mobile carriers might identify your number as one that sends unsolicited messages. If your long code is flagged, your messages might not be delivered to your recipients.

Long codes also have limited throughput. In the United States and Canada, where long codes are most commonly used, you can send a maximum of one message per second. (The maximum sending rates for other countries vary. Contact AWS Support for more information). If you plan to send large volumes of SMS messages, or you plan to send at a rate greater than one message per second, you should purchase a dedicated short code.

Many jurisdictions have restrictions related to using long codes to send Application-to-Person (A2P) SMS messages. An A2P SMS is a message that's sent to a customer's mobile device when that customer
submits his or her mobile number to an application. A2P messages are one-way conversations, such as marketing messages, one-time passwords, and appointment reminders. If you plan to send A2P messages, you should purchase a dedicated short code (if your customers are in the United States or Canada), or use a sender ID (if your recipients are in a country or region where sender IDs are supported).

**Short Codes**

Short codes are numeric sequences that are shorter than a regular phone number. For example, in the United States and Canada, standard phone numbers (long codes) contain 11 digits, while short codes contain five or six digits. There are two types of short codes you can use with Amazon Pinpoint: shared short codes and dedicated short codes.

**Shared Short Codes**

By default, the SMS messages that you send from Amazon Pinpoint are sent from a group of phone numbers (originating numbers) that are shared with other Amazon Pinpoint users. This group of shared originating numbers is called the shared pool.

When you send a message using the shared pool, and your recipients are in the United States or Canada, they see a short code.

**Advantages**

You don’t have to complete any extra steps to use the identities in the shared pool. Additionally, you only pay for the messages you send—there are no extra costs associated with sending messages using the shared pool.

**Disadvantages**

The identities in the shared pool are shared with other Amazon Pinpoint users. You can’t specify which phone number to use when you send messages using the shared pool. If you send several messages to the same recipient, each message might appear to be sent from a different phone number. For this reason, it can be harder to establish your brand and identity when you use the shared pool.

**Dedicated Short Codes**

If you send a large volume of SMS messages to recipients in the United States or Canada, you can purchase a dedicated short code. Unlike the short codes in the shared pool, dedicated short codes are reserved for your exclusive use.

**Advantages**

Using a memorable short code can help build trust. If you need to send sensitive information, such as one-time passwords, it’s a good idea to send it using a short code so that your customer can quickly determine whether a message is actually from you.

If you’re running a new customer acquisition campaign, you can invite potential customers to send a keyword to your short code (for example, “Text ‘FOOTBALL’ to 10987 for football news and information”). Short codes are easier to remember than long codes, and it’s easier for customers to enter short codes into their devices. By reducing the amount of difficulty that customers encounter when they sign up for your marketing programs, you can increase the effectiveness of your campaigns.

Because mobile carriers must approve new short codes before making them active, they are less likely to flag messages sent from short codes as unsolicited.

When you use dedicated short codes to send SMS messages, you can send a higher volume of messages per 24-hour period than you can when you use other types of originating identities. In other words, you have a much higher sending quota. You can also send a much higher volume of messages per second. That is, you have a much higher sending rate.

**Disadvantages**
There are additional costs to acquire short codes, and they can take a long time to implement. For example, in the United States, there's a one-time setup fee of $650.00 (USD) for each short code, plus an additional recurring charge of $995.00 per month for each short code. It can take 8–12 weeks for short codes to become active on all carrier networks.

**Using Two-Way SMS Messaging in Amazon Pinpoint**

Amazon Pinpoint includes support for two-way SMS, which allows you to receive messages from your customers. You can configure Amazon Pinpoint to automatically send responses to your customers based on the content of the messages they send you.

**Note**

Two-way SMS is only available in certain countries and regions. For more information about two-way SMS support by country or region, see Supported Countries and Regions (p. 44).

**Two-Way SMS Use Cases**

Businesses in a wide variety of industries can use two-way SMS to keep their customers informed and engaged.

For example, medical practices can send messages to their patients asking them to confirm their appointments. Patients can respond, indicating whether they're able to keep their appointments. Patients who respond that they can't keep their appointments are sent a list of available times, and can reply to the message to reschedule. This use case can be applied to several other types of businesses, such as restaurants or salons.

Another use case for two-way SMS is the verification of certain real-world actions. For example, banks or credit card providers can send a verification message when they notice unusual charges on a customer’s account. The customer can respond to the message authorizing the charge. When the provider receives the authorization, they can allow the transaction to proceed.

**Configuring Two-Way SMS in Amazon Pinpoint**

You can set up two-way SMS by using the Amazon Pinpoint console. Complete the procedures in this section to enable and set up two-way SMS messaging for your account.

**Prerequisite**

Before you can enable and set up two-way SMS in Amazon Pinpoint, you have to request a dedicated number. If you're testing your two-way SMS program, you can request a long code. However, the laws and regulations of some countries and regions might require you to use a short code when you send messages to your customers and receive messages from them.

For more information about requesting numbers, including dedicated short codes and long codes, see Requesting Support for SMS Messaging with Amazon Pinpoint (p. 28).

**Setting Up Two-Way SMS**

After you receive a dedicated number from AWS Support, you can enable and configure two-way SMS.

**To set up two-way SMS**

1. On the **Account settings** page, under **Number settings**, choose the short code or long code that you want to manage two-way SMS settings for.
2. Choose **Enable 2-way SMS**.
3. Under **Keywords**, you can add or edit keywords and response messages. When your number receives an SMS message that contains one of these keywords, Amazon Pinpoint does the following:
   - Sends the message to your Amazon SNS topic.
• Responds with the keyword response message, if you specified one.

4. Under **Amazon SNS topic**, specify the topic that receives your SMS messages with one of the following options:

• **Automatically create a topic** – Amazon Pinpoint creates a topic in your account.

• **Choose a topic from your account** – Specify the ARN of a topic in your account.

5. Choose **Save**.

### Example of a Two-Way SMS Message Payload

When your number receives an SMS message that begins with a keyword that you define for two-way SMS, Amazon Pinpoint sends a JSON payload to an Amazon SNS topic that you designate. The JSON payload contains the message and related data, as in the following example:

```
{
  "originationNumber": "+1XXX5550100",
  "messageBody": "offers",
  "inboundMessageId": "cae173d2-66b9-564c-8309-21f858e9fb84",
  "messageKeyword": "offers",
  "destinationNumber": "+1XXX5550199"
}
```

The value for `originationNumber` is the number that the message was sent from (that is, your customer's number). The value for `destinationNumber` is the number that the message was sent to (your short code or long code).

### Supported Countries and Regions

You can use Amazon Pinpoint to send SMS messages to the countries and regions listed in the following table. This table also lists the countries and regions that support sender IDs and two-way SMS.

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<td>Supports two-way SMS</td>
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<tr>
<td>Zimbabwe</td>
<td>ZW</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

1. Senders are required to use a sender ID. To request a sender ID from AWS Support, see the section called “Requesting Sender IDs” (p. 36).

2. All carriers in Japan except KDDI support sender ID.

3. Jawwal is the only carrier in the Palestinian Territories that supports alphabetic sender IDs.

**Sender ID Support**

The following table explains which ID is displayed when you send SMS messages to countries or regions where sender ID is supported, compared to those where sender ID isn't supported.

<table>
<thead>
<tr>
<th>If the recipient is located...</th>
<th>And your SMS message...</th>
<th>The message displays...</th>
</tr>
</thead>
<tbody>
<tr>
<td>In a country or region where sender ID is supported</td>
<td>Specifies a sender ID</td>
<td>The sender ID.</td>
</tr>
<tr>
<td></td>
<td>Does not specify a sender ID</td>
<td>• A long code in countries and regions where an alphabetic sender ID is not required.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The word NOTICE in countries and regions where an alphabetic sender ID is required.</td>
</tr>
<tr>
<td>In a country or region where sender ID is not supported</td>
<td>Specifies a sender ID</td>
<td>A long code.</td>
</tr>
</tbody>
</table>
If the recipient is located... | And your SMS message... | The message displays...
---|---|---
Does not specify a sender ID | A long code.

## SMS Best Practices

Mobile phone users tend to have a very low tolerance for unsolicited SMS messages. Response rates for unsolicited SMS campaigns will almost always be low, and therefore the return on your investment will be poor.

Additionally, mobile phone carriers continuously audit bulk SMS senders. They throttle or block messages from numbers that they determine to be sending unsolicited messages.

Sending unsolicited content is also a violation of the AWS Acceptable Use Policy. The Amazon Pinpoint team routinely audits SMS campaigns, and might throttle or block your ability to send messages if it appears that you're sending unsolicited messages.

Finally, in many countries, regions, and jurisdictions, there are severe penalties for sending unsolicited SMS messages. For example, in the United States, the Telephone Consumer Protection Act (TCPA) states that consumers are entitled to $500–$1,500 in damages (paid by the sender) for each unsolicited message that they receive.

This section describes several best practices that might help you improve your customer engagement and avoid costly penalties. However, note that this section doesn't contain legal advice. Always consult an attorney to obtain legal advice.

### Topics
- Comply with Laws and Regulations (p. 52)
- Obtain Permission (p. 53)
- Audit Your Customer Lists (p. 53)
- Keep Records (p. 53)
- Respond Appropriately (p. 54)
- Adjust Your Sending Based on Engagement (p. 54)
- Send at Appropriate Times (p. 54)
- Avoid Cross-Channel Fatigue (p. 54)
- Maintain Independent Lists (p. 55)
- Use Dedicated Short Codes (p. 55)

## Comply with Laws and Regulations

You can face significant fines and penalties if you violate the laws and regulations of the places where your customers reside. For this reason, it's vital to understand the laws related to SMS messaging in each country or region where you do business.

The following list includes links to key laws that apply to SMS communications in major markets around the world.

- **United States**: The Telephone Consumer Protection Act of 1991, also known as TCPA, applies to certain types of SMS messages. For more information, see the [full text of the law (PDF format)](https://www.docusign.com/guides/technology/sms/telecommunications) at the Federal Communication Commission website.
- **United Kingdom**: The Privacy and Electronic Communications (EC Directive) Regulations 2003, also known as PECR, applies to certain types of SMS messages. For more information, see the [What are PECR?](https://www.gov.uk/guidance/the-privacy-and-electronic-communications-regulations-2003) at the website of the UK Information Commissioner's Office.
• **European Union:** The Privacy and Electronic Communications Directive 2002, sometimes known as the ePrivacy Directive, applies to some types of SMS messages. For more information, see the full text of the law at the Europa.eu website.

• **Canada:** The Fighting Internet and Wireless Spam Act, more commonly known as Canada’s Anti-Spam Law or CASL, applies to certain types of SMS messages. For more information, see the full text of the law at the website of the Parliament of Canada.

• **Japan:** The Act on Regulation of Transmission of Specific Electronic Mail may apply to certain types of SMS messages. For more information, see Japan’s Countermeasures Against Spam at the website of the Japanese Ministry of Internal Affairs and Communications.

As a sender, these laws may apply to you even if you don't reside in one of these countries. Some of the laws in this list were originally created to address unsolicited email or telephone calls, but have been interpreted or expanded to apply to SMS messages as well. Other countries and regions may have their own laws related to the transmission of SMS messages. Consult an attorney in each country or region where your customers are located to obtain legal advice.

**Obtain Permission**

Never send messages to customers who haven't explicitly asked to receive them.

If customers can sign up to receive your messages by using an online form, add a CAPTCHA to the form to prevent automated scripts from subscribing people without their knowledge.

When you receive an SMS opt-in request, send the customer a message that asks them to confirm that they want to receive messages from you. Don't send that customer any additional messages until they confirm their subscription. A subscription confirmation message might resemble the following example:

| Text YES to join Example Corp. alerts. 2 msgs/month. Msg & data rates may apply. Reply HELP for help, STOP to cancel. |

Maintain records that include the date, time, and source of each opt-in request and confirmation. This might be useful if a carrier or regulatory agency requests it, and can also help you perform routine audits of your customer list.

Finally, note that transactional SMS messages, such as order confirmations or one-time passwords, typically don't require explicit consent as long as you tell your customers that you're going to send them these messages. However, you should never send marketing messages to customers who only provided you with permission to send them transactional messages.

**Audit Your Customer Lists**

If you send recurring SMS campaigns, audit your customer lists on a regular basis. Auditing your customer lists ensures that the only customers who receive your messages are those who are interested in receiving them.

When you audit your list, send each opted-in customer a message that reminds them that they're subscribed, and provides them with information about unsubscribing. A reminder message might resemble the following example:

| You’re subscribed to Example Corp. alerts. Msg & data rates may apply. Reply HELP for help, STOP to unsubscribe. |

**Keep Records**

Keep records that show when each customer requested to receive SMS messages from you, and which messages you sent to each customer. Many countries and regions around the world require SMS senders...
to maintain these records in a way that can be easily retrieved. Mobile carriers might also request this information from you at any time. The exact information that you have to provide varies by country or region. For more information about record-keeping requirements, review the regulations about commercial SMS messaging in each country or region where your customers are located.

Occasionally, a carrier or regulatory agency asks us to provide proof that a customer opted to receive messages from you. In these situations, AWS Support contacts you with a list of the information that the carrier or agency requires. If you can't provide the necessary information, we may pause your ability to send additional SMS messages.

Respond Appropriately

When a recipient replies to your messages, make sure that you respond with useful information. For example, when a customer responds to one of your messages with the keyword "HELP", send them information about the program that they're subscribed to, the number of messages you'll send each month, and the ways that they can contact you for more information. A HELP response might resemble the following example:

```
HELP: Example Corp. alerts: email help@example.com or call XXX-555-0199. 2 msgs/month. Msg & data rates may apply. Reply STOP to cancel.
```

When a customer replies with the keyword "STOP", let them know that they won't receive any further messages. A STOP response might resemble the following example:

```
STOP: You're unsubscribed from Example Corp. alerts. No more messages will be sent. Reply HELP, email help@example.com, or call XXX-555-0199 for more info.
```

Adjust Your Sending Based on Engagement

Your customers' priorities can change over time. If customers no longer find your messages to be useful, they might opt out of your messages entirely, or even report your messages as unsolicited. For these reasons, it's important that you adjust your sending practices based on customer engagement.

For customers who rarely engage with your messages, you should adjust the frequency of your messages. For example, if you send weekly messages to engaged customers, you could create a separate monthly digest for customers who are less engaged.

Finally, remove customers who are completely unengaged from your customer lists. This step prevents customers from becoming frustrated with your messages. It also saves you money and helps protect your reputation as a sender.

Send at Appropriate Times

Only send messages during normal daytime business hours. If you send messages at dinner time or in the middle of the night, there's a good chance that your customers will unsubscribe from your lists in order to avoid being disturbed. Furthermore, it doesn't make sense to send SMS messages when your customers can't respond to them immediately.

Avoid Cross-Channel Fatigue

In your campaigns, if you use multiple communication channels (such as email, SMS, and push messages), don't send the same message in every channel. When you send the same message at the same time in more than one channel, your customers will probably perceive your sending behavior to be annoying rather than helpful.
Maintain Independent Lists

When customers opt in to a topic, make sure that they only receive messages about that topic. Don't send your customers messages from topics that they haven't opted into.

Use Dedicated Short Codes

If you use short codes, maintain a separate short code for each brand and each type of message. For example, if your company has two brands, use a separate short code for each one. Similarly, if you send both transactional and promotional messages, use a separate short code for each type of message. To learn more about requesting short codes, see Requesting Dedicated Short Codes for SMS Messaging with Amazon Pinpoint (p. 31).

Validating Phone Numbers with Amazon Pinpoint

Before you send an SMS message, you can use Amazon Pinpoint to verify whether the destination phone number is valid. A valid phone number is:

- **Formatted correctly** – The number includes the country code, area code, and subscriber number. For example, a valid US phone number is formatted as +14085550100.
- **Assigned to a mobile phone** – Landline phone numbers are invalid destinations for SMS messages.

If you send an SMS message to an invalid number, the delivery fails. You can verify phone numbers to increase the likelihood that your audience receives your messages. You can improve your phone number records and your message deliverability in use cases such as the following.

**Example Use Cases**

- If your audience members opt in to your SMS program by providing a number on your website, you can check the number at the time of submission. Use your website's backend to verify the number with the Amazon Pinpoint API. The API response states whether the number is invalid—for example, because it's formatted incorrectly or it's a landline number. In such cases, your website can display a message that prompts the user to enter a valid number.
- If you have a database of customer phone numbers, you can verify each number and take action on invalid entries.
- If you intend to send an SMS message but you determine that the destination number is invalid, you can message the recipient through a different channel. For example, you can send an email if you know the recipient's email address.

The response from Amazon Pinpoint also includes data about the number. Amazon Pinpoint obtains this data from wireless carriers. It includes information such as the carrier that the number is registered with and the location where the number was originally registered.

To verify a number, issue an HTTP POST request to the `/v1/phone/number/validate/` URI in the Amazon Pinpoint API. For information about supported methods, parameters, and schemas, see [Phone Number Validate](#) in the Amazon Pinpoint API Reference.

**Example Request with a Valid Phone Number**

The example in this section passes a correctly formatted phone number to the Amazon Pinpoint API.

A phone number is formatted correctly if it includes the country code, area code, and subscriber number. Specifically, the number matches the E.164 format. E.164 is a standard for the phone number structure used for international telecommunication. Phone numbers that follow this format typically have up to 15 digits. They are prefixed with the plus character (+) and the country code.
Example Request

The following request includes the required HTTP headers and a simple JSON body. The body specifies the number to verify with the PhoneNumber parameter:

```
POST /v1/phone/number/verify/ HTTP/1.1
Host: pinpoint.us-east-1.amazonaws.com
Content-Type: application/json
X-Amz-Date: 20180420T162340Z
Authorization: AWS4-HMAC-SHA256 Credential=AKIAIOSFODNN7EXAMPLE/20180420/us-east-1/mobiletargeting/aws4_request, SignedHeaders=content-length;content-type;host;x-amz-date,
Signature=39df573629dd2b83ae1fa2f7eeff4106c0fb4826edf72e9934f03cf771276159
Cache-Control: no-cache

{
  "PhoneNumber": "+14085550100"
}
```

Example Response

If the request succeeds, the response provides data about the number, as in the following example:

```
Access-Control-Allow-Origin:*
Connection: keep-alive
Content-Length: 392
Content-Type: application/json
Date: Fri, 20 Apr 2018 16:23:44 GMT
X-Amzn-Trace-Id: Root=1-5ada140d-84d6b93a13855f08f1857133
x-amz-apigw-id: FpgSDEKqoAMFjjQ=
x-amzn-RequestId: 3015d110-44b7-11e8-8e9f-dd939118442c

{
  "CountryCodeIso2": "US",
  "CountryCodeNumeric": "1",
  "Country": "United States",
  "City": "Anytown",
  "ZipCode": "95037",
  "County": "Santa Clara",
  "Timezone": "America/Los_Angeles",
  "CleansedPhoneNumberNational": "4085550100",
  "CleansedPhoneNumberE164": "+14085550100",
  "Carrier": "AnyCompany",
  "PhoneTypeCode": 0,
  "PhoneType": "MOBILE",
  "OriginalPhoneNumber": "+14085550100",
  "OriginalCountryCodeIso2": "US"
}
```

The response states that the PhoneType is MOBILE. Because the phone number is formatted correctly and assigned to a mobile phone, it's a valid destination for SMS messages.

The PhoneType attribute is useful for determining whether you can send an SMS message to the phone number. Each possible PhoneType value has a corresponding PhoneTypeCode integer:

<table>
<thead>
<tr>
<th>PhoneTypeCode</th>
<th>PhoneType</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>MOBILE</td>
</tr>
<tr>
<td>1</td>
<td>LANDLINE</td>
</tr>
<tr>
<td>2</td>
<td>VOIP</td>
</tr>
<tr>
<td>PhoneTypeCode</td>
<td>PhoneType</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>3</td>
<td>INVALID</td>
</tr>
<tr>
<td>4</td>
<td>OTHER</td>
</tr>
</tbody>
</table>

The other data in the response indicates that the phone number was originally registered in Santa Clara County, California, in the United States.

**Note**

The data provided in the response varies by country or region.

**Example Responses for Invalid Phone Numbers**

A phone number is invalid if it's formatted incorrectly or isn't assigned to a mobile phone.

**Example Response for an Incorrectly Formatted Number**

The following example JSON body includes the US phone number from the previous example, but it omits the country code for the US (1):

```json
{
  "PhoneNumber": "4085550100"
}
```

When Amazon Pinpoint receives this request body, it discerns the country from the first digits in the number, as in the following response:

```json
{
  "CountryCodeIso2": "RO",
  "CountryCodeNumeric": "40",
  "Country": "Romania",
  "CleansedPhoneNumberNational": "85550100",
  "CleansedPhoneNumberE164": "+4085550100",
  "PhoneTypeCode": 3,
  "PhoneType": "INVALID",
  "OriginalPhoneNumber": "4085550100"
}
```

To detect invalid numbers, you can verify whether:

- The **PhoneType** attribute has a value of MOBILE.
- The country information matches what you expect.
- The cleansed phone number information matches the number that you want to message.

This response states that the phone was registered in Romania, which is an unexpected result for a US phone number. Also, the **PhoneType** value indicates that the phone number is INVALID, which might mean that the number isn't formatted correctly or isn't registered with the wireless carriers.
After receiving a response like this, you might purge the phone number from your database, or you might ask your customer to update his or her contact information.

**Example Response for a Landline Number**

If your request includes a landline phone number, Amazon Pinpoint returns a response like the following:

```
Access-Control-Allow-Origin:*  
Connection: keep-alive  
Content-Length: 331  
Content-Type: application/json  
Date: Mon, 23 Apr 2018 17:42:50 GMT  
X-Amzn-Trace-Id: Root=1-5ade1b19-0c981399f4fac319aa44c89b  
x-amz-apigw-id: Fzkr-EBxoAMP-zw=  
x-amzn-RequestId: bd8c6b94-471d-11e8-9c10-eb82221e637d
{
   "CountryCodeIso2": "US",  
   "CountryCodeNumeric": "1",  
   "Country": "United States",  
   "City": "Anytown",  
   "ZipCode": "95037",  
   "Timezone": "America/Los_Angeles",  
   "CleansedPhoneNumberNational": "4085550101",  
   "CleansedPhoneNumberE164": "14085550101",  
   "Carrier": "AnyCompany",  
   "PhoneTypeCode": 1,  
   "PhoneType": "LANDLINE",  
   "OriginalPhoneNumber": "+14085550101"
}
```

The `PhoneType` value indicates that the request provided a landline number.
Amazon Pinpoint Segments

A user segment represents a subset of your audience based on shared characteristics, such as how recently the users have used your application or which device platform they use. A segment designates who receives the messages delivered by a campaign. Define segments so that you can reach the right audience when you want to invite users back to your application, make special offers, or otherwise increase user engagement and purchasing.

You can add segments to Amazon Pinpoint in either of the following ways:

- Building segments (p. 59) by choosing selection criteria that is based on data that your application reports to Amazon Pinpoint.
- Importing segments (p. 60) that you defined outside of Amazon Pinpoint.

After you create a segment, you can use it in one or more campaigns. A campaign delivers tailored messages to the users in the segment.

Topics
- Building Segments (p. 59)
- Importing Segments (p. 60)
- Managing Segments (p. 67)

Building Segments

To reach the intended audience for a campaign, build a segment based on the data reported by your application.

For example, to reach users who haven’t used your mobile app recently, you can define a segment for users who haven’t used your app in the last 7 days.

User segments are defined by various criteria, including but not limited to:

- How recently they used your application
- The operating system they use
- The model of mobile device they use

Because the segment is built from segmentation criteria, it is dynamic, meaning the end users who belong to the segment vary over time based on user activity. For example, if your segment includes users who haven’t used your application recently, users who respond to a campaign by using your application are removed from the segment.

To create a static segment, which includes a fixed set of end users, import endpoints that represent those users. For more information, see Importing Segments (p. 60).

You can create segments separately from campaigns to assemble a collection of segments for multiple campaigns. You also can create a segment when creating a campaign (p. 68).

To create a segment

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose the project to which you want to add the segment.

3. In the navigation menu, choose Segments. The Segments page opens, which displays previously defined segments and the number of active users that belong to them.


5. For Segment name, type a name for your segment to make it easy to recognize later.

6. For How would you like to define your segment, keep Build segment selected.

7. For What messaging channel do you want to use?, choose the channel you will use to engage the segment with a campaign. The channel must be enabled in your Amazon Pinpoint project. For more information, see Amazon Pinpoint Channels (p. 13).

8. If you selected Mobile push as the channel type, define the App usage criteria. Select which users belong to the segment based on whether they have (or haven't) used your app within the specified number of days.

9. (Optional) For Filter by standard attributes, define which users belong to the segment based on the characteristics that are standard to Amazon Pinpoint.

10. (Optional) For Filter by custom attributes and Filter by user attributes, define which users belong to the segment based on custom attributes that you add to your Amazon Pinpoint endpoint resources.

11. When you are finished selecting criteria, choose Create segment.

Importing Segments

With Amazon Pinpoint, you can define a user segment by importing a file that contains information about the users who belong to the segment. Importing segments is useful if you define user segments outside of Amazon Pinpoint but you want to engage your users with Amazon Pinpoint campaigns.

Unlike the dynamic segments that you create with the segment builder in the console, an imported segment is an unchanging set of endpoints or users IDs:
Endpoint

A destination that you can send messages to — such as an email address, mobile device identifier, or mobile phone number. An endpoint definition can include attributes that describe the user or device that you send messages to. It can also include a user ID.

You can define a segment by importing a list of endpoint definitions. Amazon Pinpoint creates the segment, and it updates any endpoints that you previously added to Amazon Pinpoint with the new information.

User ID

An ID that represents an individual user in your audience. This ID must be assigned to one or more endpoints. For example, if a person uses your app on more than one device, your app could assign that person's user ID to the endpoint for each device.

You can define a segment by importing user IDs only if you've added the endpoints that are associated with the user IDs to Amazon Pinpoint.

An imported segment consists of endpoints, user IDs, or a combination of both. When you use Amazon Pinpoint to send a message to the segment, the potential destinations include:

- Each endpoint that you list in the imported file.
- Each endpoint that's associated with each user ID that you list in the imported file.

To import a file, you first upload it to an Amazon Simple Storage Service (Amazon S3) bucket. Next, you provide Amazon Pinpoint with the name of the Amazon S3 bucket that contains the file. Amazon Pinpoint retrieves the file from Amazon S3 and adds each endpoint or user ID in the file to a segment.

Segment Files

You define the endpoints or user IDs that belong to your segment in a comma-separated values (CSV) or JSON file. Then, you import the file into Amazon Pinpoint to create the segment.

When you import a segment, remember the following:

- If you're importing new endpoints, the Address and ChannelType attributes are required.
- If you're updating existing endpoints, the Id attribute is required for each endpoint that you want to update.
- Amazon Pinpoint can't import compressed files.
- The files that you import must use UTF-8 character encoding.
- Your endpoint definitions can only include certain attributes. For a list, see Available Attributes (p. 64).

Example Segment Files

The example files in this section are based on the following data:

Example Endpoint Attribute Values

<table>
<thead>
<tr>
<th>ChannelType</th>
<th>Address</th>
<th>Location.Country</th>
<th>Demographic.Platform</th>
<th>Demographic.Make</th>
<th>User.UserId</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMS</td>
<td>+12365550182</td>
<td>CAN</td>
<td>Android</td>
<td>LG</td>
<td>example-user-id-1</td>
</tr>
</tbody>
</table>
Each row in this table represents an individual endpoint. Note that the user IDs example-user-id-2 and example-user-id-3 are assigned to two endpoints each.

### Example File with Endpoint Definitions

**CSV**

You can import endpoints that are defined in a CSV file, as in the following example:

<table>
<thead>
<tr>
<th>ChannelType</th>
<th>Address</th>
<th>Location.Country</th>
<th>Demographic.Platform</th>
<th>Demographic.Make</th>
<th>User.UserId</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMS</td>
<td>2065550182</td>
<td>CAN</td>
<td>Android</td>
<td>LG</td>
<td>example-user-id-1</td>
</tr>
<tr>
<td>APNS</td>
<td>1a2b3c4d5e6f7g8h9i0j1a2b3c4d5e6f</td>
<td>USA</td>
<td>iOS</td>
<td>Apple</td>
<td>example-user-id-2</td>
</tr>
<tr>
<td>EMAIL</td>
<td><a href="mailto:john.stiles@example.com">john.stiles@example.com</a></td>
<td></td>
<td>USA</td>
<td>iOS</td>
<td>example-user-id-2</td>
</tr>
<tr>
<td>GCM</td>
<td>4d5e6f1a2b3c4d5e6f7g8h9i0j1a2b3c4d5e6f</td>
<td>CHN</td>
<td>Android</td>
<td>Google</td>
<td>example-user-id-3</td>
</tr>
<tr>
<td>EMAIL</td>
<td><a href="mailto:wang.xiulan@example.com">wang.xiulan@example.com</a></td>
<td></td>
<td>CHN</td>
<td>Android</td>
<td>example-user-id-3</td>
</tr>
</tbody>
</table>

The first line is the header, which contains the endpoint attributes. For the supported attributes, see Available Attributes (p. 64).

The subsequent lines define the endpoints by providing values for each attribute in the header.

To include a comma, line break, or double quote in a value, enclose the value in double quotes, as in "aaa,bbb". For more information about the CSV format, see RFC 4180 Common Format and MIME Type for Comma-Separated Values (CSV) Files.

**JSON**

You can import endpoints that are defined in a newline-delimited JSON file. In this format, each line is a complete JSON object that contains an individual endpoint definition, as in the following example:

```json
{"ChannelType":"SMS","Address":"2065550182","Location":{"Country":"CAN"},"Demographic":{
"Platform":"Android","Make":"LG"},"User":{"UserId":"example-user-id-1"}}
{"ChannelType":"APNS","Address":"1a2b3c4d5e6f7g8h9i0j1a2b3c4d5e6f","Location":{
"Country":"USA"},"Demographic":{
"Platform":"iOS","Make":"Apple"},"User":{
"UserId":"example-user-id-2"}}
{"ChannelType":"EMAIL","Address":"john.stiles@example.com","Location":{
"Country":"USA"},"Demographic":{
"Platform":"iOS","Make":"Apple"},"User":{
"UserId":"example-user-id-2"}}
{"ChannelType":"GCM","Address":"4d5e6f1a2b3c4d5e6f7g8h9i0j1a2b3c","Location":{
"Country":"CHN"},"Demographic":{
"Platform":"Android","Make":"Google"},"User":{
"UserId":"example-user-id-3"}}
{"ChannelType":"EMAIL","Address":"wang.xiulan@example.com","Location":{
"Country":"CHN"},"Demographic":{
"Platform":"Android","Make":"OnePlus"},"User":{
"UserId":"example-user-id-3"}}
```

For the supported attributes, see Available Attributes (p. 64).
Example File with User IDs

CSV

You can also import user IDs that are listed in a CSV file, as in the following example:

```
User.UserId
example-user-id-1
example-user-id-2
example-user-id-3
```

The first line is the header, which must contain only the `User.UserId` attribute.

The subsequent lines list each user ID that belongs to the segment.

As you can see in the example endpoint definitions, the user ID `example-user-id-1` is associated with one endpoint. The user IDs `example-user-id-2` and `example-user-id-3` are associated with two endpoints each. Therefore, the segment that's created by importing this file could be used to message up to five endpoints.

JSON

You can also import user IDs that are listed in a newline-delimited JSON file, as in the following example:

```
{"User":{"UserId":"example-user-id-1"}}
{"User":{"UserId":"example-user-id-2"}}
{"User":{"UserId":"example-user-id-3"}}
```

As you can see in the example endpoint definitions, the user ID `example-user-id-1` is associated with one endpoint. The user IDs `example-user-id-2` and `example-user-id-3` are associated with two endpoints each. Therefore, the segment that's created by importing this file could be used to message up to five endpoints.

Uploading Segment Files to Amazon S3

Amazon S3 is an AWS service that provides highly scalable cloud storage. Amazon S3 stores data as objects within buckets, and those objects can be grouped into folders.

Before you import a segment, you must create an S3 bucket and upload your file to that bucket. You can organize the files for different segments into separate folders. When Amazon Pinpoint imports the endpoints or user IDs for a segment, it includes the files within all folders and subfolders that belong to the Amazon S3 location you specify.

For an introduction to creating buckets and uploading objects, see the Amazon Simple Storage Service Getting Started Guide.

Amazon Pinpoint can import the following types of files:

- CSV
- Newline-delimited JSON

Amazon Pinpoint can import only one of these formats per segment, so the Amazon S3 path you specify should only contain one format type.

Importing a Segment

You can create a segment by importing the segment's endpoints or user IDs from Amazon S3.
To import a segment

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose the project that you want to add the segment to.
3. In the navigation menu, choose Segments. The Segments page opens, which displays previously defined segments and the number of active users that belong to them.
5. For Segment name, type a name for your segment to make it easy to recognize later.
6. For How would you like to define your segment, choose Import segment.
7. For Amazon S3 URL, type the location of the Amazon S3 bucket that contains the file for your segment. The address of the bucket must be in the following format:

   s3://bucket-name/folder-name

   Amazon Pinpoint imports the files from the path that you specify, and from any subfolders in that path.
8. For IAM role, complete one of the following steps:
   - If you want to have Amazon Pinpoint create a role that allows it to read from an Amazon S3 bucket, choose Automatically create a role. Then, for Name for new role, type a name for the role that you're creating.
   - If you've already created an IAM role that allows Amazon Pinpoint to read from an Amazon S3 bucket, choose Choose a role from your account. Then, for Role, choose a role that contains the appropriate permissions.

   If you want to create the IAM role yourself, see IAM Role for Importing Segments in the Amazon Pinpoint Developer Guide. After you create the role, specify it in the Amazon Pinpoint console.
9. For What is the format of the file, choose either CSV or JSON, depending on the format of your file.
10. Choose Import Segment. Amazon Pinpoint imports the endpoints and user IDs from the specified Amazon S3 bucket and adds them to your segment.

   The Jobs page provides the status of your import. Refresh your browser to see the current status.

Available Attributes

The table in this section provides the attributes that you can specify in the endpoint definitions that you import into Amazon Pinpoint. If you import segments using CSV files, the headers in the file should match the names shown in the Attributes column.
For JSON files, a period in the attribute name indicates that the name following the period is an object that's nested in a parent object with a name equal to the value preceding the period. For example, a JSON file that contains the `Demographic.Make` and `Demographic.Model` attributes has the following structure:

```json
{
  ...
  "Demographic": {
    ...
    "Make":"Apple",
    "Model":"iPhone"
    ...
  }
  ...
}
```

The full JSON structure closely resembles the Example EndpointRequest in the Amazon Pinpoint API Reference. However, not all attributes in the EndpointRequest schema are supported when you import segments, including `EndpointStatus` and `EffectiveDate`.

You can replace attribute names that are shown in italics with any value. For example, you can create custom attributes called `User.UserAttributes.FirstName` and `User.UserAttributes.LastName`.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Address</strong></td>
<td>The unique destination of the endpoint, such as an email address, a mobile phone number, or a token for mobile push notifications.</td>
</tr>
<tr>
<td><strong>Attributes.custom_attribute</strong></td>
<td>Custom attributes that your app reports to Amazon Pinpoint. You can use these attributes as selection criteria when you create a segment. You can replace <code>custom_attribute</code> with any value. You can specify up to 20 custom attributes per endpoint.</td>
</tr>
<tr>
<td><strong>ChannelType</strong></td>
<td>The channel type of the endpoint. Acceptable values: GCM, APNS, SMS, or EMAIL.</td>
</tr>
<tr>
<td><strong>Demographic.AppVersion</strong></td>
<td>The version number of the application that's associated with the endpoint.</td>
</tr>
<tr>
<td><strong>Demographic.Locale</strong></td>
<td>The locale of the endpoint in ISO 15897 format. For example, en_US (English language locale for the United States) or zh_CN (Chinese locale for China).</td>
</tr>
<tr>
<td><strong>Demographic.Make</strong></td>
<td>The manufacturer of the endpoint device, such as Apple or Samsung.</td>
</tr>
<tr>
<td><strong>Demographic.Model</strong></td>
<td>The model of the endpoint device, such as iPhone.</td>
</tr>
<tr>
<td><strong>Demographic.ModelVersion</strong></td>
<td>The model version of the endpoint device.</td>
</tr>
<tr>
<td><strong>Demographic.Platform</strong></td>
<td>The operating system of the endpoint device, such as ios or android.</td>
</tr>
<tr>
<td><strong>Demographic.PlatformVersion</strong></td>
<td>The platform version of the endpoint device.</td>
</tr>
</tbody>
</table>
### Available Attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic.Timezone</td>
<td>The time zone of the endpoint. It's specified as a tz database value, such as America/Los_Angeles.</td>
</tr>
<tr>
<td>EffectiveDate</td>
<td>The time at which the endpoint was last updated, in ISO 8601 format. For example, 20171011T150548Z.</td>
</tr>
<tr>
<td>Id</td>
<td>The unique ID of the endpoint.</td>
</tr>
<tr>
<td>Location.City</td>
<td>The city where the endpoint is located.</td>
</tr>
<tr>
<td>Location.Country</td>
<td>The three-letter code for the country or region where the endpoint is located, in ISO 3166-1 alpha-3 format. For example, USA (United States) or CHN (China). For a complete list of ISO 3166-1 alpha-3 abbreviations, see the ISO website.</td>
</tr>
<tr>
<td>Location.Latitude</td>
<td>The latitude of the endpoint location, rounded to one decimal place.</td>
</tr>
<tr>
<td>Location.Longitude</td>
<td>The longitude of the endpoint location, rounded to one decimal place.</td>
</tr>
<tr>
<td>Location.PostalCode</td>
<td>The postal or ZIP code of the endpoint.</td>
</tr>
<tr>
<td>Location.Region</td>
<td>The region of the endpoint location, such as a state or province.</td>
</tr>
<tr>
<td>Metrics.<strong>custom_attribute</strong></td>
<td>Custom metrics, such as the number of sessions or number of items left in a cart, to use for segmentation purposes. You can replace <strong>custom_attribute</strong> with any value. You can specify up to 20 custom attributes per endpoint. These custom values can only be numeric. Because they're numeric, Amazon Pinpoint can perform arithmetic operations, such as the average or sum, on them.</td>
</tr>
<tr>
<td>OptOut</td>
<td>Indicates whether a user has opted out of receiving messages. Acceptable values: ALL (the user has opted out of all messages) or NONE (the user hasn't opted out and receives all messages).</td>
</tr>
<tr>
<td>RequestId</td>
<td>The unique ID of the most recent request to update the endpoint.</td>
</tr>
<tr>
<td>User.UserAttributes.<strong>custom_attribute</strong></td>
<td>Custom attributes that are specific to the user. You can replace <strong>custom_attribute</strong> with any value, such as FirstName or Age. You can specify up to 20 custom attributes per endpoint.</td>
</tr>
<tr>
<td>User.UserId</td>
<td>The unique ID of the user.</td>
</tr>
</tbody>
</table>
Note
You can specify up to 20 custom attributes per endpoint for Attributes, Metrics and User.UserAttributes. However, you can create no more than 40 custom attributes per AWS account.

Managing Segments

You can use the Amazon Pinpoint console to create new segments, update the settings for existing segments, duplicate segments, delete segments, and more.

To manage a segment

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose the project that you want to manage segments for.
3. On the navigation menu, choose Segments.
4. On the Segments page, choose the segment that you want to manage.

On the Segment page, for a segment that's built from segmentation criteria (p. 59), you can do the following:

- Create campaign – Create a campaign (p. 68) that uses the segment you’re managing.
- Copy to new – Copy the segment to use its settings as a template for a new segment, in which you can change or keep any of the original settings.
- Edit segment – Change any of the segment’s settings, such as the segmentation criteria that define which users belong to the segment.
- Delete segment – Remove the segment from Amazon Pinpoint. The segment becomes unavailable for future campaigns, but preexisting campaigns that use the segment are unaffected.

For an imported segment (p. 60), you can do the following:

- Create campaign – Create a campaign (p. 68) that uses the segment you’re managing.
- Reimport segment – Update the segment with the endpoint files that are currently stored in the Amazon S3 location that you originally imported the segment from.
- Delete segment – Remove the segment from Amazon Pinpoint. The segment becomes unavailable for future campaigns, but preexisting campaigns that use the segment are unaffected.
Amazon Pinpoint Campaigns

A campaign is a messaging initiative that engages a specific audience segment (p. 59). A campaign sends tailored messages according to a schedule that you define. You can use the console to create a campaign that sends messages through any single channel that is supported by Amazon Pinpoint: mobile push, email, or SMS.

For example, to help increase engagement between your mobile app and its users, you could use Amazon Pinpoint to create and manage push notification campaigns that reach out to users of that app. Your campaign might invite users back to your app who haven't run it recently or offer special promotions to users who haven't purchased recently.

Your campaign can send a message to all users in a segment, or you can allocate a holdout, which is a percentage of users who receive no messages. The segment can be one that you created on the Segments page or one that you define while you create the campaign.

You can set the campaign's schedule to send the message once or at a recurring frequency, such as once a week. To prevent users from receiving the message at inconvenient times, the schedule can include a quiet time during which no messages are sent.

To experiment with alternative campaign strategies, set up your campaign as an A/B test. An A/B test includes two or more treatments of the message or schedule. Treatments are variations of your message or schedule. As your users respond to the campaign, you can view campaign analytics to compare the effectiveness of each treatment.

If you want to send a one-time message without engaging a user segment or defining a schedule, you can simply send a direct message (p. 83) instead of creating a campaign.

Topics
- Step 1: Begin a New Campaign (p. 68)
- Step 2: Specify the Audience Segment for the Campaign (p. 70)
- Step 3: Write the Message (p. 71)
- Step 4: Set the Campaign Schedule (p. 79)
- Step 5: Review and Launch the Campaign (p. 81)
- Managing Campaigns (p. 81)

Step 1: Begin a New Campaign

Use the Amazon Pinpoint console to create a campaign. You will:

- Choose the messaging channel (mobile push, email, or SMS).
- Choose the user segment for the campaign.
- Write the message.
- Define the schedule on which the campaign runs.

Optionally, you can set up your campaign as an A/B test to experiment with different treatments of the message or schedule. As users respond to your campaign, you can view campaign analytics to compare the effectiveness of each treatment.
To begin creating a campaign

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose the project for which you want to create a campaign.
3. In the navigation menu, choose Campaigns. The Campaigns page opens, and it displays summary information for previously defined campaigns.

5. For Campaign name, type a name to make the campaign easy to recognize later.

6. For What messaging channel do you want to use?, choose the channel you will use to deliver your message. The channel must be enabled in your Amazon Pinpoint project. For more information, see Amazon Pinpoint Channels (p. 13).

7. For Choose the campaign type, choose one of the following:
   - Standard campaign – Sends a custom message to a specified segment according to a schedule that you define.
   - A/B Test – Behaves like a standard campaign, but enables you to define different treatments for the campaign's message or schedule.

8. If you choose to create an A/B test, for Choose what you will test for, choose whether you will test variations of the campaign's Messages or Schedule.
Step 2: Specify the Audience Segment for the Campaign

When creating a campaign, you can specify which audience segment to reach with your campaign by creating a new segment or choosing one that was previously created.

Prerequisite

Before you begin, complete Step 1: Begin a New Campaign (p. 68).

To specify a segment

- For the Segment step in Create a campaign, specify a segment in one of the following ways:
  - Choose Create a new segment and follow the steps under To build a segment.
  - Choose Use a previously defined segment and select the segment that you want to target. Then, choose Next step.

To build a segment

To build your segment, define the segmentation criteria. As you choose criteria, the Segment estimate shows how many users the segment includes.

1. For Name your segment to reuse it later, type a name to make your segment easy to recognize.
2. If you selected Mobile push as the channel type, define the App usage criteria. Select which users belong to the segment based on whether they have (or haven't) used your app within the specified number of days.
3. (Optional) For Filter by standard attributes, define which users belong to the segment based on the characteristics that are standard to Amazon Pinpoint.

4. (Optional) For Filter by custom attributes and Filter by user attributes, define which users belong to the segment based on custom attributes that you add to your Amazon Pinpoint endpoint resources.

5. If you chose to create a standard campaign, you can use this page to allocate the holdout, which is the percentage of users in the segment who will not receive messages from the campaign.

If you're creating an A/B test, you allocate the holdout when you define the message or schedule.

6. When you finish defining the segment, choose Next step.

Next

Step 3: Write the Message (p. 71)

Step 3: Write the Message

Write the message that your campaign delivers to your audience segment. If you chose to create a standard campaign, you write a single message, which you can revise after you launch the campaign.

If you chose to create an A/B test for your campaign's message, you define two or more treatments, which are variations of your message that the campaign sends to different portions of the segment. You cannot revise your treatments after you launch the campaign.

Prerequisite

Before you begin, complete Step 2: Specify the Audience Segment for the Campaign (p. 70).

Writing a Mobile Push Message

If you chose Mobile push as the channel type, write the push notification that your campaign sends to your user segment, and choose the action that occurs when a user opens the notification.

Choose the notification type

• Choose the type of notification that your campaign delivers:
• **Standard notification** – A push notification with a title and message. Users are alerted by their mobile devices when they receive the notification.

• **Silent notification** – A custom JSON attribute-value pair that Amazon Pinpoint sends to your app without alerting users. Use silent notifications to send data that your app code is designed to receive and handle, for example to update the app’s configuration or to show messages in the app.

**To write a standard notification**

1. If you previously saved a template that you want to use for your message, load it by choosing **Load template**. The **Title** and **Message** are populated with the contents of the template.

2. For **Title**, type the title you want to display above the message.

3. For **Message**, type the message body. Your push notification can have up to 200 characters. A character counter below the right edge of the field counts down from 200 as you enter the text of the message.

   When you finish writing your message, you can save it as a template for later use by choosing **Save as template**.

4. (Optional) For **Time To Live**, specify the length of time (in seconds) that the message is stored by the push notification services to which Amazon Pinpoint sends the message. These services can include Apple Push Notification service (APNs), Firebase Cloud Messaging (FCM), and Google Cloud Messaging (GCM).

   While storing the message, the push notification service attempts to deliver it until the delivery succeeds. If you specify 0, the message is not stored and delivery is attempted only once. If this delivery fails, the message is discarded.

5. For **Action**, select the action you want to occur if the user opens the notification:

   • **Open app** – Your app launches, or it becomes the foreground app if it has been sent to the background.

   • **Go to URL** – The default mobile browser on the user’s device launches and opens a web page at the URL you specify. For example, this action can be useful for sending users to a blog post.

   • **Deep link** – Your app opens and displays a designated user interface. Deep link is an iOS and Android feature. For example, this action can be useful to direct users to special promotions for in-app purchases.

6. (Optional) In the **Media URLs** section, you can optionally provide URLs that point to media files that are displayed in your push notification. The URLs must be publicly accessible so that the push notification services for Android or iOS can retrieve the images.

7. If you are creating an A/B test for the campaign message, complete steps under **Creating a Message A/B Test**. Otherwise, choose **Next step**.
Writing an Email Message

If you chose Email as the channel type, write the email that your campaign sends to your user segment.

1. If you previously saved a template that you want to use for your message, load it by choosing Load template. The Subject and Message are populated with the contents of the template.
2. For Subject, type the subject for your email.
3. For Message, type the email body. You can use the rich text editor to format your message:

   ![Rich Text Editor]

   To write your message body as HTML, choose the source icon:

   ![Source Icon]

   When you finish writing your message, you can save it as a template for later use by choosing Save as template.
4. (Optional) Under Plain text message, type a version of your message for email clients that accept only plain text emails.
5. If you are creating an A/B test for the campaign message, complete steps under Creating a Message A/B Test. Otherwise, choose Next step.

Writing an SMS Message

If you selected SMS as the channel type, write the text message that your campaign sends to your user segment.

1. If you previously saved a template that you want to use for your message, load it by choosing Load template. The Message is populated with the contents of the template.
2. For Message type, choose one of the following:
   - Promotional – Noncritical messages, such as marketing messages. Amazon Pinpoint optimizes the message delivery to incur the lowest cost.
   - Transactional – Critical messages that support customer transactions, such as one-time passcodes for multi-factor authentication. Amazon Pinpoint optimizes the message delivery to achieve the highest reliability.

   This campaign-level setting overrides your default message type, which you set on the Settings page.
3. For Message, type the message body.

   Your text message can have up to 160 characters. A character counter below the right edge of the field counts down from 160 as you enter the text of the message.

   When you finish writing your message, you can save it as a template for later use by choosing Save as template.
4. (Optional) For Sender ID, type a custom ID that contains up to 11 alphanumeric characters, including at least one letter and no spaces. The sender ID is displayed as the message sender on the
receiving device. For example, you can use your business brand to make the message source easier to recognize.

Support for sender IDs varies by country or region. For more information, see Supported Countries and Regions (p. 44).

This message-level sender ID overrides your default sender ID, which you set on the Settings page.

5. If you are creating an A/B test for the campaign message, complete steps under Creating a Message A/B Test. Otherwise, choose Next step.

Creating a Message A/B Test

For a campaign that includes an A/B test of the message, define two or more message treatments.

1. To help you start, Amazon Pinpoint provides two treatments. If you want more treatments, choose Add more.

2. For each treatment, do the following:
   a. Customize the treatment name to make it easy to recognize later.
   b. Define the message settings and write the message content.
   c. Set the Treatment allocation to specify the percentage of users in the segment who will receive the message for the treatment.

      As you set the allocation for each treatment, the Holdout value adjusts to represent the total percentage of users who will not receive messages delivered by this campaign.

3. When you finish defining your treatments, choose Next step.

Testing Messages

Amazon Pinpoint can display a preview of a message that you can view before you schedule the message to be sent. You can also send a test message to a small group of recipients for testing purposes. You can send test messages for email, SMS, and mobile push campaigns.

When you send test messages, consider the following factors:

• You're charged for sending test messages as if they were regular campaign messages. For example, if you send 10,000 test emails in a month, you're charged USD $1.00 for sending the test emails. For more information about pricing, see Amazon Pinpoint Pricing.

• Test messages count toward your account's sending limits. For example, if your account is authorized to send 10,000 emails per 24-hour period, and you send 100 test emails, you can send up to 9,900 additional emails in the same 24-hour period.

• When you send a test message to specific users, you can specify up to 10 addresses. Use commas to separate multiple addresses.

  Note
  The word "address" (as it's used in this section) can refer to any of the following: an email address, a mobile phone number, an endpoint ID, or a device token.
When you send a test SMS message to specific phone numbers, the numbers must be listed in E.164 format. That is, they must include a plus sign (+), the country code without a leading zero, and the complete subscriber number, including area code. E.164-formatted numbers shouldn't contain parentheses, periods, hyphens, or any symbols other than the plus sign. E.164 phone numbers can have a maximum of 15 digits.

When you send a test push notification, the addresses must be either endpoint IDs or device tokens.

When you send a test message to a segment, you can only choose one segment. Additionally, you can only choose segments that contain 100 endpoints or fewer.

When you send a test message to a segment, Amazon Pinpoint creates a campaign for that test. The name of the campaign contains the word "test", followed by four random alphanumeric characters, followed by the name of the campaign. These campaigns aren't counted toward the maximum number of active campaigns that your account can contain. Amazon Pinpoint doesn't create a new campaign when you send a test message to specific recipients.

Events that are associated with test messages are counted in the metrics for the parent campaign. For example, the Delivered chart in the Campaign dashboard includes the number of test messages that were successfully delivered.

Sending a Test Message

It's often helpful to send a test message to actual recipients in order to make sure that your message appears correctly when your customers receive it. By sending a test version of a message, you can test incremental improvements to the content and appearance of your message without impacting the status of your campaign.

There are two ways to send a test message: you can send it to an existing segment, or you can send it to a list of addresses that you specify. The method you choose depends on your use case. For example, if you have a regular group of people who test your messages, you might find it helpful to create a segment that contains all of their endpoints. If you need to send to a group of testers that changes regularly, or to a dynamically generated address, you might find it easier to manually specify your recipients.

To send a test message to a segment

1. Under the message editor, choose **Test campaign message**.
2. On the **Test campaign** dialog box, under **Send test to**, choose **A segment**.
3. Use the drop-down list to choose the segment you want to send the test message to.
   
   **Note**
   Amazon Pinpoint automatically removes all segments that contain 100 endpoints or more from this list.

4. Choose **Send test campaign**.

To send a test message to specific recipients

1. Under the message editor, choose **Send a test message**.
2. On the **Test campaign** dialog box, under **Send test to**, choose one of the options in the following table.

<table>
<thead>
<tr>
<th>If you're sending...</th>
<th>Choose...</th>
<th>And then type...</th>
</tr>
</thead>
<tbody>
<tr>
<td>An email</td>
<td><strong>Email addresses</strong></td>
<td>A comma-separated list of valid email addresses.</td>
</tr>
</tbody>
</table>
3. Choose **Send test campaign**.

## Previewing an Email Without Sending It

Amazon Pinpoint can generate a preview of an email message without sending it. This feature is helpful when you want to quickly verify that a message renders as you expect it to before you send a test.

Note that this preview only shows how the message would appear if it were rendered by your web browser. As a best practice, you should still send test emails to several recipients and view those test messages using a variety of devices and email clients.

**To preview an email**

- Under the message editor, choose **Preview message**. A preview of your email appears in a new window.

## Message Templates

To save your message and reuse it in a separate campaign or direct message, choose **Save as template** and provide a template name. Then, you can load the template for any message by choosing **Load template** and selecting it from a list of saved templates. Amazon Pinpoint populates your message with the template's content. Then, you can send the message as-is or customize as needed.

You can base a template on any supported message type, and you can use the same template for other message types. For example, you can write a push notification message, save it as a template, and use that template for an SMS message. Note that if you use a single template for multiple message types, Amazon Pinpoint loads the content differently for each type. For example, if you base a template on a mobile push message, and you load this template for an email message, the push notification **title** is used as the email **subject**. The correlations between message parts are as follows:

### Mobile push templates

<table>
<thead>
<tr>
<th>The mobile push . . .</th>
<th>Is used as the email . . .</th>
<th>Is used as the SMS . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Subject</td>
<td>Not used</td>
</tr>
<tr>
<td>Message body</td>
<td>Plain text message</td>
<td>Message body</td>
</tr>
</tbody>
</table>

### Email templates

<table>
<thead>
<tr>
<th>The email . . .</th>
<th>Is used as the mobile push . . .</th>
<th>Is used as the SMS . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject</td>
<td>Title</td>
<td>Not used</td>
</tr>
</tbody>
</table>
The email . . . | Is used as the mobile push . . . | Is used as the SMS . . .
---|---|---
Message body (HTML) | Not used | Not used
Plain text message | Message body | Message body

**SMS templates**

The SMS . . . | Is used as the mobile push . . . | Is used as the email . . .
---|---|---
Message type | Title | Subject
Message body | Message body | Plain text message

**Email Template Restrictions**

Email templates can only include the HTML elements and attributes listed in the following table.

<table>
<thead>
<tr>
<th>Allowed Elements</th>
<th>Allowed Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>dir, href, style, title</td>
</tr>
<tr>
<td>b</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>blockquote</td>
<td>cite, dir, style, title</td>
</tr>
<tr>
<td>br</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>caption</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>cite</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>code</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>col</td>
<td>dir, span, style, title</td>
</tr>
<tr>
<td>colgroup</td>
<td>dir, span, style, title</td>
</tr>
<tr>
<td>dd</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>div</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>dl</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>dt</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>em</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>h1</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>h2</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>h3</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>h4</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>h5</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>h6</td>
<td>dir, style, title</td>
</tr>
<tr>
<td><strong>Allowed Elements</strong></td>
<td><strong>Allowed Attributes</strong></td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>i</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>img</td>
<td>alt, dir, height, src, style, title, width</td>
</tr>
<tr>
<td>li</td>
<td>dir, style, title, value</td>
</tr>
<tr>
<td>ol</td>
<td>dir, reversed, start, style, title, type</td>
</tr>
<tr>
<td>p</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>pre</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>q</td>
<td>cite, dir, style, title</td>
</tr>
<tr>
<td>small</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>span</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>strike</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>strong</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>sub</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>sup</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>table</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>tbody</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>td</td>
<td>colspan, dir, rowspan, style, title</td>
</tr>
<tr>
<td>tfoot</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>th</td>
<td>abbr, colspan, dir, rowspan, scope, sorted, style, title</td>
</tr>
<tr>
<td>thead</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>tr</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>u</td>
<td>dir, style, title</td>
</tr>
<tr>
<td>ul</td>
<td>dir, style, title</td>
</tr>
</tbody>
</table>

Additionally, some attributes—such as src or href—allow you to specify a protocol. If your HTML templates include these attributes, they can only specify certain protocols. The allowed protocols for these attributes are listed in the following table.

<table>
<thead>
<tr>
<th><strong>Element/attribute</strong></th>
<th><strong>Allowed protocols</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;a href=&quot;...&quot;&gt;</td>
<td>ftp, http, https, mailto</td>
</tr>
<tr>
<td>&lt;blockquote cite=&quot;...&quot;&gt;</td>
<td>http, https</td>
</tr>
<tr>
<td>&lt;img src=&quot;...&quot;&gt;</td>
<td>http, https</td>
</tr>
<tr>
<td>&lt;q cite=&quot;...&quot;&gt;</td>
<td>http, https</td>
</tr>
</tbody>
</table>
Message Variables

To create a message that is personalized for each recipient, use message variables. Message variables refer to specific endpoint attributes. These attributes can include characteristics that you add to the endpoint resource, such as the recipient's name, city, device, or operating system. When Amazon Pinpoint sends the message, it substitutes the variables with the corresponding attribute values for the receiving endpoint.

For the attributes, see Endpoint Attributes.

To include a variable in your message, enclose the attribute name in double brackets, as in {{Demographic.AppVersion}}.

Often, the most useful endpoint attribute for message variables is {{Attributes.customAttributeName}}, where customAttributeName refers to custom attributes that you add to the endpoint. By using custom attributes for your variables, you can display personalized messages that are unique for each recipient.

For example, if your app is a fitness app for runners and it includes custom attributes for the user's name, activity, and personal record, you could use variables in the following message:

Hey {{Attributes.userName}}, congratulations on your new {{Attributes.activity}} PR of {{Attributes.personalRecord}}!

When Amazon Pinpoint delivers this message, the content varies for each recipient after the variables are substituted. Possible final messages are:

Hey Jane Doe, congratulations on your new half marathon PR of 1:42:17!

Or:

Hey John Doe, congratulations on your new 5K PR of 20:52!

For examples of custom attributes for your app's code, see the iOS example or the Android example.

Next

Step 4: Set the Campaign Schedule (p. 79)

Step 4: Set the Campaign Schedule

Schedule when and how often the campaign sends your message to your segment. By default, a campaign sends its message just once on the date and time you choose.

You create a recurring campaign by selecting a Frequency, which sets the time interval between successive deliveries of the message. A recurring campaign runs for a fixed duration, beginning and ending when you specify.

If you chose to create a standard campaign, you set only one schedule. After you launch the campaign, you can change any of the schedule's settings except for the frequency.

If you chose to create an A/B test for your campaign's schedule, you define two or more treatments, which are variations of the schedule that apply to different portions of the segment. You cannot revise your treatments after you launch the campaign.

Prerequisite
Before you begin, complete Step 3: Write the Message (p. 71).

**To set a schedule**

1. Select the frequency with which the campaign runs. The default selection is once, but you can choose a recurring frequency (such as **Weekly**), or you can choose **Immediate** to send the message when you launch the campaign.

   ![Schedule Options](image)

2. Unless you are sending the message immediately, choose when the message is sent:
   - If you chose to send the message only once, for **When**, select the date, time, and time zone.
   - If you chose a recurring frequency, for **Start**, select the date, time, and time zone for the beginning of the campaign. The default date is the current date and the default time is immediately (approximately 15 minutes from the current time). For **End**, select a date and time to end the campaign.

   ![Start and End Schedule](image)

3. Enable **User's local time** if you want to make the schedule take effect according to each recipient's local time. For example, if the campaign start time is 2:00 PM, and the time zone is UTC-05:00 (Eastern Standard Time), then recipients in New York receive the message at 2:00 PM in their local time. One hour later, when the campaign sends its message for UTC-06:00 (Central Standard Time), users in Kansas City receive the message at 2:00 PM in their local time.

   Disable **User's local time** if you want all recipients to receive the message simultaneously, regardless of their local time. For example, this can be useful if you want to send a critical alert to all of your organization’s employees at the same moment.

4. For **Quiet Time Start** and **Quiet Time End**, set the time interval during which your campaign sends no messages. For example, set a quiet time to ensure users receive no messages at night. The quiet time takes effect in each user's local time, regardless of whether the **User's local time** option is disabled.

5. If you are creating an A/B test for the campaign schedule, use the following steps. Otherwise, choose **Next step** to move on to the final step.

**To create a schedule A/B test**

1. To help you start, Amazon Pinpoint provides two treatments. If you want more treatments, choose **Add more**.

   ![A/B Test Options](image)

2. For each treatment, do the following:
   - Customize the treatment name to make it easy to recognize later.
b. Set the schedule.

c. Set the Treatment Allocation to specify the percentage of users in the segment who will receive messages according to the treatment's schedule.

As you set the allocation for each treatment, the Holdout value adjusts to represent the total percentage of users who will not receive messages delivered by the campaign.

3. When you are finished defining your treatments, choose Next step.

Next

Step 5: Review and Launch the Campaign (p. 81)

Step 5: Review and Launch the Campaign

Before you launch the campaign, review your settings and make changes if needed.

Prerequisite

Before you begin, complete Step 4: Set the Campaign Schedule (p. 79).

To review and launch a campaign

1. For the Review and launch step, review the campaign settings. If you need to make changes, choose an earlier stage in the campaign creation process.

2. If all of the settings are correct, choose Launch campaign. The console displays the Campaign details page for your campaign.

After you launch the campaign, it runs according to the schedule specified. You can monitor campaign analytics to measure the success of the campaign, and you can manage the campaign from its details page.

Managing Campaigns

Using Amazon Pinpoint, you can pause a campaign to suspend message deliveries, update its settings, copy it to make a new campaign, and more.

To manage a campaign

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose the project for which you want to manage campaigns.
3. In the navigation menu, choose Campaigns.
4. On the **Campaigns** page, choose the campaign that you want to manage.

On the **Campaign details** page, you can do the following:

- **Pause** – Stop sending messages until you resume the campaign. This option is available only for recurring campaigns that you created.
- **Copy to new campaign** – Copy the campaign to use its settings as a template for a new campaign, in which you can change or keep any of the original settings.
- **Edit campaign** – Change the campaign's settings, such as the campaign name, the segment to which it sends messages, the message it delivers, and schedule settings (except for the frequency). If you are editing an A/B test campaign, you cannot edit the message or schedule treatments.
- **Delete campaign** – Remove the campaign from Amazon Pinpoint and stop sending messages through the campaign.
- **View Campaign analytics** – Go to the **Analytics** page to view analytics for the campaign.
Direct Messages with Amazon Pinpoint

With Amazon Pinpoint, you can send a direct message, which is a one time message that you send to a limited audience without creating a campaign. Sending a direct message is useful if, before creating a campaign, you want to test how your message appears to recipients.

You can send the message to up to 15 recipients. You cannot use the message to engage a segment. When you send the message, Amazon Pinpoint delivers it immediately, and you cannot schedule the delivery. To engage a user segment, and to schedule the message delivery, create a campaign (p. 68) instead of sending a direct message.

You can send a direct messages using any channel that is supported by Amazon Pinpoint: mobile push, email, or SMS.

Send direct messages by using the Direct page in the Amazon Pinpoint console.

To access the Direct page

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose the project for which you want to send a message.
3. In the navigation menu, choose Direct.

Sending a Mobile Push Notification

To send a direct push notification, you must use a project in which the mobile push channel is enabled. To create a new project with mobile push support, see Setting up Amazon Pinpoint Mobile Push Channels (p. 13). To add mobile push support to an existing project, see Managing Mobile Push Channels with Amazon Pinpoint (p. 15).

You can send push notifications through Apple Push Notification service (APNs), Firebase Cloud Messaging (FCM), or the FCM predecessor, Google Cloud Messaging (GCM).

To send a direct push notification

1. On the Direct page, choose Mobile push.
2. For Destination type, choose one of the following destinations for your message:
   - Endpoint ID – Each destination is a unique ID assigned to an Amazon Pinpoint endpoint resource.
   - Device token – Each destination is a token assigned to the instance of the app that you are messaging. This can be the device token assigned by APNs or the registration token assigned by FCM or GCM.
3. Depending on your selection for Destination type, type one or more Endpoint IDs or Device tokens. You can type up to 15 values. Separate each on its own line.

   If you use device tokens as the destination type, specify tokens assigned only by Apple (APNs) or only by Google (FCM or GCM). Amazon Pinpoint can send the message through only one of these push notification providers in a single delivery.
If you use endpoint IDs as the destination type, this limitation does not apply, and you can specify endpoint resources that use either push notification provider.

4. For Service, specify the push notification service through which you are sending the message: FCM/GCM or APNs. If you use endpoint IDs as the destination type, Amazon Pinpoint detects the service automatically.

5. If you previously saved a template that you want to use for your message, load it by choosing Load template. The Title and Message are populated with the contents of the template.

6. For Title, type the title you want to display above the message.

7. For Message, type the message body. A character counter below the right edge of the field counts down from 200 as you enter the text of the message.

When you finish writing your message, you can save it as a template for later use by choosing Save as template.

8. For Action, select the action you want to occur if the user opens the notification:

   - Open app – Your app launches, or it becomes the foreground app if it has been sent to the background.
   - Go to URL – The default mobile browser on the user’s device launches and opens a webpage at the URL you specify. For example, this action is useful for sending users to a blog post.
   - Deep link – Your app opens and displays a designated user interface within the app. Deep link is an iOS and Android feature. For example, this action is useful to direct users to special promotions for in-app purchases.

9. (Optional) In the Media URLs section, provide URLs that point to media files that are displayed in your push notification. The URLs must be publicly accessible so that the push notification services for Android or iOS can retrieve the images.

10. When you finish, choose Send.

## Sending an Email Message

To send a direct email, you must use a project in which the email channel is enabled. To create a new project with email support, see Setting up the Amazon Pinpoint Email Channel (p. 17). To add email support to an existing project, see Managing the Amazon Pinpoint Email Channel (p. 21).

1. On the Direct page, choose Email.

2. For Destination type, choose one of the following destinations for your message:

   - Endpoint ID – Each destination is a unique ID assigned to an Amazon Pinpoint endpoint resource.
   - Email address – Each destination is the recipient’s email address.

3. Depending on your selection for Destination type, type one or more Endpoint IDs or Email addresses. You can type up to 15 values. Separate each on its own line.

4. If you previously saved a template that you want to use for your message, load it by choosing Load template. The Subject and Message are populated with the contents of the template.

5. For Subject, type the subject for your email.

6. For Message, type the email body. You can use the rich text editor to format your message:

   ![Rich text editor](image)

   To write your message body as HTML, choose the source icon:
When you finish writing your message, you can save it as a template for later use by choosing **Save as template**.

7. (Optional) Under **Plain text message**, type a version of your message for email clients that accept only plain text emails.

8. When you finish, choose **Send**.

# Sending an SMS Message

To send a direct SMS message, you must use a project in which the SMS channel is enabled. To create a new project with SMS support, see the section called “Setting up” (p. 27). To add SMS support to an existing project, see Managing the Amazon Pinpoint SMS Channel (p. 40).

## To send a direct SMS message

1. On the **Direct** page, choose **SMS**.

2. For **Destination type**, choose one of the following destinations for your message:
   - **Endpoint ID** – Each destination is a unique ID assigned to an Amazon Pinpoint endpoint resource.
   - **Phone number** – Each destination is the recipient's phone number.

3. Depending on your selection for **Destination type**, type one or more **Endpoint IDs** or **Phone numbers**. You can type up to 15 values. Separate each on its own line.

   If you use phone numbers as the destination type, specify each number using E.164 format. E.164 is a standard for the phone number structure used for international telecommunication. Phone numbers that follow this format typically have up to 15 digits, and they are prefixed with the plus character (+) and the country code. For example, a US phone number in E.164 format appears as +12065550100.

4. For **Message type**, choose one of the following:
   - **Promotional** – Noncritical messages, such as marketing messages. Amazon Pinpoint optimizes the message delivery to incur the lowest cost.
   - **Transactional** – Critical messages that support customer transactions, such as one-time passcodes for multi-factor authentication. Amazon Pinpoint optimizes the message delivery to achieve the highest reliability.

   This message-level setting overrides your default message type, which you set on the **Settings** page.

5. If you previously saved a template that you want to use for your message, load it by choosing **Load template**. The **Message** is populated with the contents of the template.

6. For **Message**, type the message body.

   The character limit for a single SMS message is 160. A character counter below the right edge of the field counts down from 160 as you enter the text of the message.

   When you finish writing your message, you can save it as a template for later use by choosing **Save as template**.

7. (Optional) For **Sender ID**, type a custom ID that contains up to 11 alphanumeric characters, including at least one letter and no spaces. The sender ID is displayed as the message sender on the receiving device. For example, you can use your business brand to make the message source easier to recognize.
Support for sender IDs varies by country and/or region. For more information, see Supported Countries and Regions (p. 44).

This message-level sender ID overrides your default sender ID, which you set on the Settings page.

8. When you finish, choose Send.

Message Templates

To save your message and reuse it in a separate campaign or direct message, choose Save as template and provide a template name. Then, you can load the template for any message by choosing Load template and selecting it from a list of saved templates. Amazon Pinpoint populates your message with the template’s content. Then, you can send the message as-is or customize as needed.

You can base a template on any supported message type, and you can use the same template for other message types. For example, you can write a push notification message, save it as a template, and use that template for an SMS message. Note that if you use a single template for multiple message types, Amazon Pinpoint loads the content differently for each type. For example, if you base a template on a mobile push message, and you load this template for an email message, the push notification title is used as the email subject. The correlations between message parts are as follows:

### Mobile push templates

<table>
<thead>
<tr>
<th>The mobile push . . .</th>
<th>Is used as the email . . .</th>
<th>Is used as the SMS . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Subject</td>
<td>Not used</td>
</tr>
<tr>
<td>Message body</td>
<td>Plain text message</td>
<td>Message body</td>
</tr>
</tbody>
</table>

### Email templates

<table>
<thead>
<tr>
<th>The email . . .</th>
<th>Is used as the mobile push . . .</th>
<th>Is used as the SMS . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject</td>
<td>Title</td>
<td>Not used</td>
</tr>
<tr>
<td>Message body (HTML)</td>
<td>Not used</td>
<td>Not used</td>
</tr>
<tr>
<td>Plain text message</td>
<td>Message body</td>
<td>Message body</td>
</tr>
</tbody>
</table>

### SMS templates

<table>
<thead>
<tr>
<th>The SMS . . .</th>
<th>Is used as the mobile push . . .</th>
<th>Is used as the email . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message type</td>
<td>Title</td>
<td>Subject</td>
</tr>
<tr>
<td>Message body</td>
<td>Message body</td>
<td>Plain text message</td>
</tr>
</tbody>
</table>
Amazon Pinpoint Analytics

Using the analytics provided by Amazon Pinpoint, you can gain insight into your user base by viewing trends related to user engagement, campaign outreach, revenue, and more.

As users interact with your application, the application can report data to Amazon Pinpoint that you can view to learn about your users' level of engagement (p. 90), purchase activity (p. 93), and demographics (p. 95). For example, you can view charts that show how many users open your app each day, the times at which users open your app, and the revenue generated by your app. By viewing charts about device attributes, you can learn which platforms and devices your app is installed on.

You can monitor campaign analytics (p. 96) to see how your campaigns are performing in aggregate as well as individually. You can follow the total number of push notifications sent, the percentage of push notifications that resulted in opening the app, opt-out rates, and other information. If you created a campaign that includes an A/B test, you can use analytics to compare the effectiveness of the campaign treatments. For example, you can assess whether users are more likely to open your app as a result of a variation on your campaign message.

You can create and monitor funnels (p. 101) to analyze how many users are completing each step in a conversion process, such as purchasing an item or upgrading your app.

To analyze or store the analytics data outside of Amazon Pinpoint, you can configure Amazon Pinpoint to stream the data to Amazon Kinesis (p. 102).

To report metrics from your mobile app, your app must be integrated with Amazon Pinpoint through one of the supported AWS Mobile SDKs. For more information, see Integrating Amazon Pinpoint With Your App in the Amazon Pinpoint Developer Guide.

Topics
- Chart Reference for Amazon Pinpoint Analytics (p. 87)
- Funnel Analytics (p. 101)
- Streaming App and Campaign Events with Amazon Pinpoint (p. 102)

Chart Reference for Amazon Pinpoint Analytics

On the Analytics page, Amazon Pinpoint provides an overview of key metrics, as well as dashboards that provide details about campaigns, demographics, funnels, usage, revenue, and users. You can filter these dashboards by date for further analysis. You can also filter some dashboards by other attributes, such as event or channel.

Topics
- Endpoints and Users in Charts (p. 88)
- Exporting Dashboards (p. 88)
- Overview Charts (p. 88)
- Usage Charts (p. 90)
- Revenue Charts (p. 93)
- Events Charts (p. 94)
- Demographics Charts (p. 95)
Endpoints and Users in Charts

Some of the charts in these dashboards provide data about *endpoints*. Other charts provide data about *users*.

An *endpoint* is a destination that you can send messages to—such as a user's mobile device, email address, or phone number. Before you can see data about endpoints, your application must register endpoints with Amazon Pinpoint, or you must import your endpoint definitions.

A *user* is an individual who has a unique user ID. This ID can be associated with one or more endpoints. For example, if a person uses your app on more than one device, your app could assign that person's user ID to the endpoint for each device. Before you can see data about users, your application must assign user IDs to endpoints, or you must import endpoint definitions that include user IDs.

For information about registering endpoints and assigning user IDs within your mobile app, see Registering Endpoints (iOS) or Registering Endpoints (Android) in the *Amazon Pinpoint Developer Guide*. For information about registering endpoints and assigning user IDs by using the AWS SDK for Java, see Adding Endpoints in the *Amazon Pinpoint Developer Guide*. For information about importing endpoint definitions, see Importing Segments (p. 60).

Exporting Dashboards

You can export the dashboards on the Usage, Revenue, Events, Demographics, and Campaign pages to comma-separated values (.csv) format. When you export a dashboard, Amazon Pinpoint creates a .zip file that contains a separate .csv file for each chart in the dashboard. You can open these files in any modern spreadsheet or data analysis application.

To export a dashboard, choose a date range for the reports (and other attributes, if applicable), and then choose **Download CSV**.

Overview Charts

The **Analytics Overview** page contains metrics related to application usage and campaign responses.

Viewing the Analytics Overview Charts

You can view the **Analytics Overview** charts in the Amazon Pinpoint console. You can filter the charts on this page by date.

**To view and filter the Overview charts**

1. In the navigation pane, choose **Analytics**.
2. *(Optional)* Choose **Last 30 days** to filter the charts by a specific date or range of dates.

Chart Descriptions

The **Analytics Overview** page contains two sections: **App analytics** (p. 88) and **Campaign analytics** (p. 89).

**App analytics**

The **App analytics** section contains some of the most commonly used metrics that are related to using your application.
Daily active endpoints

Shows the number of endpoints that opened your app at least once in a 24-hour period for each day in the selected time period. This chart also provides the average number of daily active endpoints for the entire time period, and the percentage change in the number of daily active endpoints from the beginning to the end of the time period.

Monthly active endpoints

Shows the number of endpoints that opened your app at least once in the previous 30 days for each day in the selected time period. This chart also provides the average number of monthly active endpoints for the entire time period, and the percentage change in the number of monthly active endpoints from the beginning to the end of the time period.

New endpoints

Shows the number of endpoints that were registered with Amazon Pinpoint for the first time for on each day in the selected time period. This chart also provides the average number of new endpoints for the entire time period, and the percentage change in the number of new endpoints from the beginning to the end of the time period.

7-day retention rate

Shows the percentage of users who opened your app 8 days ago, and then opened it again at some point in the following 7 days. This chart also provides the average 7-day retention rate for the entire time period, and the percentage change in the 7-day retention rate from the beginning to the end of the time period.

Sessions

The total number of times that your app was opened each day in the selected time period. This chart also provides the average number of daily sessions for the entire time period, and the percentage change in the number of sessions from the beginning to the end of the time period.

Revenue

The revenue, in USD, that was reported by your app for each day in the selected time period. This chart also provides the average daily revenue for the entire time period, and the percentage change in the amount of revenue from the beginning to the end of the time period.

Campaign analytics

The Campaign analytics section contains several important metrics that help you understand the success of your campaigns. The metrics in this section provide aggregated metrics for all the campaigns in the current application or project.

Active targetable endpoints

Shows the number of endpoints that are opted in to receive messages from you, and that have opened your app in the past 30 days. This section displays the number of active targetable endpoints by channel (mobile push, email, and SMS), as well as the overall number of active endpoints that are opted in to at least one channel.

Total targetable endpoints

Shows the number of endpoints that are opted in to receive messages from you. This section includes the number of targetable endpoints by channel (mobile push, email, and SMS), as well as the overall number of endpoints that are opted in to at least one channel.

Campaigns

Shows information about the campaigns that were active during the time period you selected. This section includes the following information:
Active campaigns

The number of campaigns that were active during the selected time period.

Endpoints messaged

The number of endpoints that received a message during the selected time period.

Delivery rate

The percentage of targeted endpoints that received messages from you. Amazon Pinpoint calculates this rate by dividing the number of messages that were delivered to their intended recipients by the total number of messages that you sent.

Open rate

The percentage of recipients who opened your message. The way that Amazon Pinpoint calculates this metric depends on the communication channel.

For email messages, the open rate is the number of messages that were opened by their recipients, divided by the number of messages that were received by their recipients.

For mobile push messages, the open rate is the number of recipients who opened your app as a result of receiving your message, divided by the number of recipients who received your message.

Amazon Pinpoint doesn't provide an open rate for SMS messages.

Opt out rate

The percentage of customers who opted out after receiving the message. Amazon Pinpoint calculates this rate by dividing the number of recipients who received your message and opted out by the number of messages that were received by their intended recipients. (The recipients could have opted out by clicking an unsubscribe link in an email, or by replying to an SMS message with the keyword STOP).

Usage Charts

The Usage page includes charts that show you how often your app is being used and how successfully it retains user interest over time.

Note

Some of the charts on the Usage page refer to endpoints, while others refer to users. For more information about the difference between users and endpoints, see Endpoints and Users in Charts (p. 88).

Viewing the Usage Charts

You can view the Usage charts in the Amazon Pinpoint console. You can filter the charts on this page by date.

To view and filter the Usage charts

1. In the navigation pane, under Analytics, choose Usage.
2. (Optional) Choose Last 30 days to filter the charts by a specific date or range of dates.

Chart Descriptions

The Usage page contains three sections: Users Metrics (p. 91), Sessions Metrics (p. 92), and Authentication Metrics (p. 92).
Users Metrics

The Users metrics section contains information about how users and endpoints interacted with your app. These charts help you better understand user retention—that is, the likelihood that a customer who used your app in the past will open it again at a later time.

For more information about the difference between users and endpoints, see Endpoints and Users in Charts (p. 88).

Daily active endpoints

Shows the number of endpoints that opened your application for each day in the selected time period. This chart also provides the average number of daily active endpoints for the entire time period, and the percentage change in the number of daily active endpoints from the beginning to the end of the time period.

Monthly active endpoints

Shows the number of endpoints that opened your app at some point in the preceding 30 days for each day in the selected time period. This chart also provides the average number of monthly active endpoints for the entire time period, and the percentage change in the number of monthly active endpoints from the beginning to the end of the time period.

New endpoints

Shows the number of endpoints that were registered with Amazon Pinpoint for the first time for each day in the selected time period. This chart also provides the average number of new endpoints for the entire time period, and the percentage change in the number of new endpoints from the beginning to the end of the time period.

Daily active users

Shows the number of users that opened your application for each day in the selected time period. This chart also provides the average number of daily active users for the entire time period, and the percentage change in the number of daily active users from the beginning to the end of the time period.

Monthly active users

Shows the number of users that opened your app at some point in the preceding 30 days for each day in the selected time period. This chart also provides the average number of monthly active users for the entire time period, and the percentage change in the number of monthly active users from the beginning to the end of the time period.

New users

Shows the number of new user IDs that were created in Amazon Pinpoint for each day in the selected time period. This chart also provides the average number of new users for the entire time period, and the percentage change in the number of new users from the beginning to the end of the time period.

7-day retention rate

Shows the percentage of users who opened your app 8 days prior, and then opened it again at some point in the following 7 days. This chart also provides the average 7-day retention rate for the entire time period, and the percentage change in the 7-day retention rate from the beginning to the end of the time period.

Sticky factor

Shows the portion of monthly active endpoints that were active on each day of the selected time period. For example, a sticky factor of 0.25 indicates that 25% of active endpoints from the previous 30 days were active on the chosen day.
This chart also shows the average sticky factor for the entire time period, as well as the percentage change in the sticky factor rate from the beginning to the end of the time period.

**Sessions Metrics**

The **Sessions metrics** section contains information about how often your app was opened. These metrics help you to better understand how often individual customers use your app, as well as the days and times that they’re most likely to use your app.

**Sessions**

Shows the number of times your app was opened for each day in the selected time period. This chart also provides the average number of sessions for the entire time period, and the percentage change in the number of sessions from the beginning to the end of the time period.

**Sessions per endpoint**

Shows the number of sessions for each endpoint. Amazon Pinpoint calculates this number by dividing the number of sessions in the time period by the number of unique endpoints that opened your app in the time period.

This chart also provides the average number of sessions per endpoint for the entire time period, and the percentage change in the number of sessions per endpoint from the beginning to the end of the time period.

**Sessions per user**

Shows the number of sessions for each user. Amazon Pinpoint calculates this number by dividing the number of sessions in the time period by the number of unique users who opened your app in the time period.

This chart also provides the average number of sessions per user for the entire time period, and the percentage change in the number of sessions per user from the beginning to the end of the time period.

**Session heat map**

Shows the days and times when endpoints opened your app. The times in this chart reflect each endpoint’s local time. Darker rectangles in this chart indicate larger numbers of endpoints opening your app.

**Authentication Metrics**

The **Authentication metrics** section includes information about how often existing users sign in to your app, and how often new users sign up for your app. These charts are useful for tracking the success of new user acquisition programs, or the success of campaigns that attempt to draw disengaged users back to your app, for example.

**Sign-ins**

Shows the number of times that users signed in to your app for each day in the selected time period. This chart also provides the average number of sign-ins for the entire time period, and the percentage change in the number of sign-ins from the beginning to the end of the time period.

**Sign-ups**

Shows the number of times that users created new accounts for your app for each day in the selected time period. This chart also provides the average number of sign-ups for the entire time period, and the percentage change in the number of sign-ups from the beginning to the end of the time period.
Authentication failures

Shows the number of times that users attempted to sign in but were unable to do so for each day in the selected time period. This chart also provides the average number of authentication failures for the entire time period, and the percentage change in the number of authentication failures from the beginning to the end of the time period.

Active users month to date

Shows the number of users who opened your app at least once in the current calendar month.

Revenue Charts

The charts on the Revenue page provide details about user purchase activity and the revenue that's generated by your app.

Note

Some of the charts on the Revenue page refer to endpoints, while others refer to users. For more information about the difference between users and endpoints, see Endpoints and Users in Charts (p. 88).

Viewing the Revenue Charts

You can view the Revenue charts in the Amazon Pinpoint console. You can filter the charts on this page by date.

To view and filter the Revenue charts

1. In the navigation pane, under Analytics, choose Revenue.
2. (Optional) Choose Last 30 days to filter the charts by a specific date or range of dates.

Chart Descriptions

The Revenue page contains the following charts:

Revenue

Shows the amount of money, in USD, spent within your app by all users for each day in the selected time period. This chart also provides the average amount of revenue that was generated by the app for the entire time period, as well as the percentage change in the amount of revenue from the beginning to the end of the time period.

Revenue per endpoint

Shows the average amount of money that was spent within your app by each endpoint for each day in the selected time period. Amazon Pinpoint calculates this number by dividing the amount of revenue generated during the selected time period by the number of users who opened the app in that time period.

This chart also provides the average amount of revenue per endpoint for the entire time period, as well as the percentage change in the amount of revenue per endpoint from the beginning to the end of the time period.

Paying users

Shows the number of unique users who made at least one purchase for each day in the selected time period. This chart also provides the total number of paying users, the average number of paying users, and the percentage change in the number of paying users from the beginning to the end of the time period.
Revenue per paying user

Shows the amount of money that was spent by each paying user. Amazon Pinpoint calculates this number by dividing the amount of revenue generated each day in the selected time period by the number of unique users who made at least one purchase during that day.

This chart also provides the average amount of revenue per paying user for the entire time period, as well as the percentage change in the amount of revenue per paying user from the beginning to the end of the time period.

Units sold

Shows the total number of items that were purchased in your app for each day in the selected time period. This chart also provides the total number of units sold, the average number of units sold per day, and the percentage change in the number of units sold from the beginning to the end of the analysis period.

Units sold per endpoint

Shows the daily average number of items that were purchased by each endpoint. Amazon Pinpoint calculates this number by dividing the number of units sold each day by the number of endpoints that were active during the selected time period.

This chart also provides the average number of units that were sold per endpoint for the entire time period, as well as the percentage change in the number of units sold per endpoint from the beginning to the end of the analysis period.

Purchases

Shows the number of purchases that were made in your app for each day in the selected time period. This chart also provides the total number of purchases made in the time period, as well as the percentage change in the number of purchases from the beginning to the end of the analysis period.

Purchases per endpoint

Shows the daily average number of purchases per endpoint for each day in the selected time period. Amazon Pinpoint calculates this number by dividing Purchases by the number of endpoints that made a purchase for each day in the analysis period.

This chart also provides the average number of purchases per endpoint for the entire time period, as well as the percentage change in the number of units sold per endpoint from the beginning to the end of the analysis period.

Events Charts

The charts on the Events page help you see trends by displaying charts for a specified event type and its attributes. You can filter the charts on the page to show any event that your application reports.

Viewing the Events Charts

You can view the Events charts in the Amazon Pinpoint console. You can filter the charts on this page by date, event type, and event attributes.

To view and filter the Events charts

1. In the navigation pane, under Analytics, choose Events.
2. (Optional) To filter the charts by a specific date or range of dates, choose Last 30 days.
3. For Event, choose an event type to filter the charts by.
4. For Attributes, specify the event attributes to filter the charts by.
Chart Descriptions

The Events page includes the following charts:

**Event count**

Displays the number of events that are reported by your app for each day in the selected time period. This chart also provides the average number of events per day, the total number of events in the time period, and the percentage change in the number of events from the beginning to the end of the time period.

**Endpoint count**

Displays the number of endpoints that reported the selected event for each day in the selected time period. This chart also provides the average number of endpoints that reported the event each day, the total number of endpoints that reported the event each day, and the percentage change in the number of endpoints that reported the event from the beginning to the end of the time period.

**Events per session**

Displays the average number of events that occur in each app session for each day in the selected time period. Amazon Pinpoint calculates this metric by dividing the number of times the selected event occurred each day by the number of sessions that occurred that day.

This chart also provides the average number of events per session for the entire time period, and the percentage change in the number of events per session from the beginning to the end of the time period.

Demographics Charts

The charts on the Demographics page help you understand the characteristics of the devices that your customers use to access your app. If you've configured your app to report custom metrics, this page also shows those metrics.

Viewing the Demographics Charts

You can view the Demographics charts in the Amazon Pinpoint console. You can filter the charts on this page by date.

**To view and filter the Demographics charts**

1. In the navigation pane, under Analytics, choose Demographics.
2. *(Optional)* To filter the charts by a specific date or range of dates, choose Last 30 days.
3. *(Optional)* For All channels, choose a channel type to filter the charts by.

Chart Descriptions

The Demographics page includes the following charts:

**Platforms**

Shows the proportion of customers who use your app on various platforms (such as iOS or Android).

**App versions**

Shows the proportion of app users who use various versions of your app.
Models
Shows the proportions of app users who use various device models (such as iPhone X or Galaxy S9).

Makes
Shows the proportions of app users who use various device makes (such as Apple or Samsung).

Countries
Shows the countries and regions where users of your apps are located.

Custom charts
Shows custom attributes that are reported by your app.

Campaign Charts
The charts on the Campaigns page provide information about all of the campaigns for the chosen app or project. You can also choose a specific campaign to view additional delivery and engagement metrics for that campaign.

Viewing the Campaign Charts
You can view the campaign charts in the Amazon Pinpoint console. You can filter the charts on this page by date.

To view and filter the Campaigns charts
1. In the navigation pane, under Analytics, choose Campaigns.
2. (Optional) To filter the charts by a specific date or range of dates, choose Last 30 days.

Chart Descriptions
The Campaigns page includes a section that provides aggregated metrics for all campaigns that were active during the selected time period. When you choose a specific campaign, you see a new set of charts that contain metrics specific to that campaign.

Aggregated Campaign Metrics
The Campaigns page includes the following metrics, which are aggregated across all campaigns that were active during the selected time period.

Active targetable endpoints
Shows the total number of endpoints that have opened your app at least once in the past 30 days, and that haven't opted out of receiving messages from you. This section includes the total number of active targetable endpoints, as well as the number of active targetable endpoints for each channel (mobile push, email, and SMS).

Total targetable endpoints
Shows the total number of endpoints that have ever used your app, and that haven't opted out of receiving messages from you. This section includes the total number of targetable endpoints, as well as the number of targetable endpoints for each channel (mobile push, email, and SMS).

List of campaigns
This table displays the following information for each campaign that was active during the selected time period:
Campaign name
The name of the campaign.

Channel
The channel type of the campaign (such as email, SMS, or mobile push).

Type
The type of campaign (such as standard or A/B test).

Schedule
The schedule type for the campaign (such as once, daily, hourly, or monthly).

Delivered
The number of messages that were delivered to their intended recipients.

Delivery rate
The number of messages that were delivered to their intended recipients, divided by the total number of messages you attempted to send.

Open rate
The number of users that opened your app after receiving the message, divided by the total number of messages that were delivered.

Metrics for Individual Campaigns
When you choose a campaign from the list of campaigns, you see metrics that are specific to that campaign. The metrics that you see depend on the channel of the campaign.

Note
When you select an A/B test campaign, you see the metrics listed in the following sections for each treatment. This report makes it easy to compare the effectiveness of various treatments for your campaign.

Email Campaigns
When you select a standard campaign that uses the email channel, you see the following charts:

Delivery count metrics
Provides the following metrics that relate to the delivery of messages from this campaign:

Endpoints messaged
The number of unique email endpoints that received email from this campaign.

Messages sent
The number of messages sent from the campaign.

Messages delivered
The number of messages that were delivered to their intended recipients. Amazon Pinpoint calculates this number by subtracting the number of messages that hard bounced from the total number of messages you sent.

Links clicked
The number of times that recipients of the campaign clicked a link in the email. If a single recipient clicks multiple links in an email, or clicks the same link more than once, each click is counted as a separate event.
Delivery rate metrics

Provides the following metrics that relate to the delivery of messages from this campaign:

Delivery rate

The percentage of emails that were delivered to their intended recipients. Amazon Pinpoint calculates this rate by dividing the number of messages that were delivered by the number of messages sent.

Open rate

The percentage of emails that were opened by their recipients. Amazon Pinpoint calculates this rate by dividing the number of messages that were opened by the number of messages that were delivered.

Bounce rate

The percentage of emails that couldn't be delivered to their intended recipients. This metric only measures hard bounces—that is, messages in which the recipient's email address had a permanent issue that prevented the message from being delivered. Amazon Pinpoint calculates this rate by dividing the number of bounced emails by the number of messages sent.

Campaign runs

Provides the following metrics that relate to the timing and delivery of your messages each time this campaign ran.

Run date

The date and time when the campaign was sent.

Endpoints targeted

The number of unique endpoints that you attempted to send this message to.

Messages sent

The number of messages that were sent during this campaign run. This number might differ from the number of endpoints targeted, if the targeted segment includes email addresses that are incorrectly formatted or are known to produce hard bounces. This number also omits endpoints that have opted out.

Messages delivered

The number of messages sent from this campaign run that were delivered to their intended recipients.

Delivery rate

The percentage of messages sent from this campaign run that were delivered. Amazon Pinpoint calculates this rate by dividing Messages delivered by Messages sent.

Total opened

The number of messages that were opened by their recipients. Because of technical limitations, this value only includes recipients who opened the message in an email client that supports images.

Open rate

The percentage of messages that were opened by their recipients. Amazon Pinpoint calculates this rate by dividing Total opened by Messages delivered.

Bounce rate

The percentage of messages that couldn't be delivered to their recipients. This metric only measures hard bounces. Amazon Pinpoint calculates this rate by dividing the number of emails that bounced during the campaign run by Messages delivered.
Mobile Push Campaigns

When you select a standard campaign that uses the Mobile Push channel, you see the following charts:

Delivery count metrics

Provides the following metrics that relate to the delivery of messages from this campaign:

Endpoints messaged

The number of unique mobile push endpoints that received a notification from this campaign.

Messages sent

The number of messages sent from the campaign.

Messages delivered

The number of messages that were delivered to their intended recipients. Amazon Pinpoint calculates this number by subtracting the number of messages that couldn't be delivered from the total number of messages you sent.

Delivery rate metrics

Provides the following metrics that relate to the delivery of messages from this campaign:

Delivery rate

The percentage of push notifications that were delivered to their intended recipients. Amazon Pinpoint calculates this rate by dividing Messages delivered by Messages sent.

Open rate

The percentage of notifications that led to the recipient opening your app. Amazon Pinpoint calculates this rate by dividing the number of recipients who received a message from you and later opened your app by Messages delivered.

Direct open rate

The number of notifications that recipients tapped to open your app. Amazon Pinpoint calculates this metric by dividing the number of messages that recipients tapped to open your app by Messages delivered.

Sessions per endpoint

Shows the average number of times an endpoint opened your app during the selected time period. Amazon Pinpoint calculates this number by finding the number of times endpoints targeted by this campaign opened your app, and dividing that by the number of unique endpoints targeted by the campaign.

Purchases per endpoint

Shows the average number of purchases per endpoint during the selected time period. Amazon Pinpoint calculates this number by finding the number of purchases made by endpoints targeted by this campaign, and dividing that by the number of unique endpoints targeted by the campaign.

Campaign session heat map

The days and times when users opened your app after receiving a mobile push notification that was sent by this campaign. Darker rectangles represent greater numbers of users. Times are based on each user's local time zone.

Campaign runs

Provides the following metrics that relate to the timing and delivery of your messages each time this campaign ran.

Run date

The date and time when the campaign was sent.
Endpoints targeted

The number of unique endpoints that you attempted to send this message to.

Messages sent

The number of messages that were sent during this campaign run. This number might differ from the number of endpoints targeted if the targeted segment includes invalid tokens, or endpoints that have opted out.

Messages delivered

The number of messages sent from this campaign run that were delivered to their intended recipients.

Delivery rate

The percentage of messages sent from this campaign run that were delivered. Amazon Pinpoint calculates this rate by dividing Messages delivered by Messages sent.

Total opened

The number of messages that led to their recipients opening your app.

Open rate

The percentage of messages that led to their recipients opening your app. Amazon Pinpoint calculates this rate by dividing Total opened by Messages delivered.

SMS Campaigns

When you select a standard campaign that uses the SMS channel, you see the following charts:

Delivery metrics

Provides the following metrics that relate to the delivery of messages from this campaign:

Endpoints messaged

The number of unique SMS endpoints that received a notification from this campaign.

Messages sent

The number of messages that were sent from the campaign.

Messages delivered

The number of messages that were delivered to their intended recipients. Amazon Pinpoint calculates this number by subtracting the number of messages that couldn't be delivered from the total number of messages you sent.

Delivery rate

The percentage of messages that were delivered to their intended recipients. Amazon Pinpoint calculates this rate by dividing Messages sent by Messages delivered.

SMS total cost

Shows the total amount of money, in USD, that you spent sending SMS messages in the selected time period.

Campaign runs

Provides the following metrics that relate to the timing and delivery of your messages each time this campaign ran.

Run date

The date and time when the campaign was sent.
Endpoints targeted

The number of unique endpoints that you attempted to send this message to.

Messages sent

The number of messages that were sent during this campaign run. This number might differ from the number of endpoints targeted if the targeted segment includes invalid phone numbers, or endpoints that have opted out.

Messages delivered

The number of messages sent from this campaign run that were delivered to their intended recipients.

Delivery rate

The percentage of messages sent from this campaign run that were delivered. Amazon Pinpoint calculates this rate by dividing Messages delivered by Messages sent.

Funnel Analytics

You can use Amazon Pinpoint to analyze funnels, which visualize how many users complete each of a series of steps in your app. For example, the series of steps in a funnel can be a conversion process that results in a purchase (as in a shopping cart), or some other intended user behavior.

By monitoring funnels, you can assess whether conversion rates have improved because of changes made to your app or because of an Amazon Pinpoint campaign.

After you specify which steps belong in your funnel, the Create funnel page displays a chart like the following example:

![Example funnel chart](image)

This example chart shows the percentage of users who complete each step in the process of updating an app. By comparing the values between columns, you can determine the drop off rates between steps. In this example, there is a 35% drop off between users who receive a notification and those who start an app session. Then there is a 19% drop off between users who start a session and those who open the app settings page.

To create a funnel, you specify each event that is part of the conversion process you want to analyze. Your app reports these events to Amazon Pinpoint as long as it integrates Amazon Mobile Analytics.
through one of the supported AWS SDKs. If your app is a project in AWS Mobile Hub, you integrate Amazon Mobile Analytics by enabling the App Analytics feature in the AWS Mobile Hub console.

When you add events to your funnel, you can choose any event that is reported by your app. Your app can report the following types of events:

- **Standard events** – Includes events that automatically report when an app session starts or stops. The event type names for standard events are denoted with an underscore prefix, as in `_session.start`. Standard events also include monetization events that report in-app purchases.
- **Custom events** – Defined by you to monitor activities specific to your app, such as completing a level in a game, posting to social media, or setting particular app preferences.

For information about creating events using the AWS Mobile SDK for Android or the AWS Mobile SDK for iOS, see Generating Mobile Analytics Events in the Amazon Mobile Analytics User Guide.

**To create a funnel**

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Amazon Pinpoint homepage, choose the app that you want to create a funnel for.
3. In the navigation panel, under Analytics, choose Funnels.
4. Choose Create funnel.
5. For Funnel name, type a name for the funnel.
6. Choose the events that you want to add to the funnel chart. For each event, specify the following:
   - **Name** – A name for the funnel chart.
   - **Event** – The event type reported by your app to Amazon Pinpoint.
   - **Attributes** – The attribute-value pairs that are assigned to the events you want to add to the chart.
7. To add more events, choose the add (+) button. You can also copy an event by choosing the copy (琦) icon.

**Streaming App and Campaign Events with Amazon Pinpoint**

Amazon Pinpoint can stream app usage and campaign engagement data, known as events, to supported AWS services, which provide more options for analysis and storage.

After you integrate your app with Amazon Pinpoint, it reports app events, such as the number of app sessions started by users. Amazon Pinpoint provides this data in the analytics charts for that app in the
console. The analytics charts also show campaign events generated by Amazon Pinpoint, such as the number of devices the campaign sent messages to.

Amazon Pinpoint retains this data for 90 days; however, you can't directly access it for custom analysis. To keep this data for an indefinite period of time, or to analyze it with custom queries and tools, you can configure Amazon Pinpoint to send events to Kinesis.

**Topics in this section:**
- About Amazon Kinesis (p. 103)
- Streaming Amazon Pinpoint Events to Kinesis (p. 103)

### About Amazon Kinesis

The Kinesis platform offers services that you can use to load and analyze streaming data on AWS. You can configure Amazon Pinpoint to send app and campaign events to Amazon Kinesis Data Streams or Amazon Kinesis Data Firehose. By streaming your events, you enable more flexible options for data analysis, such as:

- Converging the events from multiple apps into one stream so that you can analyze this data as a collection.
- Analyzing events with AWS query services. For example, you can use Amazon Kinesis Data Analytics to execute SQL queries against streaming data.

### About Amazon Kinesis Data Streams

Amazon Kinesis Data Streams is a service that you can use to build custom applications that process or analyze your streaming data. For example, streaming your events to Kinesis Data Streams is useful if you want to use event data in your custom dashboards, generate alerts based on events, or dynamically respond to events.

For more information, see the [Amazon Kinesis Data Streams Developer Guide](#).

### About Amazon Kinesis Data Firehose

Amazon Kinesis Data Firehose is a service that you can use to deliver your streaming data to AWS data stores, including Amazon Simple Storage Service (Amazon S3), Amazon Redshift, or Amazon Elasticsearch Service. For example, streaming your events to Kinesis Data Firehose is useful if you want to:

- Use your own analytics applications and tools to analyze events in Amazon S3, Amazon Redshift, or Amazon Elasticsearch Service.
- Send your events to Amazon S3 so that you can write SQL queries on this data with Amazon Athena.
- Back up your event data for long-term storage in Amazon S3.

For more information, see the [Amazon Kinesis Data Firehose Developer Guide](#).

### Streaming Amazon Pinpoint Events to Kinesis

The Kinesis platform offers services that you can use to load and analyze streaming data on AWS. You can configure Amazon Pinpoint to send app and campaign events to Amazon Kinesis Data Streams for processing in external applications or third-party analytics tools. You can also configure Amazon Pinpoint to stream this event data to AWS datastores (such as Amazon Redshift) using Amazon Kinesis Data Firehose.
Prerequisites

Before you complete the procedure in this section, create either an Amazon Kinesis stream or a Kinesis Data Firehose delivery stream in the same account in which you use Amazon Pinpoint. To learn more about creating Kinesis streams, see Kinesis Streams in the Amazon Kinesis Data Streams Developer Guide. To learn more about creating Kinesis Data Firehose delivery streams, see Creating an Amazon Kinesis Data Firehose Delivery Stream in the Amazon Kinesis Data Firehose Developer Guide.

You can optionally create an IAM role that grants permission to send data to your stream. If you do not create this role, Amazon Pinpoint can create one for you. For more information about creating this policy manually, see Permissions Policies in the Amazon Pinpoint Developer Guide.

Setting up Event Streaming

Complete the following steps in Amazon Pinpoint to set up event streaming.

To set up event streaming

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the Projects page, choose the app for which you want to set up data streaming.
3. In the navigation pane on the left, choose Settings.
5. Select the box next to Enable streaming of events to Amazon Kinesis.
6. Under Stream to Amazon Kinesis, choose one of the following options:
   - Send events to an Amazon Kinesis stream – choose this option if you want to send Amazon Pinpoint event data to an external application for analysis.
   - Send events to an Amazon Kinesis Data Firehose delivery stream – choose this option if you want to send event data to an AWS datastore, such as Amazon Redshift.
7. For Amazon Kinesis stream or Amazon Kinesis Data Firehose delivery stream, choose the Amazon Kinesis stream that you want to use to export the data.
   - Note
     If you have not yet created the Amazon Kinesis stream, open the Amazon Kinesis console at https://console.aws.amazon.com/kinesis. For more information about creating streams, see the Amazon Kinesis Data Streams Developer Guide or the Amazon Kinesis Data Firehose Developer Guide.
8. Under IAM role, choose one of the following options:
   - Automatically create a role – choose this option to automatically create an IAM role with the required permissions. This role authorizes Amazon Pinpoint to send data to the stream you chose in step 6.
   - Choose a role from your account – choose this option to have Amazon Pinpoint assume an IAM role that already exists in your account. The role you select must allow the firehose:PutRecordBatch action. For an example of a policy that allows this action, see Permissions Policies in the Amazon Pinpoint Developer Guide.
9. Choose Save.

As Amazon Pinpoint receives events from your app and generates campaign events, it sends this data to your Kinesis stream. For more information about the data that Amazon Pinpoint sends for an event, see Event Data in the Amazon Pinpoint Developer Guide.
Amazon Pinpoint Settings

Manage settings to tailor Amazon Pinpoint for your messaging use cases and requirements. You can control aspects of your app users’ experience, and you customize Amazon Pinpoint for your business needs.

Manage account settings (p. 105) to configure SMS messaging options that take effect for all of your Amazon Pinpoint projects. Account settings include your monthly SMS spending limit, sender ID, two-way SMS response messages, and more.

Manage project settings (p. 109) to specify the default settings for an individual project, including the frequency with which your app users receive messages and the times at which they receive messages.

Topics
- Managing Account Settings in Amazon Pinpoint (p. 105)
- Managing Project Settings in Amazon Pinpoint (p. 109)

Managing Account Settings in Amazon Pinpoint

Use the Account settings page in the Amazon Pinpoint console to manage account-level SMS settings that take effect for all of your Amazon Pinpoint projects. The settings include SMS spending limits, your default sender ID, automated keyword responses, and two-way SMS options.

Some of the SMS settings on this page are unavailable until you contact AWS Support. For example, you must submit a case with AWS Support if you want to increase your spend limit, reserve a dedicated origination number, or reserve a custom sender ID. For more information, see the section called “Requesting SMS Support” (p. 28).

Because these settings apply to your AWS account, they might also apply to Amazon SNS, an AWS service that you can also use to send SMS messages.

To manage your account settings, sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/. Then, on the Projects page, choose Account settings.

Under SMS, configure your general SMS settings, and configure the number settings for your short codes and long codes.

General SMS Settings

Specify your general SMS preferences, such as your default message type and your monthly spending limit.

To configure general SMS settings
1. Under General, for Default message type, choose the type of SMS message that you will usually send:
   - Promotional – Noncritical messages, such as marketing messages. Amazon Pinpoint optimizes the message delivery for lowest cost.
Number Settings

You can manage settings for the dedicated short codes and long codes that you've requested from AWS Support that are assigned to your account.

A short code is a 5-digit or 6-digit number that's meant for high-volume SMS messaging. To request a dedicated short code, see the section called “Requesting Short Codes” (p. 31).

A long code is a standard 10-digit phone number that is meant for low-volume, person-to-person communication. To request a dedicated long code, see the section called “Requesting Long Codes” (p. 34).

After you receive one or more dedicated short codes or long codes from AWS, those numbers are provided under Number settings, where you can manage settings for keywords and two-way SMS.

Keyword Settings

A keyword is a specific word or phrase that a customer can send to your number to elicit a response, such as an informational message or a special offer. When your number receives a message that begins with a keyword, Amazon Pinpoint responds with a customizable message.

For short codes, the console shows the keywords and responses that you initially define when you request a short code from AWS Support. AWS Support registers your keywords and responses with the wireless carriers when it provisions your short code.
For long codes, the console shows the default keywords and responses.

**Important**
Your keywords and response messages must comply with guidelines set by wireless carriers and wireless industry groups. Otherwise, following an audit, such groups might take action against your short code or long code. This action can include blacklisting your number and blocking your messages.

**Default Keywords**

The following keywords are required by wireless carriers in the US for short codes. They are expected by AWS for all long codes and short codes:

**HELP**

Used to obtain customer support. The response message must include customer support contact information, as in the following example:

“For assistance with your account, call 1 (NNN) 555-0199.”

**STOP**

Used to opt out of receiving messages from your number. In addition to STOP, your audience can use any supported opt-out keyword, such as CANCEL or OPTOUT. For all opt-out keywords, see SMS Opt Out (p. 40). After your number receives an opt-out keyword, Amazon Pinpoint stops sending SMS messages from your account to the individual who opted out.

The response message must confirm that messages are no longer sent to the individual who opted out, as in the following example:

“You are now opted out and will no longer receive messages.”

**Registered Keyword**

A registered keyword is a keyword that's specific to your SMS use case. When you use short codes, you're required to register this keyword with mobile carriers. Customers can send this keyword to your short code to get more information about the products and services you offer.

**Managing Keyword Settings**

Use the Amazon Pinpoint console to customize the keyword responses for your number.

1. On the **Account settings** page, under **Number settings**, choose the short code or long code that you want to manage keyword responses for.

   The **Number settings** page displays. Under **Keywords**, the console provides:

   - The default keywords HELP and STOP. You can edit the response messages, but you can’t edit the keywords.
   - Your registered keyword. If you want to change your registered keyword, you must first open a case with AWS Support and request to update your keyword with the wireless carriers. Then, you must edit the keyword in the Amazon Pinpoint console to match. You can also edit the response message, but the intent of the message must remain consistent with the message that you provide to AWS Support.

2. In the table that contains the keyword you want to edit, choose **Edit**, and edit the keyword and response message as needed.

3. When you finish making your changes, choose **Save**.
Two-Way SMS Settings

You can define keywords for messages that you want to receive and process outside of Amazon Pinpoint. When your number receives an SMS message that begins with one of these keywords, Amazon Pinpoint sends the message and related data to an Amazon SNS topic in your account. You can use Amazon SNS to publish the message to topic subscribers, or to AWS services for further processing.

To set up two-way SMS

1. On the Account settings page, under Number settings, choose the short code or long code that you want to manage two-way SMS settings for.
2. Choose Enable 2-way SMS.
3. Under Keywords, you can add or edit keywords and response messages. When your number receives an SMS message that contains one of these keywords, Amazon Pinpoint does the following:
   - Sends the message to your Amazon SNS topic.
   - Responds with the keyword response message, if you specified one.
4. Under Amazon SNS topic, specify the topic that receives your SMS messages with one of the following options:
   - Automatically create a topic – Amazon Pinpoint creates a topic in your account.
   - Choose a topic from your account – Specify the ARN of a topic in your account.
5. Choose Save.

Self-Managed Opt-Outs

By default, when a customer sends a message that begins with "HELP" or "STOP" to one of your dedicated numbers, Amazon Pinpoint automatically replies with a customizable message. In the case of incoming "STOP" messages, Amazon Pinpoint also opts the customer out of receiving future SMS messages. If you prefer to manage "HELP" and "STOP" responses outside of Amazon Pinpoint, you can enable self-managed opt-outs.

Note
To enable self-managed opt-outs for a number, you must first enable two-way SMS for that number.

When you enable this feature, there are three changes to the way Amazon Pinpoint handles incoming messages that your customers send to the specified long or short code. First, it stops sending automatic responses to incoming "HELP" and "STOP" messages. (However, you can use the keyword settings section (p. 107) to manually configure responses to these messages.) Second, Amazon Pinpoint stops automatically opting your customers out of receiving future SMS messages when they send a "STOP" message. And finally, it routes incoming "HELP" and "STOP" messages to the Amazon SNS topic that you use to receive two-way SMS messages, rather than automatically responding to the sender.

If you enable this feature, you’re responsible for responding to "HELP" and "STOP" requests. You’re also responsible for tracking and honoring opt-out requests.

Important
Many countries, regions, and jurisdictions impose severe penalties for sending unwanted SMS messages. If you enable this feature, make sure that you have systems and processes in place for capturing and managing opt-outs.

To enable self-managed opt-outs

1. On the Account settings page, under Number settings, choose the short code or long code that you want to enable self-managed opt-outs for.
2. On the **Number settings** page, expand the **Two-way SMS** section.
3. Enable and set up two-way SMS, if you haven't already done so. For more information about setting up two-way SMS, see Two-Way SMS Settings (p. 108).

## Managing Project Settings in Amazon Pinpoint

You can use the Amazon Pinpoint console to specify default settings for your project, such as the maximum number of messages that each campaign can deliver to your users.

### To manage the default project settings

1. Sign in to the AWS Management Console and open the Amazon Pinpoint console at https://console.aws.amazon.com/pinpoint/.
2. On the **Projects** page, choose the project for which you want to manage settings.
3. In the navigation menu, choose **Settings**.

On the **Settings** page, under the **Project** tab, you can set the following options:

- **Maximum number of messages a user can receive per day** – The number of messages that each campaign for the app can send to each user daily.
- **Maximum number of messages a user can receive for a campaign** – The total number of messages that each campaign for the app can send.
- **Maximum number of messages a campaign can send per second** – The number of messages per second that each campaign can send. The minimum value is 50, and the maximum value is 20,000.
- **Maximum number of seconds a campaign can be running** – The amount of time, in seconds, in which each campaign attempts to deliver a message after its scheduled delivery time. The minimum value is 60.
- **Quiet time** – The default quiet time for the app. Each campaign for this app sends no messages during this time unless the campaign overrides the default with a quiet time of its own.
- **Abbreviated numbers** – Simplifies large numbers in the Amazon Pinpoint console. For example, 10,534,534 will be represented as 10.53 M.

Under the **Event streams** tab, you can configure Amazon Pinpoint to stream app and campaign events to Amazon Kinesis. For more information, see Streaming App and Campaign Events with Amazon Pinpoint (p. 102).

Under the **Channels** tab, you can manage the settings for your mobile push and email channels, and you can enable the SMS channel for your project. To manage SMS settings, use the **Account settings** page. For more information, see:

- Managing Mobile Push Channels with Amazon Pinpoint (p. 15)
- Updating Email Settings (p. 21)
- Managing Account Settings in Amazon Pinpoint (p. 105)
The following table describes the documentation for this release of Amazon Pinpoint.

- **Latest documentation update:** June 19, 2018

<table>
<thead>
<tr>
<th>Change</th>
<th>Description</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>Email tutorial</td>
<td>Added a tutorial (p. 4) that includes complete procedures for setting up a campaign and sending an email.</td>
<td>June 19, 2018</td>
</tr>
<tr>
<td>Analytics chart references</td>
<td>The Analytics section now includes several new and updated reports. We've added documentation (p. 87) that gives you additional information about each metric.</td>
<td>June 12, 2018</td>
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<td>Testing campaigns</td>
<td>You can now test your messages (p. 74) by sending them to a segment or to a list of individual recipients.</td>
<td>May 7, 2018</td>
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<td>Define segments by importing user IDs</td>
<td>Define a segment by importing a file that contains a list of user IDs (p. 60). When you send a message to the segment, the potential destinations include each endpoint that's associated with each user ID in the file.</td>
<td>May 7, 2018</td>
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<tr>
<td>Phone number verification for SMS</td>
<td>Use the Amazon Pinpoint API to verify a phone number (p. 55) to determine whether it is a valid destination for SMS messages.</td>
<td>April 23, 2018</td>
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<td>Self-managed opt-outs and dashboard exports</td>
<td>You can configure your SMS account settings so that you can manage SMS opt-outs outside of Amazon Pinpoint (p. 108). You can also export Amazon Pinpoint dashboards (p. 88) for further analysis.</td>
<td>March 28, 2018</td>
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<tr>
<td>Email project creation and identity verification</td>
<td>Added information about creating email projects (p. 17) and verifying identities used to send email (p. 18).</td>
<td>March 21, 2018</td>
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<tr>
<td>Change</td>
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<tr>
<td>SMS best practices</td>
<td>Added a best practices guide (p. 52) that contains tips and information related to SMS campaigns.</td>
<td>February 23, 2018</td>
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<tr>
<td>Requesting support for SMS use cases</td>
<td>Contact AWS Support to request support for your SMS use case (p. 28) if you want to increase your spending limit, reserve an origination number, or reserve a sender ID.</td>
<td>February 21, 2018</td>
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<tr>
<td>Segment import documentation</td>
<td>Amazon Pinpoint can now create an IAM role for you automatically.</td>
<td>February 6, 2018</td>
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<tr>
<td>Two-way SMS support by country</td>
<td>Updated the table of Supported Countries and Regions for the SMS channel (p. 44) to list the countries and regions that support 2-way SMS.</td>
<td>February 5, 2018</td>
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<tr>
<td>Time to Live value for mobile push</td>
<td>In the Amazon Pinpoint console, you can specify a Time to Live (TTL) value when you write a mobile push message (p. 71) for a campaign.</td>
<td>December 22, 2017</td>
</tr>
<tr>
<td>Removal of Amazon S3 export documentation</td>
<td>The ability to export Amazon Pinpoint event data directly to Amazon S3 has been deprecated. Instead, you can use Amazon Kinesis Data Firehose to send event data to Amazon S3, Amazon Redshift, and other AWS services. For more information, see the section called “Streaming Events” (p. 102).</td>
<td>December 18, 2017</td>
</tr>
<tr>
<td>Segment import documentation</td>
<td>Importing Segments (p. 60) includes updated information about how to create endpoint files, the attributes you can use within these files, and how to create an IAM role for importing.</td>
<td>October 26, 2017</td>
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<tr>
<td>Change</td>
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<tr>
<td>APNs token authentication and APNs sandbox support</td>
<td>The APNs channel settings (p. 15) accept a .p8 signing key so that Amazon Pinpoint can construct authentication tokens for your push notifications. Use the APNs channel to send notifications to production and sandbox environments.</td>
<td>September 27, 2017</td>
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<td>ADM and Baidu mobile push</td>
<td>Enable mobile push channels (p. 15) for Amazon Device Message and Baidu Cloud Push in your projects.</td>
<td>September 27, 2017</td>
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<td>User analytics with Amazon Cognito user pools</td>
<td>To enable analytics about users and authentication (p. 90), use Amazon Cognito user pools to manage user sign-in.</td>
<td>September 26, 2017</td>
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<tr>
<td>Account settings</td>
<td>Use the Account settings (p. 105) page in the console to manage account-level SMS settings that take effect for all of your projects.</td>
<td>September 11, 2017</td>
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<td>Users analytics</td>
<td>Users charts (p. 90) in the Amazon Pinpoint console provide metrics about app usage and user authentication.</td>
<td>August 31, 2017</td>
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<td>Direct email messages</td>
<td>You can send email messages directly (p. 84), to a limited audience, without creating a campaign or engaging a segment.</td>
<td>July 05, 2017</td>
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<tr>
<td>New channels: email and SMS</td>
<td>In addition to the mobile push (p. 13) channel, you can enable email (p. 16) and SMS (p. 24) channels as part of your Amazon Pinpoint projects. With these channels enabled, you can send emails or text messages with your campaigns.</td>
<td>June 08, 2017</td>
</tr>
<tr>
<td>Direct messaging</td>
<td>You can send push notifications and text messages directly (p. 83), to a limited audience, without creating a campaign or engaging a segment.</td>
<td>June 08, 2017</td>
</tr>
<tr>
<td>Change</td>
<td>Description</td>
<td>Date</td>
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<td>------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>Revenue charts</td>
<td>You can view revenue charts (p. 93) in the Amazon Pinpoint console to see the revenue that is generated by your app and the number of items purchased by users.</td>
<td>March 31, 2017</td>
</tr>
<tr>
<td>Event streams</td>
<td>You can configure Amazon Pinpoint to send your app and campaign events to an Kinesis stream (p. 102).</td>
<td>March 24, 2017</td>
</tr>
<tr>
<td>Amazon Pinpoint general availability</td>
<td>This release introduces Amazon Pinpoint.</td>
<td>December 1, 2016</td>
</tr>
</tbody>
</table>