

★Types of Messages

★Notification Messages

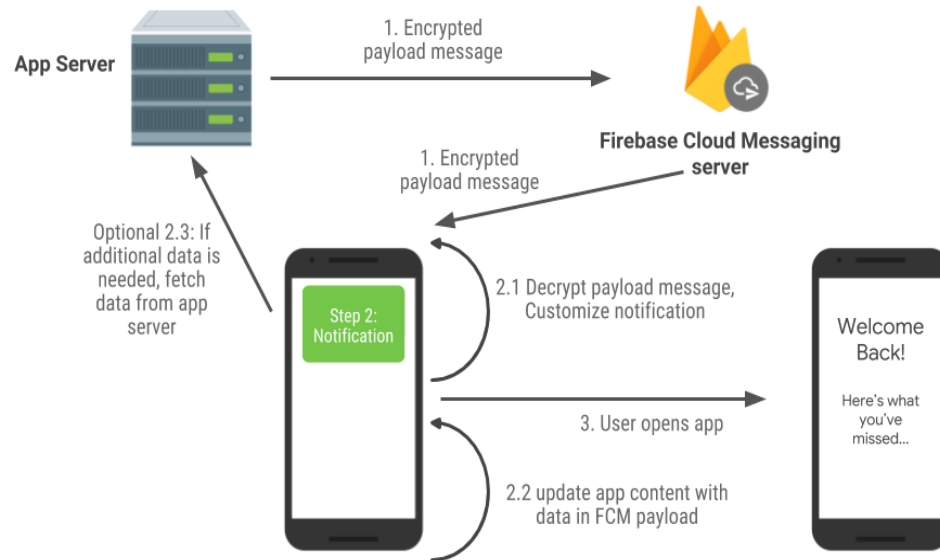
These are handled by the FCM SDK automatically.

- Background: the system handles showing the notification on behalf of your app.
- Foreground: the FCM notification message is delivered to the `onMessageReceived()` handler. Your app will handle it by posting a notification of fetch content from app server.
- Json format

```
{
  "message":{
    "token":"bk3RNwTe3H0:CI2k_HHwgIpoDKCIZvvDMExUdFQ3P1..."
  },
  "notification":{
    "title":"Portugal vs. Denmark",
    "body":"great match!"
  }
}
```

- Json format of Notification messages with additional payload data

```
{
  "message":{
    "token":"bk3RNwTe3H0:CI2k_HHwgIpoDKCIZvvDMExUdFQ3P1...",
    "notification":{
      "title":"Portugal vs. Denmark",
      "body":"great match!"
    },
    "data" : {
      "Nick" : "Mario",
      "Room" : "PortugalVSDenmark"
    }
  }
}
```



★ Data Message

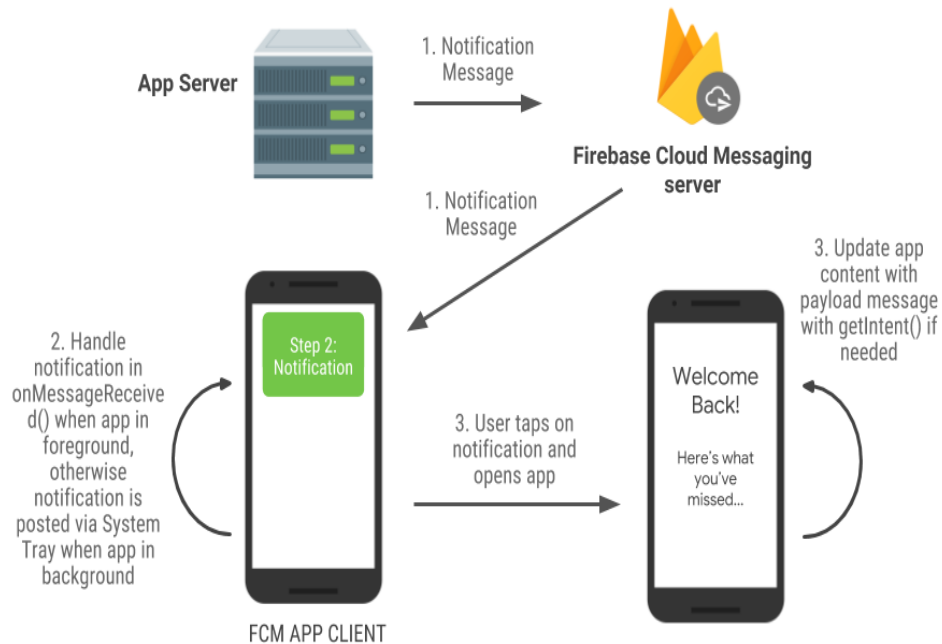
These are handled by the client app.

- When sending data messages, you need to handle the messages in `onMessageReceived()` callback in the client app.
- Json format

```

{
  "message": {
    "token": "bk3RNwTe3H0:CI2k_HHwgIpoDKCIZvvDMExUdFQ3
P1...",
    "data": {
      "Nick" : "Mario",
      "body" : "great match!",
      "Room" : "PortugalVSDenmark"
    }
  }
}

```



★The limitation

- Notification messages contain a predefined set of user-visible keys. Data messages, by contrast, contain only your user-defined custom key-value pairs. Notification messages can contain an optional data payload. Maximum payload for both message types is 4000 bytes, except when sending messages from the Firebase console, which enforces a 1024 character limit.

(<https://firebase.google.com/docs/cloud-messaging/concept-options>)

- if the payload data included in message exceed FCM limit, we will get this errors

① http-server-ref (<https://firebase.google.com/docs/cloud-messaging/http-server-ref#error-codes> table 9)

Message Too Big	200 + error:MessageTooBig	Check that the total size of the payload data included in a message does not exceed FCM limits: 4096 bytes for most messages, or 2048 bytes in the case of messages to topics. This includes both the keys and the values.
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- ② Firebase Admin FCM API error codes
(<https://firebase.google.com/docs/cloud-messaging/send-message#example-notification-message-with-platform-specific-delivery-options>)

messaging/payload-size-limit-exceeded	The provided message payload exceeds the FCM size limits. The limit is 4096 bytes for most messages. For messages sent to topics, the limit is 2048 bytes. The total payload size includes both keys and values.
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