

# Messaging Service

## Background

At Hatch, we work with several message providers to offer a unified way for our Customers to communicate to their Contacts. Today we offer sms, mms, email, voice calls, and voicemail drops. Your task is to implement the core messaging functionality of Hatch, on a much smaller scale.

## Requirements

The service should implement:

- An API to send and receive message from both providers
- Messages should be grouped into Conversations
- Conversations (and messages) should be persisted in a relational database

## General Guidelines

- Assume that a provider may return HTTP error codes like 429 and plan accordingly
- Conversations consist of messages from multiple providers
- Feel free to consult providers such as Twilio or Sendgrid docs when designing your solution
- It's OK to use google or a coding assistant to produce your code. Just make sure you know it well, because the next step will be to code additional features in this codebase with us during your full interview.

## Providers

### SMS & MMS

URL: [www.provider.app/api/messages](http://www.provider.app/api/messages)

**Example outbound payload to send an SMS or MMS**

```
{
  "from": "from-phone-number",
  "to": "to-phone-number",
  "type": "mms" | "sms",
  "body": "text message",
  "attachments": ["attachment-url"] | [] | null,
  "timestamp": "2024-11-01T14:00:00Z" // UTC timestamp
}
```

### Example inbound SMS

```
{
  "from": "+18045551234",
  "to": "+12016661234",
  "type": "sms",
  "messaging_provider_id": "message-1",
  "body": "text message",
  "attachments": null,
  "timestamp": "2024-11-01T14:00:00Z" // UTC timestamp
}
```

### Example inbound MMS

```
{
  "from": "+18045551234",
  "to": "+12016661234",
  "type": "mms",
  "messaging_provider_id": "message-2",
  "body": "text message",
  "attachments": ["attachment-url"] | [],
  "timestamp": "2024-11-01T14:00:00Z" // UTC timestamp
}
```

### Email Provider

URL: [www.mailplus.app/api/email](http://www.mailplus.app/api/email)

### Example Inbound Email

```
{
  "from": "user@usehatchapp.com",
  "to": "contact@gmail.com",
  "xillio_id": "message-2",
  "body": "<html><body>html is <b>allowed</b> here </body></html>", "attachr
  "timestamp": "2024-11-01T14:00:00Z" // UTC timestamp
}
```

### Example Email Payload

```
{
  "from": "user@usehatchapp.com",
  "to": "contact@gmail.com",
  "body": "text message with or without html",
  "attachments": ["attachment-url"] | [],
  "timestamp": "2024-11-01T14:00:00Z" // UTC timestamp
}
```