title: Audio streaming interface weight: 25

Audio streaming between an audio gateway and an audio client uses a web socket interface.

Communication Messages

Messages are used on the web socket interface to communicate between the audio client and the audio gateway. All messages are in JSON format. Each message includes a transaction ID that is used by the audio gateway to track the transaction. To ensure that each ID is unique, consider using a globally unique identifier (GUID) for the transaction ID.

Audio start

Audio start messages are sent between the audio client and the audio gateway. The message indicates that the sender is ready to send audio data. You can optionally specify which speech-to-text (stt) engine to use for the transaction. If included, the `stt` value overridess the default settings.

Example:

```
{
  "id": "86836b60-0a5f-11e7-aa14-a3b192c91ac9",
  "action": "audio_start",
  "options": {
    "stt": {},
    "tts": {}
  }
}
```

Note: Overriding the tts engine to use is not supported.

Audio data

Audio data messages are sent between the audio client and the audio gateway. The message is used to send audio data in binary format. Use the data parameter to specify the content of the binary data in string format. Use the encoding parameter to specify the type of encoding to use, for example, base64. The message is always preceded by an audio start message.

Example:

```
{
"id": "86836b60-0a5f-11e7-aa14-a3b192c91ac9",
"action": "audio_data",
"data": {},
"encoding": "base64"
}
```

Audio end

Audio end messages are sent between the audio client and the audio gateway. The message indicates that the sender has completed the sending of audio data. The message is always preceded by an audio start message.

Example (from audio client):

```
{
  "id": "86836b60-0a5f-11e7-aa14-a3b192c91ac9",
  "action": "audio_end",
}
```

Example (from audio gateway):

```
{
  "id": "86836b60-0a5f-11e7-aa14-a3b192c91ac9",
  "action": "audio_end",
  "prompt": (true|false)
}
```

To specify that that audio gateway expects a response from the audio client, set `prompt` to `true`. When set to true, if the device supports it, the audio device accepts the user input without first requiring a wake up word or some other action.

Speech-to-text options

Speech-to-text options messages are sent from the audio client to the audio gateway. The message specifies which speech-to-text engine to use for the current transaction.

Example:

```
{
  "id": "86836b60-0a5f-11e7-aa14-a3b192c91ac9",
  "action": "stt_options",
  "options": {
    "engine": "watson",
    "content_type": "audio/l16; rate=16000; channels=1",
    "inactivity_timeout": -1,
    "smart_formatting": true
  }
}
```

Note:

- You can also override which speech-to-text option to use in the audio start message.

- You cannot override the audio format and sampling rate that is set in `content_type`.

Text

Text messages are sent between the audio client and the audio gateway. The audio client can send a text message to the audio gateway. The audio gateway can use a text message to deliver a textual response.

Example:

```
{
  "id": "86836b60-0a5f-11e7-aa14-a3b192c91ac9",
  "action": "text",
  "text": "Hello world"
}
```

Location

Location messages are sent from the audio client to the audio gateway. The messages can be used to provide the current location of the audio device.

Example:

```
{
  "id": "86836b60-0a5f-11e7-aa14-a3b192c91ac9",
  "action": "location",
  "location": {
    "latitude": 45.408032,
    "longitude": -123.0083655
  }
}
```

Alternatively, you might use a configuration parameter to determine the location of the audio device. If a configuration parameter is used, the location message can be ignored.

Response

A response message is sent from the audio gateway to the audio client. The data parameter includes the response from the skill that processed the request.

Example:

```
{
  "id": "86836b60-0a5f-11e7-aa14-a3b192c91ac9",
  "action": "response",
  "data": {}
}
```

Speech-to-text transcript

Speech-to-text transcript messages are sent from the audio gateway to the client. The message provides a transcript of the audio response in text format. The ID parameter matches the transaction ID in the audio start message. The transactionID parameter is used for reporting errors in the transcript.

Example:

```
{
  "id": "86836b60-0a5f-11e7-aa14-a3b192c91ac9",
  "action": "stt_transcript",
  "transcript": "hello world",
  "confidence": 0.987654321,
  "transactionId" "abcdefg"
}
```

Error

Error messages are sent from the audio gateway to the audio client when an error occurs. The ID parameter matches the transaction ID of the transaction that caused the error.

Example:

```
{
  "id": "86836b60-0a5f-11e7-aa14-a3b192c91ac9",
  "action": "error",
  "error": {}
}
```

> **What to do next?**
> Learn how to configure STT and TTS.