

The [Interactions API](/gemini-api/docs/interactions-overview) (/gemini-api/docs/interactions-overview) is now generally available. We recommend using this API for access to all the latest features and models.

Live Music API - WebSockets API reference



Preview: The Live Music API is in preview.

Lyria RealTime music generation uses a persistent, bidirectional, low-latency streaming connection using [WebSockets](https://en.wikipedia.org/wiki/WebSocket) (https://en.wikipedia.org/wiki/WebSocket). In this section, you'll find additional details regarding the WebSockets API.

Sessions

A WebSocket connection establishes a session to keep a real-time communication with the model. After a client initiates a new connection the session can exchange messages with the server to:

- Send prompts and controls to steer music generation.
- Send music playback controls.
- Receive audio chunks.

WebSocket connection

To start a session, connect to this websocket endpoint:

```
wss://generativelanguage.googleapis.com/ws/google.ai.generativelanguage.v1alpha.0
```

Note: The URL is for version **v1alpha**.

Session configuration

The initial message after connection sets the model to use during the session.

See the following example configuration. Note that the name casing in SDKs may vary. You can look up the [Python SDK configuration options here](https://github.com/googleapis/python-genai/blob/main/google/genai/live_music.py) (https://github.com/googleapis/python-genai/blob/main/google/genai/live_music.py).

```
{
  "model": string
}
```

Send messages

To exchange messages over the WebSocket connection, the client must send a JSON object over an open WebSocket connection. The JSON object must have **exactly one** of the fields from the following object set:

```
{
  "setup": BidiGenerateMusicSetup,
  "client_content": BidiGenerateMusicClientContent,
  "music_generation_config": BidiGenerateMusicGenerationConfig,
  "playback_control": BidiGenerateMusicPlaybackControl
}
```

Supported client messages

See the supported client messages in the following table:

Message	Description
BidiGenerateMusicSetup	Session configuration to be sent only in the first message

Message	Description
BidiGenerateMusicClientContent	Weighted prompts as the model input
BidiGenerateMusicGenerationConfig	Configuration for music generation
BidiGenerateMusicPlaybackControl	Playback control signals for model generation

Receive messages

To receive messages from the server, listen for the WebSocket 'message' event, and then parse the result according to the definition of the supported server messages.

See the following:

```
async def receive_audio(session):
    """Example background task to process incoming audio."""
    while True:
        async for message in session.receive():
            audio_data = message.server_content.audio_chunks[0].data
            # Process audio...
            await asyncio.sleep(10**-12)

async with (
    client.aio.live.music.connect(model='models/lyria-realtime-exp') as session,
    asyncio.TaskGroup() as tg,
):
    # Set up task to receive server messages.
    tg.create_task(receive_audio(session))

    # Send initial prompts and config
    await session.set_weighted_prompts(
        prompts=[
            types.WeightedPrompt(text='minimal techno', weight=1.0),
        ]
    )
    await session.set_music_generation_config(
        config=types.LiveMusicGenerationConfig(bpm=90, temperature=1.0)
```

```
)

# Start streaming music
await session.play()
```

Server messages include **exactly one** of the other fields from the **BidiGenerateMusicServerMessage** (#BidiGenerateMusicServerMessage) message. (The **messageType** union is not expressed in JSON so the field will appear at the top-level of the message.)

Messages and events

AudioChunk

Representation of an audio chunk.

Fields	
Union field content . content can be only one of the following:	
data	bytes Raw bytes of the audio chunk.
contentType	string The MIME type of the content of the audio chunk, such as "audio/wav".
sourceMetadata	<u>SourceMetadata</u> (#AudioChunk.SourceMetadata) Output only. Prompts and config used for generating this audio chunk.

SourceMetadata

Metadata about the input source used for generating this audio chunk.

Fields

clientContent	<u>BidiGenerateMusicClientContent</u> (#BidiGenerateMusicClientContent) Weighted prompts for generating this audio chunk.
musicGenerationConfig	<u>BidiGenerateMusicGenerationConfig</u> (#BidiGenerateMusicGenerationConfig) Music generation config for generating this audio chunk.

BidiGenerateMusicClientContent

User input to start or steer the music.

Fields

weightedPrompts[]	<u>WeightedPrompt</u> (#WeightedPrompt) Required. Weighted prompts as the model input.
---------------------------	--

BidiGenerateMusicClientMessage

Messages sent by the client in the BidiGenerateMusic call.

Fields

Union field **messageType**.

messageType can be only one of the following:

setup	<u>BidiGenerateMusicSetup</u> (#BidiGenerateMusicSetup) Optional. Session configuration sent only in the first client message.
clientContent	<u>BidiGenerateMusicClientContent</u> (#BidiGenerateMusicClientContent)

Fields	
	Optional. Weighted prompts and music generation configs as the input of music generation.
musicGenerationConfig	<u>BidiGenerateMusicGenerationConfig</u> (#BidiGenerateMusicGenerationConfig) Optional. Configuration for music generation.
playbackControl	<u>BidiGenerateMusicPlaybackControl</u> (#BidiGenerateMusicPlaybackControl) Optional. Playback control signal for the music generation.

BidiGenerateMusicFilteredPrompt

Filtered prompt with reason.

Fields	
filteredReason	string Output only. The reason why the prompt was filtered.
Union field prompt . The prompt that was filtered. prompt can be only one of the following:	
text	string Optional. Text prompt.

BidiGenerateMusicGenerationConfig

Configuration for music generation.

Fields	
temperature	float Optional. Controls the variance in audio generation. Higher values produce higher variance. Range is [0.0, 3.0]. Default is 1.1.
topK	int32 Optional. Controls how the model selects tokens for output. Samples the topK tokens with the highest probabilities. Range is [1, 1000]. Default is 40.
seed	int32 Optional. Seeds audio generation. If not set, the request uses a randomly generated seed.
guidance	float Optional. Controls how closely the model follows prompts. Higher guidance follows more closely, but will make transitions more abrupt. Range is [0.0, 6.0]. Default is 4.0.
bpm	int32 Optional. Beats per minute. Range is [60, 200].
density	float Optional. Density of sounds. Range is [0.0, 1.0].
brightness	float Optional. Higher value produces brighter audio. Range is [0.0, 1.0].
scale	<u>Scale</u> (#BidiGenerateMusicGenerationConfig.Scale) Optional. Scale of the generated music.

Fields	
muteBass	bool Optional. The audio output should not contain bass.
muteDrums	bool Optional. The audio output should not contain drums.
onlyBassAndDrums	bool Optional. The audio output should only contain bass and drums.
musicGenerationMode	<u>MusicGenerationMode</u> (#BidiGenerateMusicGenerationConfig.MusicGenerationMode) Optional. The mode of music generation. Default is QUALITY.

MusicGenerationMode

Enums	
MUSIC_GENERATION_MODE_UNSPECIFIED	This value is unused.
QUALITY	This mode steers text prompts to regions of latent space with higher quality music.
DIVERSITY	This mode steers text prompts to regions of latent space with a larger diversity of music.
VOCALIZATION	This mode steers text prompts to regions of latent space more likely to generate vocal music.

Scale

Scale of the generated music.

Enums	
SCALE_UNSPECIFIED	Default value. This value is unused.
C_MAJOR_A_MINOR	C major or A minor
D_FLAT_MAJOR_B_FLAT_MINOR	D flat major or B flat minor
D_MAJOR_B_MINOR	D major or B minor
E_FLAT_MAJOR_C_MINOR	E flat major or C minor
E_MAJOR_D_FLAT_MINOR	E major or D flat minor
F_MAJOR_D_MINOR	F major or D minor
G_FLAT_MAJOR_E_FLAT_MINOR	G flat major or E flat minor
G_MAJOR_E_MINOR	G major or E minor
A_FLAT_MAJOR_F_MINOR	A flat major or F minor
A_MAJOR_G_FLAT_MINOR	A major or G flat minor
B_FLAT_MAJOR_G_MINOR	B flat major or G minor
B_MAJOR_A_FLAT_MINOR	B major or A flat minor

BidiGenerateMusicPlaybackControl

Playback control for the music generation.

Enums	
PLAYBACK_CONTROL_UNSPECIFIED	This value is unused.
PLAY	Start generating the music.
PAUSE	Hold the music generation. Use PLAY to resume from the current position.
STOP	Stop the music generation and reset the context (prompts retained). Use PLAY to restart the music generation.
RESET_CONTEXT	Reset the context (prompts retained) without stopping the music generation.

BidiGenerateMusicServerContent

Incremental server update generated by the model in response to client messages.

Content is generated as quickly as possible, and not in real time. Clients may choose to buffer and play it out in real time.

Fields	
audioChunks[]	<u>AudioChunk</u> (#AudioChunk) Output only. Audio chunks that the model has generated.

BidiGenerateMusicServerMessage

Response message for the BidiGenerateMusic call.

Fields	
Union field messageType . The type of the message. messageType can be only one of the following:	
setupComplete	<u>BidiGenerateMusicSetupComplete</u> (#BidiGenerateMusicSetupComplete) Output only. Sent in response to a BidiGenerateMusicSetup message from the client when setup is complete.
serverContent	<u>BidiGenerateMusicServerContent</u> (#BidiGenerateMusicServerContent) Output only. Content generated by the model in response to client messages.
filteredPrompt	<u>BidiGenerateMusicFilteredPrompt</u> (#BidiGenerateMusicFilteredPrompt) Output only. Filtered prompt with reason.
warning	string Output only. The warning message from the server. Warnings won't terminate the stream.

BidiGenerateMusicSetup

Message to be sent in the first (and only in the first) **BidiGenerateMusicClientMessage**.

Clients should wait for a **BidiGenerateMusicSetupComplete** message before sending any additional messages.

Fields	
model	string Required. The model's resource name. This serves as an ID for the model to use. Format: models/{model}

BidiGenerateMusicSetupComplete

This type has no fields.

Sent in response to a `BidiGenerateMusicSetup` message from the client.

WeightedPrompt

Weighted prompt as the model input.

Fields	
weight	float Required. Weight of the prompt. The weight is used to control the relative importance of the prompt. Higher weights are more important than lower weights. Weights of all weighted_prompts in this BidiGenerateMusicClientContent must not be all 0. Weights of all weighted_prompts in this BidiGenerateMusicClientContent message will be normalized.
Union field prompt. prompt can be only one of the following:	
text	string Text prompt.

More information on types

For more information on the types used by the API, see the [Python SDK](https://github.com/googleapis/python-genai/blob/main/google/genai/types.py) (<https://github.com/googleapis/python-genai/blob/main/google/genai/types.py>).

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