Send a stream from Wowza Streaming Engine to an ultra low latency stream target in Wowza Streaming Cloud using Wowza APIs

With Wowza Streaming Engine™ media server software version 4.2 and later and a Wowza Streaming Cloud™ with Ultra Low Latency subscription, you can use the Stream Targets feature in Wowza Streaming Engine to send a single stream to an ultra low latency target in Wowza Streaming Cloud. This allows you to use an existing Wowza Streaming Engine configuration to deliver an ultra low latency stream to viewers through Wowza Streaming Cloud.

This article explains how to use the Wowza Streaming Cloud REST API and the Wowza Streaming Engine REST API to send a live stream from Wowza Streaming Engine to a Wowza Streaming Cloud ultra low latency stream target for delivery to viewers. It also points to information about configuring playback with Wowza Player for Ultra Low Latency and information on playback with a mobile app created with Wowza GoCoder SDK.

**Note:** For instructions on executing this workflow using the Wowza Streaming Engine Manager and the Wowza Streaming Cloud web manager instead of Wowza REST APIs, see [Send a stream from Wowza Streaming Engine to an ultra low latency stream target in Wowza Streaming Cloud](#).

**Video tutorial:** Sending a stream from Wowza Streaming Engine to an ultra low latency stream target in Wowza Streaming Cloud
Create an ultra low latency stream target in Wowza Streaming Cloud

If you don’t have an ultra low latency stream target already created, start by creating one using the Wowza Streaming Cloud REST API. See Create an ultra low latency stream target for detailed information about available parameters.

Example request and response

Create an ultra low latency stream target:

```json
{"stream_target_ull":{
    "name": "My Ultra Low Latency Push Target from Wowza Streaming Engine",
    "source_delivery_method": "push",
    "enable_hls": true
}}
```

The request creates an ultra low latency stream target with an id parameter, ingest connection details, and playback details. You will need the primary_url from this response to configure Wowza Streaming Engine to send the stream. The response should look something like this:
Configure a live application in Wowza Streaming Engine

**Tip:** If you have already created an ultra low latency stream target, you can view source configuration details using a GET query.
Next, using the Wowza Streaming Engine REST API, configure the live application that ships with Wowza Streaming Engine to ingest a source stream (publisher) that will receive the live stream from an H.264 encoder or camera.

### Wowza Streaming Engine stream source (publisher) parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Data Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>publisherName</td>
<td>String</td>
<td>A descriptive name for the publisher, for example, MyRTMPencoder.</td>
</tr>
</tbody>
</table>

### Example request and response

**Note:** Wowza Streaming Engine REST API requests must include three headers: `Accept:application/json`, `Content-Type:application/json`, and `charset=utf-8`. For more information, see [Query the Wowza Streaming Engine REST API](#).

Create an RTMP source (publisher) for the live application on a local instance of Wowza Streaming Engine:

```bash
curl -X POST 
-H "Accept:application/json" 
-H "charset=utf-8" 
-H "Content-Type:application/json" 
-d '{
  "publisherName": "myRTMPencoder"
}' 
"http://localhost:8087/v2/servers/_defaultServer_/vhosts/_defaultVHost/applications/live/publishers/myRTMPencoder"
```

The command creates the publisher and returns a response that looks something like this:

```json
{
  "success": true,
  "message": "",
  "data": null
}
```

### Related requests

Get a list of applications:
Create a stream target in Wowza Streaming Engine

Next, use the Wowza Streaming Engine REST API to create a stream target for the **live** application in Wowza Streaming Engine that will deliver the stream from Wowza Streaming Engine to the Wowza Streaming Cloud ultra low latency stream target over RTMP.

You will need the ultra low latency stream target’s `primary_url` to determine the configuration values. For the following example configuration, we’ll use the `primary_url` from the example POST response above:

```plaintext
rtmp://origin.cdn.wowza.com:1935/live/0I0p2SU9SanfhCaxBz3MWKdZUbmq592a
```

**Wowza Streaming Engine map entries parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Data Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>application</code></td>
<td>String</td>
<td>The Wowza Streaming Engine application name. For example, <strong>live</strong>.</td>
</tr>
<tr>
<td>Field</td>
<td>Type</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>----------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>enabled</td>
<td>Boolean</td>
<td>Specify <code>true</code> so that the target is ready to run as soon as you create it. If you don’t include this parameter, you’ll need a separate API request to enable the stream target.</td>
</tr>
<tr>
<td>entryName</td>
<td>String</td>
<td>A descriptive name for the map entry, for example, <code>wowza_streaming_cloud_ull_target</code>.</td>
</tr>
<tr>
<td>host</td>
<td>String</td>
<td>The host URL of the origin ingest location for the ultra low latency stream. This is the destination entry point that the stream is sent to. It’s part of the <code>primary_url</code> in the POST response. For example, <code>origin.cdn.wowza.com</code>.</td>
</tr>
<tr>
<td>port</td>
<td>Integer</td>
<td>The port number from the <code>primary_url</code> in the POST response. Specify 1935.</td>
</tr>
<tr>
<td>profile</td>
<td>String</td>
<td>Specify <code>rtmp</code>.</td>
</tr>
<tr>
<td>sourceStreamName</td>
<td>String</td>
<td>The name of the incoming stream for the live application, for example, <code>myStream</code>.</td>
</tr>
<tr>
<td>streamName</td>
<td>String</td>
<td>The destination stream name. It’s the <code>stream_name</code> value or the final part of the <code>primary_url</code> in the POST response. For example: <code>0I0p2SU9SanfhCaxBz3MWKdZUbmq592a</code></td>
</tr>
</tbody>
</table>

**Example request and response**
The command creates the target (map entry) and returns a response that looks something like this:

```
curl -X POST -H "Accept:application/json" -H "charset=utf-8" -H "Content-Type:application/json" -d '{
  "application": "live",
  "enabled": true,
  "entryName": "wowza_streaming_cloud_ull_target",
  "host": "origin.cdn.wowza.com",
  "port": 1935,
  "profile": "rtmp",
  "streamName": "0I0p2SU9SanfhCaxBz3MWKdZUbmq592a",
  "sourceStreamName": "myStream"
}' "http://localhost:8087/v2/servers/_defaultServer_/vhosts/_defaultVHost_/applications/live/pushpublish/mapentries/wowza_streaming_cloud_ull_target"
```

```
{
  "success": true,
  "message": "Entry (wowza_streaming_cloud_ull_target) saved successfully",
  "data": null
}
```

```
curl -X PUT -H "Accept:application/json" -H "charset=utf-8" -H "Content-Type:application/json" "http://localhost:8087/v2/servers/[server_name]/vhosts/[vhostName]/applications/[appname]/pushpublish/mapentries/[entryname]/actions/enable"
```

Related request

Enable a single stream target (push publishing map entry):

Test the ultra low latency stream

1. Start the stream in the H.264 camera or encoder that’s sending the stream to the live application in Wowza Streaming Engine.

   The live application ingests the live stream and sends it to the Wowza Streaming Cloud ultra low latency stream target.
2. In Wowza Streaming Engine Manager, verify that the stream is published by clicking **Incoming Streams** for the **live** application, and then clicking the stream name.

The stream detail page displays the **Status** of the stream (**Active**) as well as details about connections, uptime, and throughput for the published stream.

3. Configure playback:
   - Video thumbnails for ultra low latency streams aren’t available in Wowza Streaming Cloud, but you can test the stream using Wowza Player for Ultra Low Latency. See [Configure Wowza Player for Wowza Streaming Cloud ultra low latency streams](#) for more information.
   - You can also create a mobile app using the GoCoder SDK to play ultra low latency streams on Android or iOS devices. See [Play a Wowza Streaming Cloud ultra low latency stream with Wowza GoCoder SDK for iOS](#) or [Play a Wowza Streaming Cloud ultra low latency stream with Wowza GoCoder SDK for Android](#) for more information.

4. Stop the stream in the source camera or encoder to end your test stream.