

AI MEDIA 



Falcon 

User Guide

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Welcome to Falcon

Falcon is our cloud-based captioning software used to caption to streaming platforms. This manual will provide all the information you need to get started with Falcon including helpful tips while using our new easy to use interface.

Terminology

Here is a list of common terms used throughout this guide:

- **Video Source:** RTMP or RTMPS video.
 - This refers to your video setup which may include a device connected straight to a computer or connected to streaming encoder hardware.
- **Transcoding Software:** Examples are OBS Studio and Adobe FMLE.
 - The transcoding software is required to convert HD-SDI to H.264 to stream the video via RTMP to Falcon.
- **Standard Destinations:** Examples are Twitch, Facebook Live, YouTube, Livestream and U Stream.
 - Endpoint of workflow where the output source video is displayed, captioned and streamed.
- **Advanced Destinations / Content Delivery Network (CDN):** Wowza and Custom Streaming Server.
 - Alternate endpoint of workflow with advanced features such as productions where control of bandwidth is needed.

Figure 1 shows the Falcon Workflow.

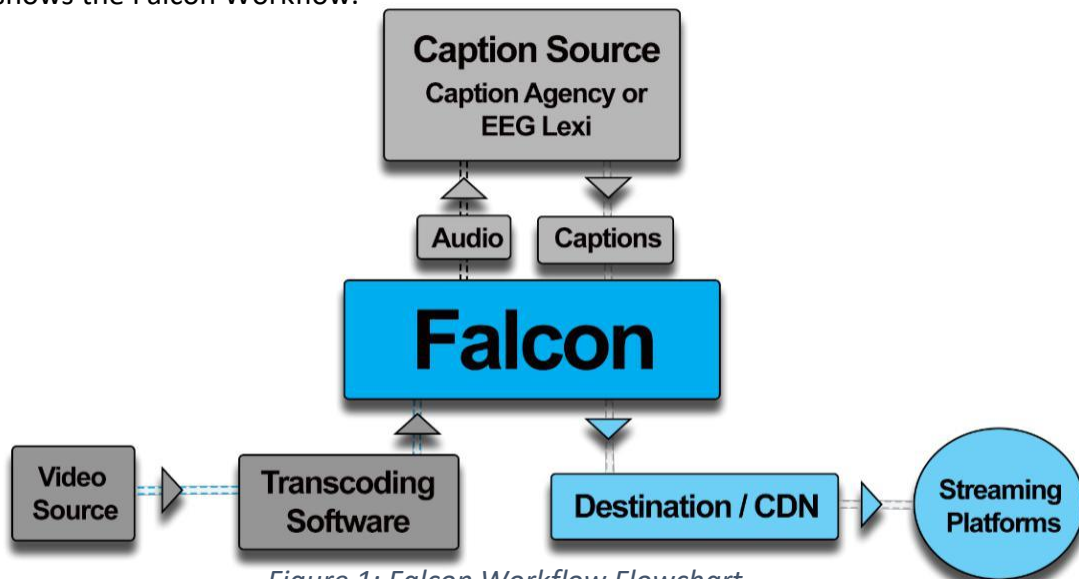


Figure 1: Falcon Workflow Flowchart

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Pre-Setup

Please make sure to complete the following steps before continuing:

1. Login or sign up for **EEG Cloud** (eegcloud.tv) and open **Falcon**.
2. Have the transcoding software accessible.
3. Confirm video source is connected to the transcoding software or streaming encoder hardware and that video feed is present.
4. Decide which destination or CDN will be incorporated into the workflow and take the necessary actions to ensure it is ready to use.

Destination / CDN Setup

Continue to the standard or advanced destination used in the workflow to prepare for Falcon setup by completing the following steps:

1. From the destination, select their option for their **Live Video** setup.
 - Once initiated, the destination will produce a **Stream URL** and **Stream Key**.
2. For standard destinations copy the **Stream Key** and for advanced destinations copy the **Stream URL** and **Stream Key**.

Note: **Stream Key** may also be referred to as **Stream Name** on some platforms.

Common Destination Setup Tips

Each destination will have its own set of tools incorporated into the streaming workflow. Since the interfaces and setup slightly vary, below are some pointers when using the most common destinations.

YouTube

- When selecting YouTube **Live Streaming**, be sure to use the **Events** option rather than **Stream Now** to support captions.
- When creating an event, it must be created as **Custom** opposed to **Quick**. The Quick option does not give the ingest settings tab which is needed to complete the setup.
- Once you are in the **Ingest Settings** tab confirm the following:
 - Encoder type should be set to **Other** for YouTube to provide the **Stream URL** and **Stream Key/Stream Name**. Using the **Wirecast** will stream directly to you YouTube without allowing Falcon to be placed in the streams path.

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- Closed Captions **must** be set to **Embedded 608/708**. Stream Latency setting should be **Normal latency**

➤ Captions do not appear in the YouTube preview window when the event is in **Preview** or **Live mode**. To see the captions in YouTube, set the event to **Live** and view through the **Live window**.

Facebook

- When creating a **Live Video**, you must use the **Connect To** option when selecting a video source to Facebook allowing the transcoding software to function properly in the workflow. If you use the **Camera** option which refers to a built-in camera, Facebook will not provide a **Stream URL** and **Stream Key/Stream Name**.
- In the **Live Video** window, the volume may need to be muted to see captions.

Falcon Setup

To create a new EEG Falcon instance, go to Falcon on the EEG Cloud site and click **Create New Falcon**.

Note: Falcon Classic is still available for our legacy customers. It is only recommended if the user is familiar with the older Falcon interface.

Identify Your Stream

Create a unique name for your stream and enter it into the **Name** field shown in Figure 2. It may be helpful to choose a name that is easily distinguishable or relevant to the stream content.



The image shows a screenshot of a web form titled 'IDENTIFICATION'. Below the title is a 'Name' field with a red asterisk indicating it is required. The text 'EEG Falcon Sample' is entered into the field. A large blue arrow points down to the 'Name' field.

Figure 2: Stream Name

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Configure an Access Code

Configuration is completed using options A or B:

A. Add the Caption Agency/Agencies to the Access Code



An access code is unique key that identifies an encoder or group of encoders within the EEG iCap system allowing the captioner or EEG Lexi to caption to the stream. Once an access code is chosen, enter it in the **Access Code** field shown in Figure 3.



Type out the first two letters of which agency/agencies you will be using to prompt Falcon's auto-fill which will suggest an agency within our pre-configured list as shown in Figure 3. Select one or more of the caption agencies that will send captions to your stream. Clicking on an agency name will automatically add that agency to the stream list. For EEG Lexi automatic captioning, select **EEG Lexi ASR**. To remove an agency, click the **X** in the top right of the selected caption agency box as shown in Figure 4.

Note: Please contact EEG support if an agency you are using is not on the pre-configured list.

CONFIGURE ACCESS CODE

Create iCap Access Code
 Link to existing iCap account

Access Code *

EEGTest

1-16 characters, alphanumeric

Caption Agencies *

EEG

Demo iCap Voice
EEGDemo
EEG Lexi ASR
EEGASR
EEG Testing
EEG

Figure 3: Creating Access Code and Adding Caption Agencies

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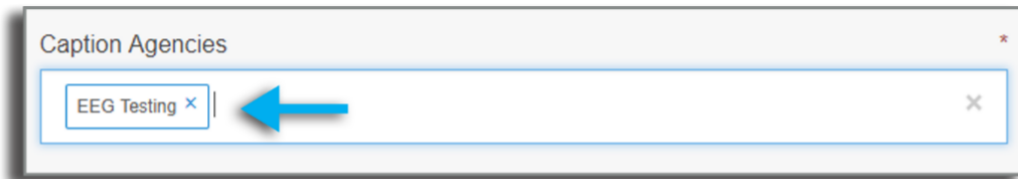


Figure 4: Remove a Caption Agency

B. Link an Existing iCap Account

- If your company has an iCap Admin account with EEG, enter it here to share the Falcon encoder with it as shown in Figure 5. This allows for more advanced configurations such as having the Falcon virtual encoder and an EEG hardware iCap encoder on the same access code. Use this setup if the desired result is to have the captions transmitted to both the virtual and hardware encoder.
- Complete this setup by sharing the access code with the caption agency/agencies through the iCap Admin site rather than on the Falcon interface.
- When a hardware encoder is incorporated into the workflow, be sure to obtain the iCap encoder username of the Falcon instance. From the iCap Admin, set the encoder as the unit

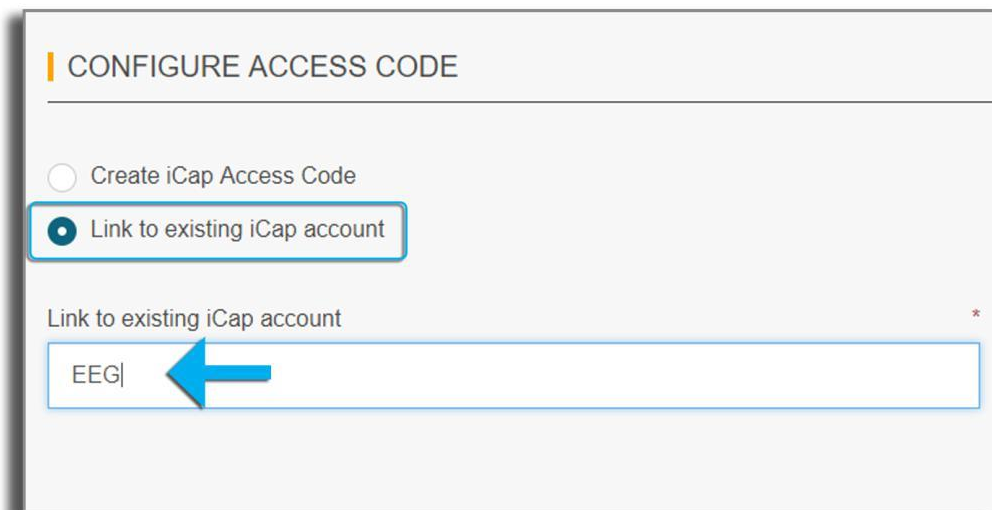


Figure 5: Link to Existing iCap Admin Account

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Configure Output Settings

Use the following steps to ensure Falcon and the destination can communicate with one another:

1. Select which destination or CDN will be incorporated in your workflow in the drop-down **Stream Type** menu. The most commonly used services will be listed as shown in Figure 6.

Note: This step eliminates the need to copy the Server URL from the destination or CDN. Once a preset destination is selected the URL is automatically populated.

2. Step 1 prompts a blank **Stream Key** field to appear. Paste the **Stream Key** given by the destination/CDN earlier in **Destination/CDN Setup** as shown in Figure 7.
3. Click **Add Destination** to apply these settings which will be displayed in the **Saved Destination** section as shown in Figure 8.

Note: More than one destination may be added to Falcon. Be sure to grab all Stream Keys for each destination/CDN when completing these steps.

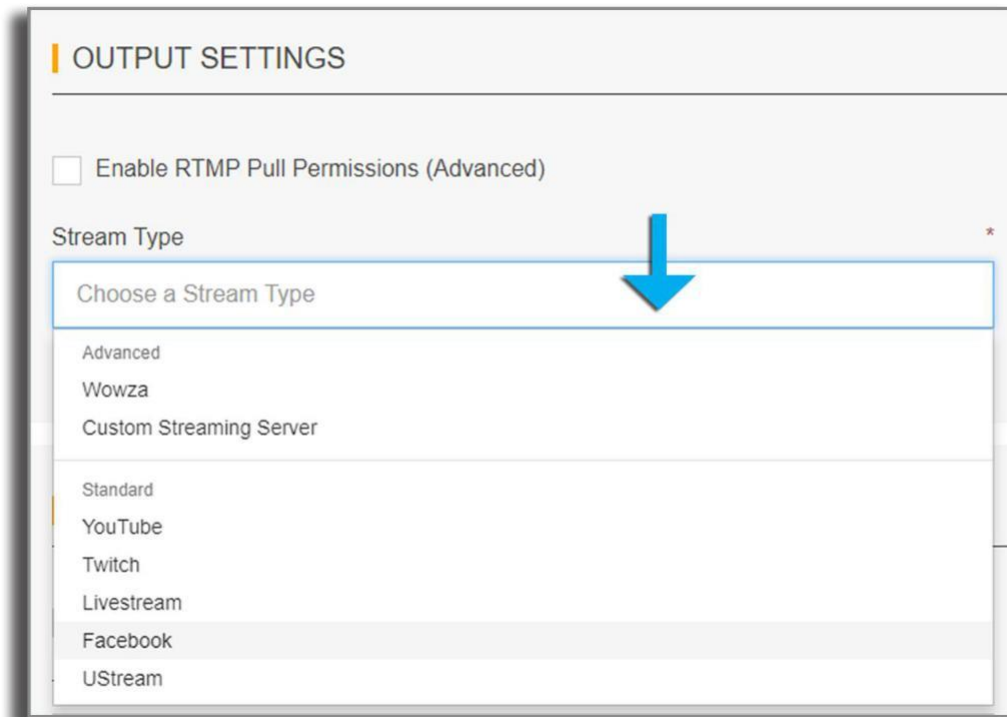


Figure 6: Stream Type Menu

OUTPUT SETTINGS

Enable RTMP Pull Permissions (Advanced)

Stream Type *

Facebook x

Stream Key *

123456789123456x_xx=1&s_xx=xxx-x&x=xxx_xx12x3xxxx4 x

Use Authentication

Figure 7: Paste Stream Key from Destination/CDN

OUTPUT SETTINGS

Enable RTMP Pull Permissions (Advanced)

Stream Type

Choose a Stream Type

Saved Destinations +

Stream Type: Facebook

Key: 123456789123456?x_xx=1&x_xx=Xxx_Xxx23x4Xxxx5

Url: rtmp://rtmp-api.facebook.com:80/rtmp

Figure 8: Saved Destinations

Additional Settings

These settings are optional features to enhance functionality and organization of your stream.

1. Enable Test Captions



Check the box shown in Figure 9 to immediately send captions as soon as the stream begins. This is helpful to test the workflow setup from end to end verifying that captions are being embedded in the stream and displayed to the destination/CDN. Test captions will stop once another source of captioning is initiated.

2. Tags



Adding a tag to the stream can help keep multiple Falcon instances organized. Enter desired **Tag** label in the designated field shown in Figure 10. The tag will be reflected under the **Manage Streams** tab.

The screenshot shows a panel titled "ADDITIONAL SETTINGS". Under this heading, there is a checkbox labeled "Enable Test Captions" which is checked. Below this is a text input field labeled "Tags".

Figure 9: Enabling Test Captions

The screenshot shows the same "ADDITIONAL SETTINGS" panel. The "Enable Test Captions" checkbox is now unchecked. The "Tags" input field contains the text "EEG Test Tag" and has a blue arrow pointing to it from the left.

Figure 10: Creating Tag for Stream

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Once these steps are completed, click **Launch** as shown Figure 11. This will bring you to the **Falcon Stream Dashboard**.



Figure 11: Launch Falcon

Falcon Stream Dashboard

The **Output Information** will present the Falcon **RTMP Ingest URL** and **Stream Key** as shown in Figure 12. At this point the RTMP Ingest URL may be changed to RTMPS if desired.

To complete setup to the transcoding software, follow these steps:

1. Copy the **RTMP Ingest URL** from Falcon.
2. In the transcoding software, paste the Falcon **RTMP Ingest URL** into the designated field.
3. Return to Falcon and copy the **Stream Key**.
4. In the transcoder software, paste the **Stream Key** into the designated field.
5. **Apply** and/or **Save** these settings within the transcoder software.
6. On the transcoder software interface, locate their **Launch** button click it to begin streaming.
7. Confirm video stream is appearing on both the Falcon Dashboard and destination/CDN. To view captions, click the **CC** box in the **Output** window as shown in Figure 12.

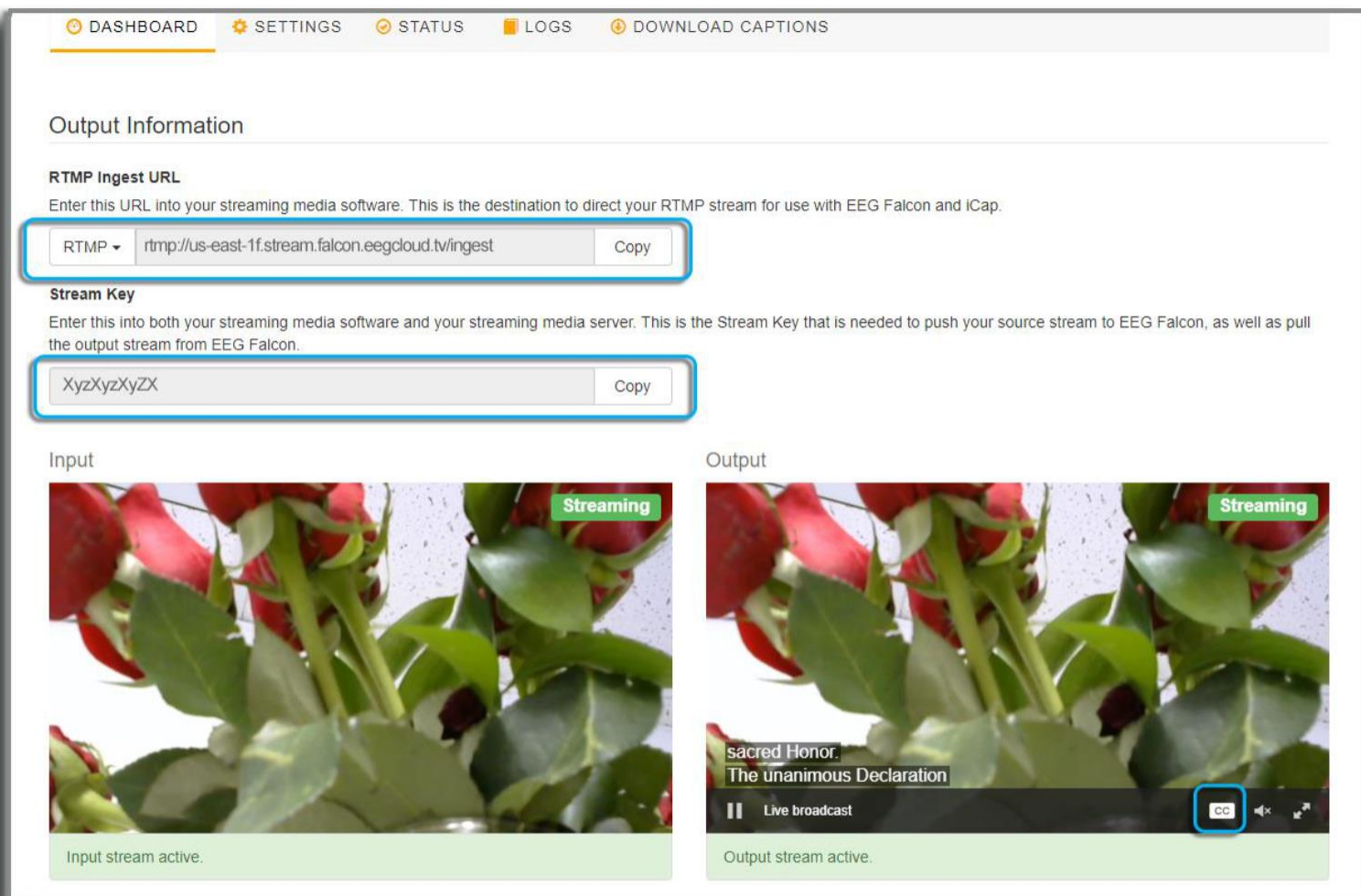


Figure 12: Ingest URL, Stream Key, and Viewing Output Captions

Falcon Interface

Listed below are the tabs used to manage and maintain your stream to assist in keeping your streams organized and functioning properly.

Dashboard Tab

- The **Output Information** is where the Ingest URL and Stream Key are found and were used earlier to link the transcoding software to Falcon.
- Below that are the **Input** and **Output** windows of the stream. Both will have **Status** listings and **Notices** regarding the condition of the video source and captions.

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Note: For optimal presentation, expected latency for the preview players may vary and does not reflect actual latency through Falcon.

Settings Tab

- This is a reiteration of the initial Falcon setup. Here you can also easily add another destination to your stream after you've already launched the Falcon instance.

Status Tab

This is split into the **Input Status** and **Output Status** of the stream as shown in Figure 13.

- **Input Status:**
 - Listed are the settings held within the transcoding software including bandwidth, audio and video settings, ingest stream and publisher address.
- **Output Status:**
 - Displays the setup within Flacon which includes bandwidth, push and pull destinations, captioning, processing input, and the start date and time of the stream.

The screenshot displays the 'STATUS' tab in the Falcon interface. The navigation bar at the top includes 'DASHBOARD', 'SETTINGS', 'STATUS' (highlighted), 'LOGS', and 'DOWNLOAD CAPTIONS'. The main content is divided into two columns: 'Input Status' and 'Output Status'.

Input Status:

- Bandwidth In: 2.80 Mbits/s
- Audio:**
 - Codec: AAC LC
 - Channels: 2
 - Sample Rate: 44.1KHz
- Video:**
 - Codec: H264 High 3.1
 - Size: 1280x720
 - Frame Rate: 30fps
 - Key Frame Rate: 0.6 keyframes per second
- Ingest Stream Key: XyzXyzXyZX
- Publisher Address: 100.200.100.1

Output Status:

- Bandwidth Out: 2.69 Mbits/s
- Pull Destinations: No Pull Destinations
- Push Destinations:**
 - Facebook:**
 - Stream Key: 123456789123456x_xx=1&s_xx=xxx-x&x=xxx_xx12x3xxxx4
 - URL: rtmp://rtmp-api.facebook.com:80/rtmp
 - Status: ✓ CONNECTED
- Total RTMP Pull Bandwidth Out: 0.00 bits/s
- Total RTMP Push Bandwidth Out: 2.69 Mbits/s
- Captioning: Yes
- iCap Listeners: 1
- Falcon Processing Input: Yes
- Stream Stable Since: 2019-Feb-14 19:53:17 UTC

Figure 13: Status Tab Input and Output Information

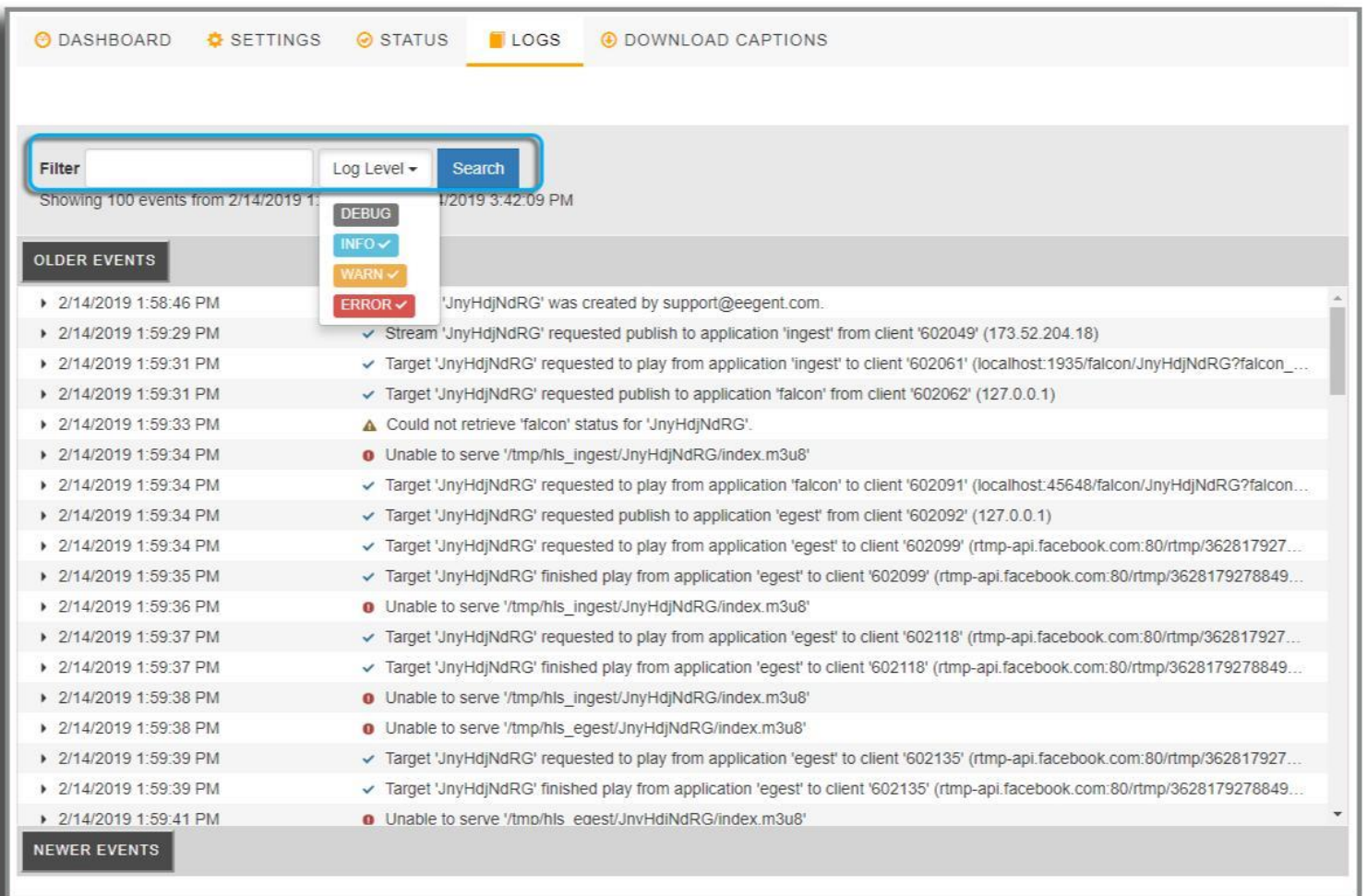
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Logs Tab

➤ Listed from oldest to newest, this shows the log for the Falcon stream. The **Log Level** drop-down menu is used to select and display specific events. The logs are organized into the following categories:

1. Debug
2. Info
3. Warn
4. Error

➤ A check mark indicated next to each category will show which type of event will be displayed as shown in Figure 14. The **Filter** function may also be used to search through the logs by entering in key words.



The screenshot displays the 'LOGS' tab in a dashboard. At the top, there are navigation links: DASHBOARD, SETTINGS, STATUS, LOGS (highlighted), and DOWNLOAD CAPTIONS. Below the navigation is a search bar with a 'Filter' input field, a 'Log Level' dropdown menu, and a 'Search' button. The 'Log Level' dropdown is open, showing four options: DEBUG (unchecked), INFO (checked), WARN (checked), and ERROR (checked). The main content area shows a list of log events, starting with 'Showing 100 events from 2/14/2019 1:58:46 PM to 2/14/2019 3:42:09 PM'. The events are organized into 'OLDER EVENTS' and 'NEWER EVENTS' sections. The log entries include timestamps, log levels (indicated by icons: checkmark for success/info, triangle for warn, circle with exclamation mark for error), and descriptive messages such as 'Stream 'JnyHdjNdRG' requested publish to application 'ingest' from client '602049' (173.52.204.18)' and 'Unable to serve '/tmp/hls_ingest/JnyHdjNdRG/index.m3u8''.

Figure 14: Log Events and Filter

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Download Captions Tab



Retrieve the captions embedded into the stream. Enter the date and time for the start and end duration of the captions you are looking to download as shown in Figure 15. This can include a specific portion or the entire caption file for the stream.

Note: This will only download as a SCC file and can be converted using **EEG Cloud Caption File Converter** tool to retrieve alternate formats. This tool is located on the **Home Dashboard** in **EEG Cloud Services**.

DASHBOARD SETTINGS STATUS LOGS **DOWNLOAD CAPTIONS**

ASSEMBLE CAPTIONS

Start time *
02/14/2019 3:42 PM

End time *
02/14/2019 3:42 PM

DOWNLOAD CAPTIONS

Figure 15: Download Captions

If you have any further questions regarding your Falcon setup, please feel free to contact our EEG Support team by either calling 516-293-7472 Ext. 207 or e-mailing eeg.support@ai-media.tv

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