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Stanza
Version 3.1 Release Notes

## About this Release

- Stanza 3.1.3103 (Windows) / Stanza 3.1.1925 (Mac ARM)

## Installation Instructions

***If you do not currently have a Stanza license key:***

- In a browser, navigate to the Telestream Stanza product page.
- Click the Request Trial, fill out the Stanza trial request form.
  *Telestream will email you a link to a web page for the Stanza installer application, and an activation key for Stanza.*
- Or contact our Sales department at (877) 681-2088 or email: insidesales@telestream.net

***Once you have obtained a Stanza license key:***

- Navigate to the Stanza Support webpage and download the Stanza installer.
- Click Run to start the Stanza Installer.
- Check the acceptance box and click Install. Stanza displays a progress bar, and then a completion dialog.
- Wait for the installation to complete successfully. (Note: The Mac installer has some additional steps you must follow if this is the first time you're installing Stanza.)
- Open http://localhost:7000 in your Web browser.
- Click the red license key button toward the top-right of the screen, near the License, and enter your activation key.
  See the License button on the screenshot in Project Layout.
  When Stanza is activated, Stanza changes the color of the key icon to green and displays the word Valid under the icon.
- After Stanza is activated, clicking on the license dialog displays the license activation state and expiration date. You can deactivate Stanza from this window when you want to transport your license to another computer.

## *!!! IMPORTANT !!! Nvidia Driver Upgrade*

- We recommend Nvidia driver version 553.09 or 573.73 to support Stanza AI and all GPU features. Blackwell (RTX 5000 gaming series or RTX Pro Blackwell) cards must use the 573.73 driver. These two versions are also recommended for use with Vantage 8.2 and 8.3 respectively. If you are running older drivers, you will experience issues with Stanza AI features after updating to Stanza 3.0.

## *!!! IMPORTANT !!! Database Version Upgrade*

- If you're upgrading an existing Stanza installation older than version 3.1, on the first startup Stanza 3.1 will upgrade your database schema. A backup copy will be saved before the upgrade. For most users, this upgrade should take at most a few minutes, however it may take longer if your database is multiple GB in size and/or contains thousands of projects. During this upgrade

it may appear that the Stanza web service is not responding, this is normal. **Do not restart or shut down the server until the Stanza UI can be accessed successfully via a web browser.**

- If you later need to downgrade back to a version older than 3.1, you will first need to run a command to downgrade the database schema BEFORE uninstalling 3.1or later, otherwise the database won't work correctly in older versions. **See Database Downgrade section below for details.**

***Installation Note for using Speech to Text transcription or Translation features on Air Gapped servers:***

These feature require several files which will automatically download on first use. If your Stanza installation has internet access, no special action is needed. However, if your Stanza system is not connected to the internet or is behind a restricted firewall, you must manually copy these files before you can use these feature. Please refer to the "Speech to Text / Translation Additional File Downloads" section at the end of this document, or the User Manual, for more details.

## *!!! IMPORTANT !!! Mac users*

The minimum Mac OS version for Stanza 3.1 is Mac OS 15 (Sequoia).

Intel CPU Macs are not supported in Stanza 3.1.

# System Requirements

## *Windows Single User:*

- Windows 11 or Windows Server 2019/2022/2025
- Minimum: 4 core CPU (2019 or later model) / 16 GB RAM required
  Recommended: 8 core CPU (2019 or later model) / 16+ GB RAM required

  For GPU accelerated video encoding and AI processing:

  CPU with AVX2 instruction support
  NVIDIA RTX 3000/4000/5000 series GPU w/8GB+ VRAM (see “GPU Acceleration” section)
  Nvidia driver version 553.09 or later

## *Mac User:*

- macOS Sequoia (15) or Tahoe (26)
- Minimum: M-series Apple Silicon CPU with 8GB RAM (Intel CPU not supported)
- Recommended: 16+ GB RAM
  Hardware accelerated video encoding and AI processing on Apple Silicon

## *Windows Multi-User Server:*

- Windows Server 2019/2022/2025
- Minimum: 12 core CPU (2019 or later model) / 24 GB RAM
  Recommended: 24+ core CPU (2019 or later model) / 32+ GB RAM
- For GPU accelerated video encoding and AI processing:
  CPU with AVX2 instruction support
  NVIDIA RTX 3000/4000/5000 series GPU w/8GB+ VRAM (see “GPU Acceleration” section)
  Nvidia driver version 553.09 or later
  (2) or more GPUs recommended for simultaneous playback and AI processing
- Recommended: Telestream Stanza appliance with dual CPU + dual GPU
- High performance access to storage required (1+Gbps)
- HTTP or HTTPS ingress traffic
- Connect multiple servers in load balancing setup for more sessions

## *Clients:*

- HTTP/HTTPS connectivity (route-ability) to Stanza server (Locally, or via VPN)
- Chrome version 120 or later recommended

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## New Features in Version 3.1

***UI Enhancements / Quality of life improvements:***

- Optimizations to the UI should reduce memory usage, “out of memory” error messages when leaving the page open for a long time, and lag when editing large project files. (STANZA-771, STANZA-1526)
- You can now run up to 4 speech-to-text and/or translation jobs concurrently per Stanza node, limited by license count. Note that running more than 1 concurrent GPU-intensive job per node can degrade video playback performance for interactive captioning sessions via the UI. This addition is intended for customers driving Stanza API through an automation system like Vantage and who aren’t using the system for much interactive captioning via the UI. If you are using the system for interactive captioning, we recommend you leave the setting at the default of 1 GPU job at a time. (STANZA-1519)
- ~ 20% performance increase when running translation jobs on GPU. (STANZA-1529)
- New Operations page where you can monitor all queued, running, and finished operations (jobs such as speech to text, exports, etc.). Jobs can be cancelled or bumped to the top of the queue.
- Running tasks (speech to text, exports, etc.) now show an ETA. (Note that, as with any progress bar which is trying to predict the future, they aren’t totally accurate.)
- When importing an SCC file with no movie loaded and no time code mode selected, after the import the Stanza UI will automatically set the User Defined Timecode Track to match the frame rate and drop/non-drop mode to match the SCC import settings, so the displayed timecodes are in the same mode as the SCC file. This is neither a frame rate conversion nor a destructive operation (there is no change to the imported data or the underlying contents of the project file); it just changes how the time code numbers are presented to match what most users expect. Note that if you perform additional SCC imports into the same project, it will not change the timecode mode a second time because the mode is already set, and the import won’t override an already set timecode mode. (STANZA-1471)

***API additions***

- Added API endpoint /api/operations/{operationId}/prioritize to move an operation to the top of the queue.
- Added API endpoint /api/projects/projects-filtered to get a filtered list of projects, matching the filters on the UI projects page. (see /swagger page for details)

## Fixed in Version 3.1

- Fixed UI timing issue that could cause text moved by Push/Pull word to re-appear in the cell after deselecting and re-selecting the cell. (STANZA-1283)

- Fixed iTT / TTML import appeared to convert SMPTE timebase timecodes incorrectly. The correct math was being applied but the change wasn't being saved to the database. (STANZA-1528)
- Fixed issues with operation queueing and management, such as: speech-to-text and exports could get stuck in the queue and never start, operations now start on the first available node instead of waiting for a specific node to become available, getting stuck when attempting to cancel, and others. (STANZA-1519)
- Fixed license menu not refreshing after activating a license (STANZA-1506)
- Fixed captions list not scrolling during manual time stamping when the video timecode track started at a non-zero time (STANZA-1438)

## New Features in Version 3.0.1

### *API additions*

- Added API endpoint to move captions to a specific 608/708 line number 1-15, top, or bottom. (STANZA-1429)

## Fixed in Version 3.0.1

- Fixed an issue with translation results becoming out of sync over time on longer videos when running AI translation on Windows. (STANZA-1511, STANZA-1501)
  Note: AI Translate is designed to adjust times slightly from the original times to improve reading speed and cadence when the translated text is longer or shorter than the original, so it's expected that timing will be slightly different from the original. This issue addresses a major out-of-sync bug which was clearly not intended.
- Fixed issues where Stanza 3.0 speech-to-text was outputting increased hallucinations in some languages (e.g. Italian), or in specific customer files, compared to Stanza 2.6. (STANZA-1499)
- Fixed issues with speech-to-text failing with "SttRunner abnormal exit code" when running on systems with multiple GPUs of mixed types or on certain driver revisions. (STANZA-1500)

## New Features in Version 3.0

### *Language Translation*

- Automatically translate captions and transcripts into multiple languages for global content delivery.

### *Dual Program Comparison View (Split Screen View)*

- Compare two programs or caption files side by side for faster QC and editing.

### *Single Sign On (SSO) via Keycloak / OpenID*

- Simplified and secure user access through enterprise authentication integration.

## Fixed in Version 3.0

- Fixed an issue when importing then exporting italicized, right positioned 608 captions, sometimes the column position was off by 1 and as a result the 2nd to last character was cut off in the exported file. (STANZA-1472)
- Fixed “No workers available” error when using Built-in authentication and setting RequireHttps mode to true. (STANZA-1452)
- Fixed worker process expiring prematurely after jobs had been waiting in the queue for a long time. (STANZA-1481)
- Fix missing time codes when importing TTML where each <p> element was wrapped in a  and the begin/end attributes were on the  (STANZA-1484)

## Known Issues in Version 3.0

- When setting a User Defined Timecode with no video loaded in the project, please select the frame rate before entering the time code. If you try to set the time code before setting the frame rate, you may see the time code display “NaN”. This will be fixed in a future release. (STANZA-1493)

## Fixed in Version 2.6.1

- Fixed an issue with video playback from cloud storage. (STANZA-1450)
- Fixed a UI license status issue after activating new license types. (STANZA-1447)

## New Features in Version 2.6

### *Improved Stanza AI Speech to Text Models and Features*

- Added new models for UK/British/Global English and Canadian English for higher accuracy and correct regional spelling. (STANZA-1425)
- Added settings to standardize the formatting of music and non-verbal cues to your preferred format, or to omit them entirely. (STANZA-1302)
- Improved timing model fills small time gaps between captions for better continuous flow. (STANZA-1390)
- Fixed using a long Special Vocabulary (initial prompt) text could cause increased hallucinations or missing text in Stanza 2.5 compared to the results from version 2.4 or earlier. (STANZA-1432)
- Fixed improved hallucination detection was sometimes too aggressive and deleted actual spoken dialogue. (STANZA-1389)
- Captions that fit on one line will no longer sometimes be word wrapped across two lines. (STANZA-1390)

### *UI Enhancements / Quality of life improvements:*

- Added keyboard shortcut to insert music note at cursor position when editing text, or surrounding music notes when a row is selected (default is Ctrl-M, can be modified). (STANZA-1371)
- Audio playback during single frame stepping is now disabled by default but can be re-enabled under Preferences. (STANZA-1407)

### *Imports*

- Added ability to import TTML wrapped in op1a MXF such as IMF or DCP containers. (STANZA-1409)

### *Exports*

- Added new DVB Teletext export, which supports multiple tracks/languages. (STANZA-1424)

### *API Additions*

- POST /api/projects/{projectId}/update-project now allows you to only specify the fields you want to update (rather than all fields), and additionally allows you to update some fields that previously couldn't be modified, including: selected timecode track, user-defined starting timecode, etc. (STANZA-1426)

- POST /api/projects/add-project now allows you specify a selected timecode track and user-defined starting timecode (STANZA-1439)

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- POST /api/projects/add-project now allows you specify a selected timecode track and user-defined starting timecode (STANZA-1439)

## Fixed in Version 2.6

- Fixed decoding only the top left quarter frame of some ProRes videos on Windows. (STANZA-1407)
- Improved reliability of single frame stepping. (STANZA-1407)
- Using Reformat Rows, then using Undo followed by a Redo, could result in the text rows being out of order. (STANZA-1325)
- Fixed TTML language set in the Program settings was not being passed through to the exports. (STANZA-1328)
- Fixed being unable to select or change timecode track settings until the page was refreshed. (STANZA-1421)
- Fixed User Defined Timecode Track start offset not being used for speech to text or auto time stamp. (STANZA-1435)
- Fixed closing or navigating away from a project was causing the selected timecode track to be forgotten. (STANZA-1440)
- Fixed exporting to a network location could fail with an Unauthorized Access Exception. (STANZA-1434)

## Known Issues in Version 2.6

- In Stanza 2.5, using a long text for the Special Vocabulary (initial prompt) in speech to text settings had been observed to cause increased hallucinations or skipped/dropped text in the results, compared to using the same prompt in Stanza 2.4 or older versions. Stanza 2.6 includes fixes which improve the results. However, if you find that you are still getting hallucinations or missing text in your speech-to-text results and you are using a long text for your Special Vocabulary, try running it again with no Special Vocabulary (or the shortest possible text needed to recognize specific words) and see if that improves the results. (STANZA-1432)

## Fixed in Version 2.5.1

- Fixed an issue that inadvertently changed the default database location when upgrading from an older version on Mac. (STANZA-1396)
- Fixed a performance optimization build setting on Windows. (STANZA-1396)

## New Features in Version 2.5

### *Improved Stanza AI Speech to Text Models and Features*

- Updated local Stanza AI speech-to-text engine now has improved accuracy, performance, and reduced chance of hallucinations or dropouts occurring after music or silent sections of the video, such as commercial breaks. (STANZA-1349, 1350)
- When the project is in CEA-608 mode, any non-608 compatible characters output by the speech-to-text engine will be automatically converted to a supported 608 equivalent or removed if no equivalent is available in CEA-608. (STANZA-1348)
- Improved reliability of the Suggested Vocabulary (Initial Prompt) feature, for example, adding a prompt without punctuation will no longer increase the chance of the output lacking punctuation. (STANZA-1356)
- Local speech-to-text will now honor a project setting of 1 line per caption row. (STANZA-1355)

### *UI Enhancements / Quality of life improvements:*

- J-K-L scrubbing now supports reverse video playback (without audio) and generally behaves more like other NLE systems. Spacebar toggles playback without resetting speed, while K toggles playback and resets speed to 1x. To play at slower than 1x speed, press L to start forward playback, then J to reduce speed. (STANZA-1106)
- Left/Right arrow to single frame step now plays 1 frame of audio while stepping. (STANZA-1106)

### *Exports*

- The export dialog will now select only the current Program by default, instead of all Programs from the project. (STANZA-1363)
- The subtitle burn-in converter is now significantly faster and takes advantage of Nvidia GPU NVENC or Apple Silicon hardware accelerated compression where available. (STANZA-1370)
- Export file name templates containing illegal characters will now automatically convert them to _ (underscore) instead of truncating the filename or failing to export. (STANZA-1357)
- The TTML export now has a user-selectable file extension setting, and the frame rate settings have been enabled for all TTML profiles. (STANZA-422, 1377)

### *API Additions*

- POST /api/captions/{projectId}/{programId}/legalize to Legalize all the captions in a Program to conform to the project settings (e.g. CEA-608). This performs a combination of Convert Illegal

Characters, followed by a limited type of Reformat Rows, which only reformats rows which are too long for the selected project configuration. Unlike the normal Reformat Rows API, which reflows text across all caption rows, the Legalize API will only modify the rows which require adjustment and leaves the rest unmodified. (STANZA-1375)

- POST /api/projects/{projectId}/add-program to add new Program to existing project. The parameter is JSON with fields “name” (program name) and “ttml” (ttml document contents). If blank, the ttml document will be populated with a default template document. (STANZA-1330)
- POST /api/projects/{projectId}/update-project to update any/all fields of a project (except for the ID). See ProjectFullDto type in Swagger/OpenAPI for type details. (STANZA-1330)
- POST /api/projects/{projectId}/{programId}/update-program to update any/all fields of a program (except for the ID). See ProgramDto type in Swagger/OpenAPI for type details. (STANZA-1330)

## Fixed in Version 2.5

- Fixed SCC export could rarely include lines with duplicate timecode when exporting at 23.976fps, and a frame with two field 1 data packets included a 608 clear command in the first packet, and a start of caption command in the second packet. (STANZA-1365)
- Fixed missing subtitle text when importing TTML that included Metadata elements within the text of a <p> paragraph element. (STANZA-1369)
- Fixed an issue that could cause burn-in subtitle export subtitles to go out of sync with the video/audio for videos with an integer frame rate (e.g. PAL 25.0fps). (STANZA-1370)

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# Speech to Text / Translation Additional File Downloads

If the Stanza server has internet access, the speech to text models will be automatically downloaded on first use. The Large models are about 3GB so this may take some time depending on your internet speed, but once downloaded the models are saved for future use and won't need to download again.

If your Stanza server is behind a firewall, please add https://www.telestream.net to your allow list, or see below to download the files offline before first use.

If the Stanza server is on an offline system with no internet access, you must manually download the model files and copy them to the Stanza server before using the local speech to text feature. Download one or more of these files, depending on which model(s) you will use in Stanza. ("Base" and "Large V2" being the most commonly used.)

Speech to text files:

https://www.telestream.net/download-files/ggml/ggml-tiny.bin
https://www.telestream.net/download-files/ggml/ggml-base.bin
https://www.telestream.net/download-files/ggml/ggml-small.bin
https://www.telestream.net/download-files/ggml/ggml-medium.bin
https://www.telestream.net/download-files/ggml/ggml-large.bin
https://www.telestream.net/download-files/ggml/ggml-largev2.bin
https://www.telestream.net/download-files/ggml/ggml-largev3.bin

Translation files:
For Fast & Medium (3 files):
https://www.telestream.net/download-files/ggml/ggml-trg3_fast.bin
https://www.telestream.net/download-files/ggml/ggml-trg3_med.bin
https://www.telestream.net/download-files/ggml/ggml-mmproj-trg3_fast.bin

For Large & Large Plus (3 files):
https://www.telestream.net/download-files/ggml/ggml-trg3_large.bin
https://www.telestream.net/download-files/ggml/ggml-trg3_largeplus.bin
https://www.telestream.net/download-files/ggml/ggml-mmproj-trg3_large.bin

For Huge (2 files):
https://www.telestream.net/download-files/ggml/ggml-trg3_huge.bin
https://www.telestream.net/download-files/ggml/ggml-mmproj-trg3_huge.bin

These model files need to be copied to:

Windows: C:\ProgramData\Telestream\Stanza\Whisper\
Mac: /Library/Application Support/net.telestream.stanza/Whisper/
Note: If you are using load balancing, these files must be installed on each node.

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# Database Downgrade

If you need to downgrade from Stanza 3.1 back to 3.0 or earlier, you'll need to run a manual command to downgrade the database schema BEFORE uninstalling 3.1, otherwise the database won't work correctly in older versions. It is not possible to complete this downgrade process using Stanza 3.0 or older versions. If you've already uninstalled Stanza 3.1, you'll need to first re-install it and complete these steps in Stanza 3.1 before installing the older version.

These steps must be run on the Stanza server and require administrator access.

1. With Stanza 3.1 installed, stop the Stanza Service.
    a. Windows: Go to Services, right click on Telestream Stanza Service, click Stop
    b. Mac: Open a terminal and type: /opt/Telestream/Stanza/stop.sh

    You'll need to enter a local administrator password. If you see the message "Unload failed: 5: Input/output error" then this may be that the Stanza service was already stopped and this error can be ignored.
2. Open an Administrator command prompt / powershell / terminal and change directory to where Stanza is installed.
    a. Windows default: cd C:\Program Files\Telestream\Stanza
    b. Mac default: cd /opt/Telestream/Stanza/StanzaService.app/Contents/MacOS
3. Enter this command:
    a. Windows: StanzaService.exe --migrate-db down
    b. Mac: sudo ./StanzaService --migrate-db down

    You'll need to enter a local administrator password.
4. A backup copy of your databse will automatically be saved at the start of the process. If your database is large, expect this process may take some time.
5. At the end of the downgrade, you should see the message: Database down migrated.
6. Note: If you restart the computer or the Stanza service while Stanza 3.1 is still installed, the database upgrade process will automatically run again and the database will be upgraded back to the 3.1 schema. In that case you'd need to repeat these steps before the database can be used in older versions of Stanza.
7. Uninstall Stanza 3.1:

a. Windows: Go to Control Panel > Apps, find Telestream Stanza 3.1 > Uninstall.

b. Mac: No uninstallation step is required, however if desired, you can delete the /opt/Telestream/Stanza folder.

8. You can now install the older version of Stanza. Try opening a few projects and confirm that you can see the expected caption text inside. If all caption projects appear to be empty, then the downgrade did not complete successfully.

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# GPU Acceleration

The only tested & officially supported configurations are the Telestream Stanza VLS-200 and G7 appliances with dual RTX Pro 4000 Blackwell, RTX 4000 ADA (VLS-200), or Quadro RTX 4000 (G7) cards. On single GPU systems, if the same GPU is utilized for both video encoding and AI acceleration at the same time, there may be a noticeable performance impact in video playback. You may need to disable GPU acceleration for speech to text, video encoding, or both, if you find the performance or stability is not acceptable on your hardware. Other Nvidia GPUs will likely work, however, we are not able to provide support for hardware compatibility issues with untested configurations.

## GPU Acceleration for Video Encoding:

GPUs with NVENC video encoding capability:
https://developer.nvidia.com/video-encode-and-decode-gpu-support-matrix-new

To enable GPU accelerated video encoding you must edit the config file:
C:\ProgramData\Telestream\Stanza\appSettings.glim.json

Add the following lines inside the “Encode” section:

```
"Gpu": 1,
"MaxGpuSessions": 5,
"GpuDecode": true,
"GpuPreset": "medium"
```

Gpu: The number of physical GPUs installed to be used for video encoding.

MaxGpuSessions: The maximum number of simultaneous video encoding sessions to use the GPU. Sessions beyond this limit will fall back to CPU encoding. Note that Nvidia’s GeForce line of consumer GPUs are software limited in how many video encoding sessions they can run at a time. As of this writing, most GeForce 3000/4000 series cards are limited to 8 encoding sessions. The professional cards (Quadro RTX and A series) do not have this limitation. If you encounter video encoding errors you may need to lower this number.

GpuDecode: Set true to use the GPU to accelerate video decoding tasks. Set to false if you encounter issues with video playback.

GpuPreset: “medium” is the recommended default setting.

After saving the file, restart the Stanza service.

Note: If you are using load balancing, these settings must be set on every node that has a GPU.

## GPU Acceleration for Stanza AI Speech to Text and Translation:

Stanza AI requires a minimum hardware Compute Capability of 7.5, a minimum of 8GB VRAM, minimum driver version of 553.09, and GPU acceleration is enabled by default. During startup, information about detected GPUs will be logged to the Stanza log files for troubleshooting.

If you run into any problems with GPU accelerated speech to text and you want to disable it to go back to CPU-only mode, you can edit the file:
C:\ProgramData\Telestream\appSettings.general.json

Find the section:

```
 "SpeechToText": {
   "UseGpu": true
 },
```

Change true to false, save, then restart the Stanza service.

Note: If you are using load balancing, these settings must be set on every node that has a GPU.

Speech to text jobs by default limited to 1 job at a time per host machine to preserve GPU capacity for video playback for UI captioning sessions. Jobs will be queued and will start automatically as soon as the previous job finishes. To run multiple concurrent jobs, it's recommended to have multiple hosts running in a load balancing setup.

If you are only using Stanza for API-driven automation and aren't concerned about video playback performance for UI interactive captioning, you can enable up to 4 concurrent GPU-intensive jobs per Stanza node (also limited by your license count) by editing this setting in the appSettings.general.json file referenced above:

Find the "Workers" section and add a new "MaxConcurrentJobs": N setting (where N = 1 – 4)

```
 "Workers": {
   "MaxConcurrentJobs": 1
 }
```

Note: If you are using load balancing, these settings must be set on every node.

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# Load Balancing

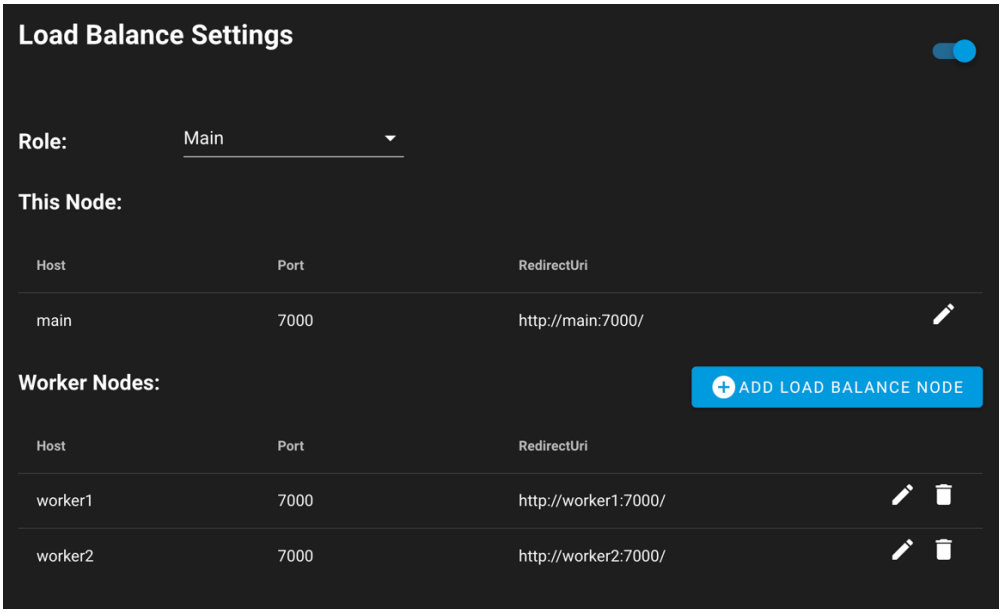
A load balancing array allows you to support more simultaneous sessions of video playback and more concurrent background operations (speech to text, exports, etc.) compared to hosting everything on one server.

The array must have 1 main node. The main node hosts the web service, database, and API (and by default can also perform some video encoding and run some background operations). Clients (captioners) always access the main node; they do not connect to the worker nodes.

Worker nodes only perform video encoding and run background operations. Each worker node adds the ability for the array to run 1 concurrent resource-intensive operation (speech-to-text, and certain exports which are CPU or GPU intensive).

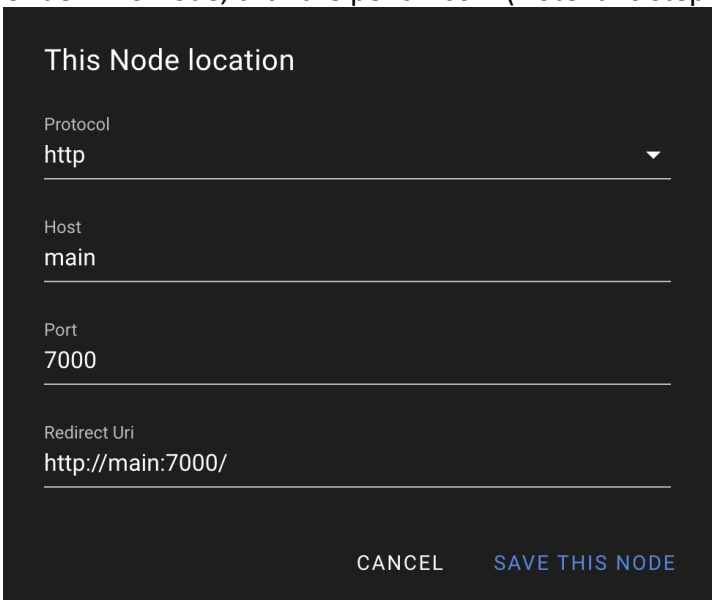
General Setup:

- Install the same version of Stanza on the main node and the worker node(s). When upgrading, all nodes must be upgraded to the same version together.
- The Stanza license is only activated on the main node. Worker nodes don't require licenses.
- All video media should be located on network or cloud storage so that all nodes are able to access it. Physical storage attached to the main node can only be accessed by the main node, so projects/jobs that reference media on the main node's physical storage will be limited to running on the main node only.
- Clients only connect their web browser to the main node, never to a worker node. The main node must be exposed to the clients through the firewall.
- The worker nodes can be protected behind the firewall and do not need to be visible to the clients; they only need to communicate with the main node.



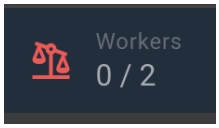

Main node setup:

1. Using a browser running on the main node (via remote desktop, etc.), access the main node by opening the browser to http://localhost:7000 (or another port if you have changed it)
2. Click on three dots at top right > Settings
3. Scroll to Load Balance Settings section and toggle it to on
4. Ensure Role is set to Main
5. Under This Node, click the pencil icon. (Note: this step is new in Stanza 2.1)




6. Edit the network settings for This Node to match the host name or IP address via which clients and worker nodes can connect to this main node. Then, click Save.
7. Under Worker Nodes, click Add Load Balance Node. Then, click the pencil icon.

8. Edit the network settings for the worker node and set the host name or IP address for the first worker node, then click Save.
9. If you have additional worker nodes, click Add Load Balance Node, then edit the settings for the additional node(s).
10. When finished, you must restart the Stanza service for the changes to take effect.
11. After restarting the service, this icon in the upper right of the status bar will indicate how many workers are successfully connected vs. how many are configured. If the icon is red or yellow, then not all of the workers are connected, and the performance of the array may be degraded.



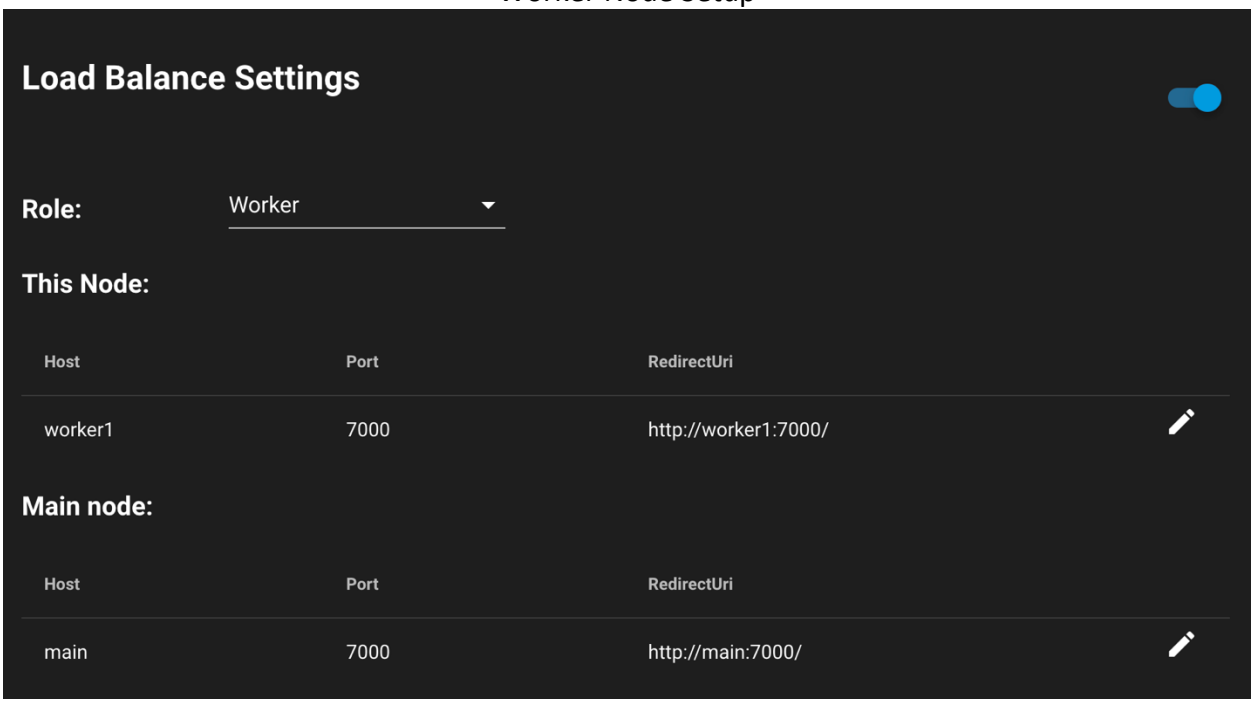
Advanced main node configuration (Optional):

You can disable all video encoding and background operations (exports, speech-to-text, etc.) on the main node, which will free up main node CPU resources for the web server, database, etc., by editing appSettings.general.json under “Workers” and setting the MinCount and MaxCount to 0:

```
 "Workers": {
  "UseReverseProxy": true,
  "MinCount": 0,
  "MaxCount": 0,
  "MaxLifetime": 14400
 }
```

With this configuration, video playback requests and background operations will always be performed on worker nodes. The only exception would be requests for physical media located on the main node, which requires the main node to process them.

Worker Node Setup




Worker node setup:

1. Using a browser running on the main node (via remote desktop, etc.), access the main node by opening the browser to http://localhost:7000 (or another port if you have changed it)
2. Click on three dots at top right > Settings
3. At the top, ensure User Authentication is set to None. (Authentication is set on the main node only.)
4. Scroll to Load Balance section and toggle it to on
5. Change Role to Worker
6. Under This Node, click the pencil icon. (Note: this step is new in Stanza 2.1)
7. Edit the settings for This Node to match the host name or IP address at which the main node can connect to this worker node.
8. Under Main Nodes, click the pencil icon.
9. Edit the settings for the main node and enter the host name or IP address for the main node.
10. You must restart the Stanza service for the changes to take effect.

After restarting the worker node, the only settings page you can edit on the worker node is the worker settings page at: http://localhost:7000/worker/settings

To restore access to other settings on this node, you must disable load balancing via the toggle switch, or change the role setting back to Main.

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Stanza

# Stanza OpenID setup

Stanza 3.0 adds the ability to integrate with an OpenID (OIDC) identity provider such as Keycloak for Single-Sign On (SSO). Keycloak can then connect to other identity brokers such as Okta, LDAP / Active Directory, or social login such as Google, Meta, etc. Keycloak can also be used as a standalone identity provider. Keycloak is Telestream's designated SSO solution, and while other OIDC providers may work, our documentation and testing is specifically targeted at using Keycloak.

These instructions are based on Keycloak version 26.3.2.

The following instructions assume that:

- Keycloak will be running on https://1.2.3.4:8443
- Stanza will be running on https://5.6.7.8:7001

You can run both Stanza and Keycloak on the same server, in which case the addresses will be the same, except for the port number.

Please substitute these values with your actual hostnames or IP addresses.

## Keycloak development/test setup

These instructions will install a development Keycloak system and generate self-signed SSL certificates suitable for testing and experimentation. For production use, it is recommended to follow the guide at: https://www.keycloak.org/server/configuration-production

# Prerequisites for Keycloak host

- Package manager
  - winget (pre-installed on Windows 11 & Server 2025), or,
  - choco ( https://chocolatey.org/ all Windows versions)
  - brew Homebrew for MacOS
- Java runtime environment (e.g. OpenJDK)
  - Windows Java install options:
    - winget install Microsoft.OpenJDK.21
    - choco install openjdk
  - Mac:
    - brew install openjdk
- OpenSSL
  - openssl On Windows, install openssl by running one of the following:
    - winget install -e --id ShiningLight.OpenSSL
    - choco install openssl
    - If stanza is already installed, openssl wil be installed at: C:\Program Files\Telestream\Stanza\certificate\openssl\openssl.exe
    - If git is installed, openssl will already be installed at: C:\Program Files\Git\usr\bin\openssl.exe

# Keycloak installation

1. Download Keycloak "Distribution powered by Quarkus" from: https://www.keycloak.org/downloads
2. Unzip to a folder
3. Open a terminal/powershell/etc. and cd to that unzipped folder
4. Create (or copy) a self-signed SSL certificate into the conf directory:
    a. In the keycloak directory, run the command below:
        i. Replace 1.2.3.4 with your Keycloak server IP
        ii. If using a FQDN, replace example.com with your domain name, otherwise leave it as-is

```
openssl req -x509 -newkey rsa:4096 -sha512 -days 825 -noenc -keyout conf/key.pem -out conf/cert.pem -subj "/CN=example.com" -addext "subjectAltName=DNS:example.com,DNS:*.example.com,IP:1.2.3.4"
```

5. Start Keycloak by running:
    a. Windows: bin/kc.bat start-dev --https-certificate-file=conf/cert.pem --https-certificate-key-file=conf/key.pem
    b. Mac/Linux: bin/kc.sh start-dev --https-certificate-file=conf/cert.pem --https-certificate-key-file=conf/key.pem

## Configure Keycloak

1. Browse to the address of your Keycloak server e.g. https://1.2.3.4:8443 (the IP/hostname of the machine running Keycloak). **Don't use localhost or 127.0.0.1, it must be the real IP address or hostname and must be HTTPS.**
    a. If using a properly CA-signed or already trusted SSL certificate, you can proceed to Step 2.
    b. If using a self-signed SSL certificate as generated above, **you must install this certificate via the OS on the Stanza server, so that Stanza recognizes it as valid when connecting to Keycloak.** On Windows, follow these steps. (For Mac/Linux, search online for "install self-signed certificate on Mac")
        i. Use remote desktop to log in to your Stanza server.
        ii. Open Chrome (on the Stanza server, not on your local machine)
        iii. Visit the Keycloak page e.g. https://1.2.3.4:8443
        iv. Click the "Not secure" button to the left of the URL in your browser
        v. Click "Certificate details"
        vi. Select the "Details" tab, then click Export button
        vii. Save the .crt file e.g. example.com.crt to your Downloads
        viii. Go to your Downloads folder and double-click the .crt file you just downloaded.
        ix. Click "Install Certificate..." button
        x. When prompted for "Store location", switch to Local Machine and click Next
        xi. When prompted to select Certificate Store, switch to Place all certificates in the following store. Click Browse..., then select Trusted Root Certification Authorities.

xii. Continue clicking Next or Finish until the certificate is installed. You should get a dialog box "The import was successful"
xiii. Please also follow the steps in the section "Trust a self-signed certificate in your browser" below. This should be repeated on each client browser that will access Stanza.

2. Login to Keycloak as admin / admin. It is recommended to change your admin password.
3. Go to Manage realms and create a new realm named "stanza"
4. Ensure that at the top left, it says "stanza" next to Current realm. (if not, click Manage realms -> stanza)
5. Click Clients -> Create client
    a. Client type: OpenID Connect, Client ID: "stanza"
    b. ❗ Enable "Client authentication" (**note: disabled by default**)
    c. Ensure "Standard flow" is checked (should be checked by default)
6. Login settings page:
    a. Root URL: https://5.6.7.8:7001 <- your Stanza hostname/IP address with no trailing slash (**note: this MUST be the IP address or public hostname of Stanza, must not be localhost or 127.0.0.1, and MUST be HTTPS**)
    b. Home URL: https://5.6.7.8:7001 (same as Root URL)
    c. Valid redirect URLIs: /signin-oidc (**note: with leading slash, but without trailing slash**)
    d. Valid post logout redirect URIs: /signout-callback-oidc
    e. Web origins: + ( ❗ just type a plus sign with nothing else into the box. Don't click the "(+) Add web origins" button)
    f. Admin URL: (blank, not needed)
    g. Click Save
7. Click Credentials tab:
    a. Next to Client Secret, click Copy to clipboard
    b. You'll later need to paste this in the Stanza JSON file for ClientSecret (see below)
8. Click Roles tab:
    a. Click Create role
    b. Role name: Administrator
    c. Click Save
    d. Click Client details at top to go back to previous page
    e. Repeat Create role steps for roles "Captioner" and "Reviewer" (assuming you want to use these roles) and any other Stanza roles in use. Only the Administrator role is strictly required.
9. Click Client scopes
    a. Find and click on the "roles" scope (may be on page 2)
    b. Select Mappers tab
    c. Click on "client roles"
    d. ❗ Token Claim Name: delete the existing text and change to role
    e. ❗ Enable "Add to ID token" (**note: disabled by default**)
    f. Leave "Add to access token" enabled (default)
    g. Click Save

10. Click Users
    a. Click Create new user
        i. ❗ Email verified: Toggle to ON (this will avoid uses needing to verify by email, which requires a mail server set up)
        ii. Enter user details. Username is required. Email and First/Last name are optional and can be set by the user when they log in.
        iii. Click Create
    b. Click Credentials tab for the user you just created
        i. Click Set password.
        ii. Enter a temporary password for the user. User will be required to change their password (unless you toggle Temporary to OFF)
        iii. Click save, then Save password at the confirmation
    c. Select Role mapping tab
        i. Click Assign role > Client roles
        ii. Select Administrator role where Client ID = stanza (may be on page 2)
        **iii. ❗ You must assign exactly 1, and only 1, Stanza role for each user.**
        iv. Click Assign
    d. Repeat above steps for additional users

## Configure Stanza

1. Edit appsettings.general.json in your Stanza data folder, e.g. C:\ProgramData\Telestream\Stanza
2. Find the "Authentication" section, and change the Type to: OpenIdConnect
3. Add a new section at the bottom of the JSON:"OpenIdConnect": {
   "Authority": "https://1.2.3.4:8443/realms/stanza/",
   "ClientId": "stanza",
   "ClientSecret": "abcd1234ffff"
   }

    **a.** Edit "Authority" value to the IP address / public hostname and port of your Keycloak server. **Note: don't use localhost or 127.0.0.1, it must be a reachable address, and it must be HTTPS.**
    b. ClientId: stanza (default)
    c. Paste your ClientSecret from Keycloak
4. Recommended: Set Stanza to require https (it is needed for OpenID to work).
    a. Edit appSettings.webserver.json
    b. Add "RequireHttps": true as a top-level key, e.g.:

```
{
  "Kestrel": {
    "Endpoints": {
      "HttpsInlineCertFile": {
        "Url": "https://*:7001",
        "Certificate": {
          "Path": "certificate\\certificate.pfx",
```

```
            "Password": "stanza"
          }
        }
      }
    },
    "RequireHttps": true
}
```

5. Note: If you first installed Stanza over 1 year ago and this is the first time you're enabling HTTPS, it's likely that your self-signed certificate has expired and needs to be re-generated. The easiest way to do this is to uninstall Stanza (this won't erase your database or settings), delete the certificate files in c:\Program Files\Telestream\Stanza\certificate\ or /Library/Application Support/net.telestream.stanza/certificate/ (Mac), and then re-install Stanza to automatically generate a new self-signed certificate.
6. Restart Stanza service
7. Visit Stanza in your browser via HTTPS (e.g. https://5.6.7.8:7001). If you're using a self-signed certificate and you get a certificate error, follow the steps in "Install and trust a self-signed certificate in your browser" below. This step must be repeated on each client that will access Stanza. If you still get a certificate error after installing it, it is likely expired (see note above).

### Using Stanza

Use https://5.6.7.8:7001 (real IP address or hostname) to access Stanza in your browser. **Don't use localhost or 127.0.0.1, and don't use HTTP.** The address must match the Root/Home URL set in the Keycloak client settings. You should get redirected to the Keycloak login form.

When a Keycloak user logs in to Stanza for the first time, a Stanza account will be automatically created and assigned the same Stanza role that was previously set in Keycloak. You'll get a login error if the username doesn't exist or the Stanza role wasn't assigned correctly.

To access the Settings page in Stanza, you need the Administrator role. Administrators should be able to configure all settings, except for managing user accounts (which are now managed in Keycloak).

To log out, go to the upper right three dots menu > Account > Log out.

## User management

Adding, deleting, and changing the roles of users should be done in Keycloak (or the identity provider connected to Keycloak).

### Troubleshooting

## Stanza shows "Disconnected" or page won't load, and this error appears in the Stanza log file:

System.InvalidOperationException: IDX20803: Unable to obtain configuration from: 'https://1.2.3.4:8443/realms/stanza/.well-known/openid-configuration'.
 ---> System.Net.Http.HttpRequestException: The SSL connection could not be established, see inner exception.
 ---> System.Security.Authentication.AuthenticationException: The remote certificate is invalid because of errors in the certificate chain: UntrustedRoot

This indicates you either you didn't correctly install the Keycloak SSL certificate on the Stanza server machine, or there is a problem with the Keycloak certificate's settings (e.g. IP address doesn't match, or certificate expired). See section above Configuring Keycloak -> Step 1 -> Follow all sub-steps under If using a self-signed SSL certificate...

# Stanza login page shows "Invalid parameter: redirect_uri"

Double check the Keycloak stanza client settings match your Stanza server. Refer to section: Configuring Keycloak > Step 6

# Other troubleshooting steps to try

- Delete cookies for the Stanza server in your browser. Click the button to the left of the URL location bar, then Cookies and Site Data > Manage on-device site data > Click the trash icon next to the Stanza server address.

## Trust a self-signed certificate in your browser

The following instructions assume Chrome browser. For other browsers, search for "install self-signed certificate" for instructions.

# Chrome (any OS)

1. In Chrome, browse to the server you want to trust. It should come up with a certificate error page, unless you already told Chrome to trust this server.
2. Click the "Not secure" button to the left of the URL in the location bar
3. Click "Certificate details"
4. Select the "Details" tab, then click Export button
5. Save the .crt file e.g. example.com.crt to your Downloads
6. In a new Chrome tab, open chrome://certificate-manager/ (or go to Settings > Privacy and security > Security > Manage certificates)
7. Click Installed by you (under Custom)
8. Click Trusted Certificates > Import
9. Browse to your Downloads and select the .crt file downloaded above
10. Now if you reload the Stanza page, it should load the site and you should NOT see a Not secure warning in the browser location bar.

If you continue to get a certificate error or see Not secure in the browser after following these steps, it is possible that the self-signed certificate has expired and needs to be re-generated, or the hostname / IP address in the certificate don't match the server address.

## Trust a self-signed certificate on Mac (System-wide / All users)

The following instructions assume Chrome browser.

1. In Chrome, browse to the server you want to trust. It should come up with a certificate error page, unless you already told Chrome to trust this server.
2. Click the "Not secure" button to the left of the URL in the location bar
3. Click "Certificate details"
4. Select the "Details" tab, then click Export button
5. Save the .crt file e.g. example.com.crt to your Downloads
6. Open Keychain Access application
7. Select the 'System' category on the left-hand side.
8. Go to File > Import Items.
9. Select the certificate file you downloaded, and click Open.
10. Authenticate as a system administrator user to allow the import.
11. Double-click the localhost certificate to open its settings.
12. Click the greater than sign next to ‘Trust’ to display those settings.
13. Click the drop-down list named “When using this certificate” and select “Always Trust”.
14. Close the settings window and authenticate to confirm the change.

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## FAQ's

- Question: How do I access the User Management & Project Statuses Features in the 1.4 Stanza release?

  A: Within the Stanza Client webpage, hit the Three Dots (Kebab) button at the top Right corner for the dropdown option "Settings".
  Within Settings you have the options for setting up **User Management**, **Roles and Project Statuses.**

  **User Management:** This allows you to setup specific users for your Stanza environment ranging from the pre-build options of Admin, Captioner and Reviewer. Or setting up your own Custom users with Roles you can define in the Roles Option

  **Roles:** This will allow you to Add/Delete/Modify what specific Users will be allowed to do in your Stanza environment. This can range from Adding/Deleting users, to editing Captions on a project to Exproting a Captioning output

  **Project Statuses:** allow for tracking project(s) to show the current status of your Captioning Project within Stanza.
  You'll be able to choose from a list of preset Statuses built into Stanza, as well as create your own Custom Statuses of your choosing to fit your workflow(s).
  An example of some of these preset statuses are "New, Captioning in Progress, Ready for Review and Complete

- Question: How to install new fonts and have them show up in Stanza?

  A: Fonts must be installed on the server where Stanza is running, not on the clients, and they must be installed in the system level Fonts folder (**C:\Windows\Fonts** on Windows or **/Library/Fonts** on Mac), not the user fonts folder (e.g. /Users/username/Library/Fonts on Mac).
  This usually requires administrator permission. On Windows, right click on the font and select "Install for all users". After installing the font, you'll need to restart the Stanza service for it to show up.

- **Question:** How to change the Playback Resolution and Bitrate settings in Stanza

  **A:** Location: C:\ProgramData\Telestream\Stanza\appSettings.glim.json
  *Note: This file must be opened using an elevated text editor. Right click 'Notepad' from the start menu and select 'Run as Administrator' in order to make these changes.*
  Sample:

```
"EncodeSettings": {
        "Levels": [
                {
                 "Width": 640,
                "Bitrate": 1000000
                }
        ]
```

}

- **Question:** How to Add a Network Alias manually

  **A:** Stanza now has an alias management UI built-in. Users who want to pre-configure aliases via a json config file can use the below:

  The file is in c:\ProgramData\Telestream\Stanza\appsettings.general.json

  Add a section like the below:

```
"LocationAliases": [
 {
    "PhysicalAlias": {
     "Id": "b4a2f6c0-19bd-469f-9c31-72e83c43fb32",
      "Type": "Physical",
      "Name": "Local Media",
      "Path": "C:\\Media",
      "Open": false
     }
 },
 {
    "NetworkAlias": {
    "Id": "3adfadcf-c69f-4f3c-8291-d94a1838e2cb",
    "Type": "Network",
    "Name": "Name Path - Greyscale",
    "Path": "\\\\networkpathfolder\\Test Videos",
    "Open": false
    }
 },
 {
    "NetworkAlias": {
    "Id": "91db803b-719e-49fb-a5ae-2a3701ced420",
    "Type": "Network",
    "Name": "Name Path - Telestream Demo Videos",
    "Path": "\\\\networkpathfolder\\Telestream Demo Videos",
    "Open": false
    }
 }
],
```

- **Question:** My subtitles in the preview window look like CEA-608 captions (monospace, black background), but when I export a Subtitle Overlay or Burn-in Subtitles, they look different.

**A:** When the project is in CEA-608 mode, the preview will always be styled to look like CEA-608 captions, even if your text doesn't have this style applied. If you want a WYSIWYG preview of your export, change your project to a subtitle mode (Free Form or Custom).

If you want your subtitle exports to look like CEA-608 captions, you must apply the style manually: Select All captions and set monospace font, 80% font size, black background.

- **Question:** How do I change text justification (multi-row alignment)?

  **A:** Select the row and use the following keyboard shortcuts:
  - Ctrl-Shift-A: Auto (default) - Justification will match the text alignment (I.e. Left alignment = Left justification, Center alignment = center justification, etc.)
  - Ctrl-Shift-L: Left Justify
  - Ctrl-Shift-E: Center Justify
  - Ctrl-Shift-R: Right Justify