**Application Setup for AVSwitcher**

**1) Apache Web Server & PHP Installation**

* **Purpose**: Apache is needed to host the web page for AVSwitcher.
* **Installation Steps**:
  1. Copy packages from **\\172.30.92.34\media\VEOS-6.0\42\Ubuntu22\update\_apache2\_4\_62\_and\_php8\_3\_9**

into **/home/Collab8/** folder of the Gateway.

* 1. Provide executable permissions to the update.sh

sudo chmod +x update.sh

* 1. Run **./update.sh** install or update Apache2 and PHP
  2. Start Apache2 service:

sudo systemctl start apache2.service

* 1. Optionally, restart or stop the Apache service as needed:
     + Restart:

sudo systemctl restart apache2.service

* + - Stop:

sudo systemctl stop apache2.service

**2) Node.js Installation**

* **Purpose**: Node.js is used to run the server that accepts commands from the web browser (client) through WebSocket and sends the respective commands to either GStreamer or the web client.
* **Installation Steps**:  
  + Install Node.js

Copy zip file from [\\172.30.92.34\media\VEOS-6.0\42\node-v22.13.1-linux-x64.tar.xz](file:///\\172.30.92.34\media\VEOS-6.0\42\node-v22.13.1-linux-x64.tar.xz)

into **/home/Collab8** folder on gateway.

* + Unzip file on gateway

tar -xvf node-v22.13.1-linux-x64.tar.xz

* + Verify node JS

/home/Collab8/node-v22.13.1-linux-x64/bin/node -v

* + Copy all files from the following SVN link to the specified directory on the server:  
    [**https://intranet.wowvision.in/vcs/veos6/Source/AVSwitcher/web\_new/nodejs**](https://intranet.wowvision.in/vcs/veos6/Source/AVSwitcher/web_new/nodejs)

and save them to **/var/www/html/avswitcher/nodejs**

* + (Dependencies) Copy **node\_modules** folder from [**https://intranet.wowvision.in/vcs/veos6/Source/AVSwitcher/nodejs/node\_modules**](https://intranet.wowvision.in/vcs/veos6/Source/AVSwitcher/nodejs/node_modules)

and save them to **/var/www/html/avswitcher/nodejs**

* + Run Node js server manually

/home/Collab8/node-v22.13.1-linux-x64/bin/node /var/www/html/avswitcher/nodejs/server.js   
(Ensure the server.js file is available in the specified directory.)

**3) Website Setup**

* **Purpose**: Set up the AVSwitcher web interface for switching the different Input, Output, HDMI-1, HDMI-2 and AVoIP Stream.
* **Installation Steps**:
  1. Copy all files from **https://intranet.wowvision.in/vcs/veos6/Source/AVSwitcher/web\_new/web** SVN and save them to **/var/www/html/avswitcher/web**
  2. To access the AVSwitcher web page, use the following URL format:

https://<gateway\_ip>/avswitcher/web/main.php (Replace <gateway\_ip> with the actual IP address of the gateway.)

**4) GStreamer**

* **Version**: 1.20.3 (Installed on VIA)
* **Installation Steps**:
  + **Checkout packages from SVN in Build machine (Ubuntu22.04)**: SVN checkout from <https://intranet.wowvision.in/vcs/veos6/Source/AVSwitcher/AVSwitcher>
  + **Navigate into the AVSwitcher directory**:

cd AVSwitcher

* + **Create a navigate into build directory**:   
    mkdir build   
    cd build
  + **Before build below packages might be required:**sudo apt update

cmake ..

sudo apt-get install nlohmann-json3-dev

sudo apt-get install libjsoncpp-dev

sudo apt-get install libasound2-dev

sudo apt-get install libpulse-dev

sudo apt-get install libwebsockets-dev

sudo apt-get install libcpprest-dev

sudo apt-get install libdrm-dev

sudo apt-get install libgtk-3-dev

sudo apt-get install libgstreamer1.0-dev

sudo apt-get install libgstreamer-plugins-base1.0-dev

sudo apt-get install libgstrtspserver-1.0-dev gstreamer1.0-rtsp

sudo apt-get install libgstreamer-plugins-bad1.0-dev

sudo apt-get install gstreamer1.0-plugins-base

sudo apt-get install gstreamer1.0-plugins-bad

sudo apt-get install libva-dev libva-drm2 libva-x11-2

* + **Run CMake to configure the build**:  
     cmake ..
  + **Build the project**:   
    make
  + **Copy the executable from build machine to the specified location on gateway**:  
    copy from **build/AVSwitcher/AVSwitcher** to **/home/Collab8/config/AVSwitcher-dir/bin**
  + **Edit the StartVinager.h file**: Add the following lines at the end of /home/Collab8/StartVinager.h

export PATH="$HOME/node-v22.13.1-linux-x64/bin:$PATH"  
node /var/www/html/avswitcher/nodejs/server.js &  
cd ./config/AVSwitcher-dir/bin/  
sleep 3  
./AVSwitcher &  
cd /home/Collab8/  
chmod 777 /var/www/html/avswitcher/web/input-data.json

* + **Reboot the gateway**: Once all the above steps are completed, reboot the gateway.
  + I any error produced related to GStreamer and then below command and then install its required dependencies

sudo apt update