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Exercise - Upload a video to your edge device to be processed

6 minutes

Perform the following steps in Azure Cloud Shell.

Upload the video to your edge device

1. Open Cloud Shell.
2. Run the following command to download the [bottle shelf video](#) from GitHub.

```
wget https://github.com/Azure-Samples/azure-intelligent-edge-patterns/raw/master/factory-ai-vision/EdgeSolution/modules/CVCaptureModule/videos/scenario4-empty-shelf-alert.mkv
```

3. Check the path of your video.

```
ls
```

```
Length: 17024036 (16M) [application/octet-stream]
Saving to: 'scenario2-employ-safety.mkv'

scenario2-employ-safety.mkv 100%[=====] 16.24M 72.4MB/s in 0.2s
2021-05-25 14:03:56 (72.4 MB/s) - 'scenario2-employ-safety.mkv' saved [17024036/17024036]

mslearn@Azure:~$ ls
cloudrive  scenario2-employ-safety.mkv
mslearn@Azure:~$ pwd
/home/mslearn
```

4. To upload the video for further analysis, first you would have to upload the video file to your IoT Edge device through *scp* command.

```
scp <path_to_your_video> <admin_username>@<public_ip_address>:
```

```
mslearn@Azure:~$ ls
clouddrive  scenario2-employ-safety.mkv
mslearn@Azure:~$ pwd
/home/mslearn
mslearn@Azure:~$ scp scenario2-employ-safety.mkv azureuser@[REDACTED]
scenario2-employ-safety.mkv 100% 16MB 12.9MB/s 00:01
```

5. Then the video file would be copied to your edge device.

Copy the video file to RTSP simulator

1. Connect to virtual machine. Replace admin username and IP address of your virtual machine.

```
ssh <admin_username>@<public_ip_address>
```

2. Check the video you just uploaded on your virtual machine that running as an edge device.

```
ls
```

```
mslearn@Azure:~$ ssh azureuser@[REDACTED]
Welcome to Ubuntu 18.04.5 LTS (GNU/Linux 5.4.0-1047-azure x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information disabled due to load higher than 1.0

6 updates can be applied immediately.
1 of these updates is a standard security update.
To see these additional updates run: apt list --upgradable

New release '20.04.2 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Last login: Tue May 25 14:26:58 2021 from 20.86.157.130
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

azureuser@vm-mr5lnbfto3fzi:~$ ls
scenario2-employ-safety.mkv
azureuser@vm-mr5lnbfto3fzi:~$
```

3. There would be an RTSP simulator container installed on your edge device. You can first check whether the container exists by running the command below on your edge device:

```
sudo docker ps
```

```
azureuser@vm-mr5lnbfto3fzi:~$ sudo docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
32f42ffa7816	mcr.microsoft.com/azureiotedge-hub:1.0	"/bin/sh -c 'echo \"\$@"	3 minutes ago	Up 3 minutes	0.0.0.0:443->443/tcp, :::443->443/tcp, 0.0.0.0:567
:::8883->8883/tcp	edgeHub				
3690c70485af	mcr.microsoft.com/media/live-video-analytics:2	"/usr/local/bin/entr..."	4 minutes ago	Up 4 minutes	9600/tcp
	lvaEdge				
a115e678f9eb	intelligentedge/inferencemodule:0.24.0-amd64	"python server.py -p..."	4 minutes ago	Up 4 minutes	0.0.0.0:5000->5000/tcp, :::5000->5000/tcp, 0.0.0.0
	inferencemodule				
3b9bc79f0e7f	intelligentedge/webmodule:0.24.0-amd64	"/bin/sh -c 'python ..."	6 minutes ago	Up 6 minutes	0.0.0.0:8000->8000/tcp, :::8000->8000/tcp
	webmodule				
a372c44fa84f	intelligentedge/nginxmodule:0.24.0-amd64	"/docker-entrypoint..."	7 minutes ago	Up 3 minutes	80/tcp, 0.0.0.0:8181->8181/tcp, :::8181->8181/tcp
	nginxmodule				
22cecfc334b	intelligentedge/rtspsimmodule:0.24.0-amd64	"./live555MediaServer"	7 minutes ago	Up 7 minutes	0.0.0.0:554->554/tcp, :::554->554/tcp
	rtspsim				
a41784ad0b68	intelligentedge/uploadmodule:0.24.0-amd64	"python main.py"	7 minutes ago	Up 7 minutes	0.0.0.0:7000->7000/tcp, :::7000->7000/tcp
	uploadmodule				
f7eb87929d80	intelligentedge/predictmodule:0.24.0-cpuamd64	"python3 server.py"	8 minutes ago	Up 8 minutes	0.0.0.0:7777->7777/tcp, :::7777->7777/tcp
	predictmodule				
2d59a4e8e58f	intelligentedge/yolov4-tflite-tiny:1.0	"runsdir /var/runit"	10 minutes ago	Up 10 minutes	
	yolov4module				
34d7840a4bf0	mcr.microsoft.com/azureiotedge-agent:1.0	"/bin/sh -c 'exec /a..."	11 minutes ago	Up 11 minutes	
	edgeAgent				

4. Since the RTSP simulator would only host the video in the specific location in its container. So you would have to put your video file into the container of the RTSP simulator. On your IoT Edge device, you can copy the video file you just upload into the RTSP simulator container through **docker cp** command.

```
sudo docker cp <path to your video on edge> rtspsim:/live/mediaServer/media/
```

```
2d59a4e8e58f    intelligentedge/yolov4-tflite-tiny:1.0    "runsdir /var/runit"    10 minutes ago    Up 1
yolov4module
34d7840a4bf0    mcr.microsoft.com/azureiotedge-agent:1.0    "/bin/sh -c 'exec /a..."    11 minutes ago    Up 1
edgeAgent
azureuser@vm-mr5lnbfto3fzi:~$ sudo docker cp scenario2-employ-safety.mkv rtspsim:/live/mediaServer/media/
azureuser@vm-mr5lnbfto3fzi:~$
```

5. The video would then be copied into the RTSP simulator container.

Analyze the RTSP stream of your video

After uploading the video to RTSP simulator, you can access the RTSP stream of your video through **rtsp://rtspsim:554/media/<video_name>**.

Make a note of RTSP URL. For this example, it will be:

```
rtsp://rtspsim:554/media/scenario4-empty-shelf-alert.mkv
```

Next unit: How to deploy your solution

[Continue >](#)