

Intel OpenVINO Installation Guide

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Before Installation

Before Installation

Please get this things ready

1. Make sure ASUS Mini PC PL63 is well-connected to internet.
2. Install one of the below Operating Systems:
 - Ubuntu* 18.04 LTS with Kernel 5.4
 - Ubuntu 20.04 LTS with Kernel 5.4 or 5.8
 - Debian 10





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Install OpenVINO

Install OpenVINO

1. Go to [Edge Insights for Vision \(intel.com\)](https://www.intel.com/edgeinsights/for-vision).
2. Click “Configure & Download” .

The screenshot shows the Intel Edge Insights for Vision website. At the top, there is a blue header with the text "Edge Insights for Vision" and a sub-header "Deploy computer vision and deep learning workloads at the edge with prevalidated software components." Below the header is a navigation menu with four items: "Overview", "Featured Components", "Use Cases", and "Documentation". The main content area is titled "Overview" and contains three columns of text. The first column describes deploying computer vision and deep learning applications optimized for Intel architecture. The second column describes simplifying installation for media and inference workloads at the edge. The third column describes running multiple inference workloads on a single Intel Vision Accelerator Design with Intel Movidius Vision Processing Unit (VPU). At the bottom center of the main content area, there is a blue button labeled "Configure & Download" which is highlighted with a red rectangular border. Below the button, there is a link "Get Started | Documentation".

Edge Insights for Vision
Deploy computer vision and deep learning workloads at the edge with prevalidated software components.

Overview Featured Components Use Cases Documentation

Overview

Deploy computer vision and deep learning applications optimized for Intel® architecture.

Simplify installation for media and inference workloads at the edge.

Run multiple inference workloads on a single Intel® Vision Accelerator Design with Intel® Movidius™ Vision Processing Unit (VPU).

[Configure & Download](#)

[Get Started](#) | [Documentation](#)

Install OpenVINO

3. Choose target system and distribution.
4. Click "Customize Download".

Edge Insights for Vision
Computer vision and deep learning inference for applications at the edge, optimized for Intel® architecture. Implement using a containerized architecture or a stand-alone runtime.

Select options below to download

Version or Tag	2021.4.2 LTS	2021.4 LTS			
Target System	Red Hat Enterprise Linux 8.2	Ubuntu 20.04 LTS	Windows 10	Ubuntu 18.04 LTS	CentOS-7.4
Distribution	Download Recommended Configuration		Customize Download		

Available with your selection ▼ [Learn More](#) [Documentation](#) **Customize Download**

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Install OpenVINO

5. Select the Multi-Camera Detection if need to detect social distancing.

The screenshot shows the 'Edge Insights for Vision' installation wizard. At the top, there are tabs for 'TARGET SYSTEM' (Ubuntu 20.04 L...), 'VERSION' (2021.4.2 L...), and 'DISTRIBUTION' (Customize Downlo...), along with an 'Edit' button. The main heading is 'Customize your Edge Insights for Vision installation'. The current step is '1. Reference Implementations', which is '1 of 7' steps. Below the heading, it says 'Grayed-out components cannot be removed, as previous selections depend on them'. A single component is listed: 'Reference Implementation - Multi-Camera Detection of Social Distancing, Version 1.5.1'. The description for this component is 'Creates an end-to-end pipeline to detect the presence of COVID-19 preventive measures, such as the social distancing using computer vision inference.' A red checkmark icon is visible in the bottom right corner of the component's box, indicating it is selected. To the right, the next step '2. OpenVINO™' is visible, also with a note about grayed-out components.

Install OpenVINO

6. Select “Intel Distribution of OpenVINO toolkit 2021.4.2 in a Container”.

Edge Insights for Vision

TARGET SYSTEM: Ubuntu 20.04 L... | VERSION: 2021.4.2 L... | DISTRIBUTION: Customize Downlo... | Edit

Customize your Edge Insights for Vision installation

1 of 7 < Back Next >

selections depend on

Distancing ⓘ

of COVID-19 preventive measures, such as the

2 of 7 < Back Next >

2. OpenVINO™

Grayed-out components cannot be removed, as previous selections depend on them

Intel® Distribution of OpenVINO™ toolkit 2021.4.2 in a Container
Version 2021.4.2 ⓘ

The Intel® Distribution of OpenVINO™ toolkit optimizes inferencing on your edge IoT device by extending workloads across Intel® hardware.

This component builds Docker* images for the OpenVINO toolkit.

This component requires Docker* CE to run. Selecting this component will add Docker* CE to your download package.

Intel® Distribution of OpenVINO™ toolkit 2021.4.2 Runtime
Version 2021.4.2 ⓘ

The Intel® Distribution of OpenVINO™ toolkit optimizes inferencing on your edge IoT device by extending workloads across Intel® hardware.

This component installs the toolkit runtime packages distributed through the APT repository. It does not run in a container.

3. Intel Tools

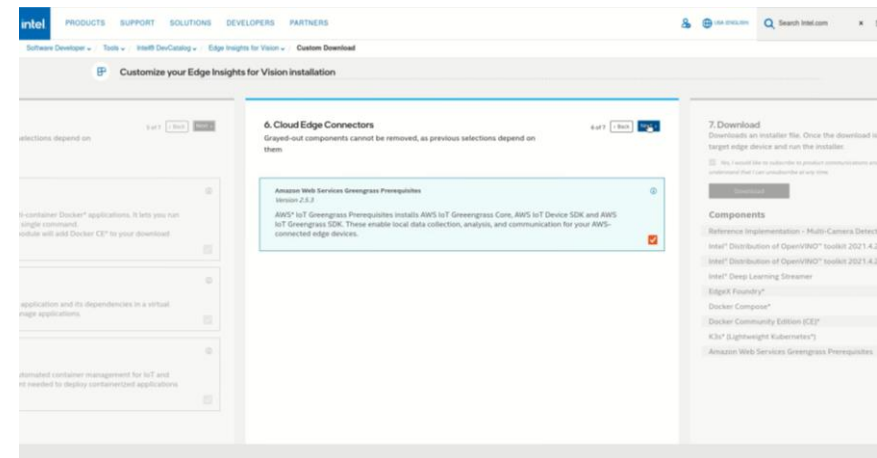
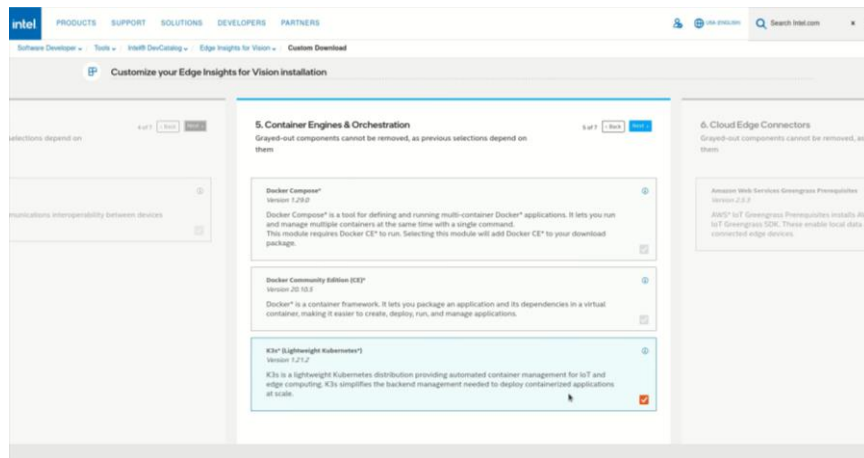
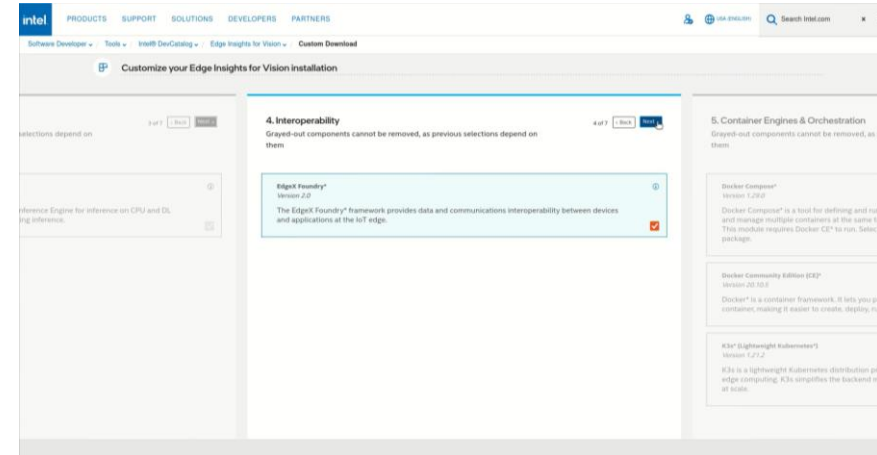
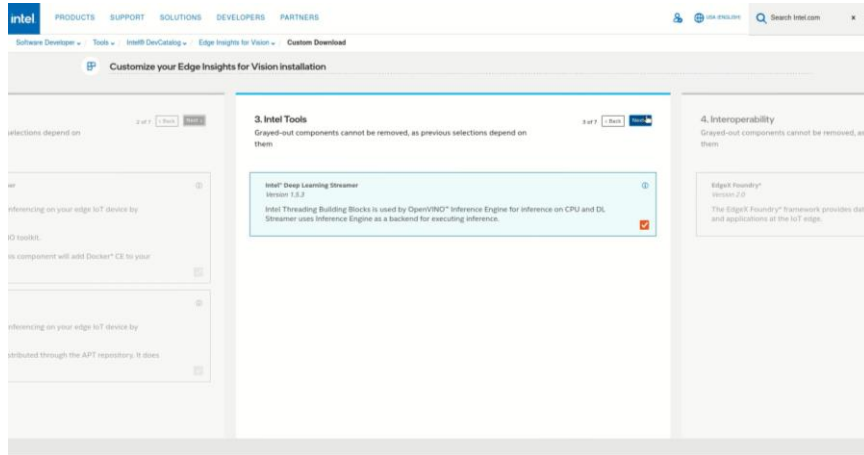
Grayed-out components cannot be removed, as previous selections depend on them

Intel® Deep Learning Streamer
Version 1.5.3 ⓘ

Intel Threading Building Blocks is used by OpenVINO. Intel Deep Learning Streamer uses Inference Engine as a backend for inferencing.

Install OpenVINO

7. Select other tools if needed.



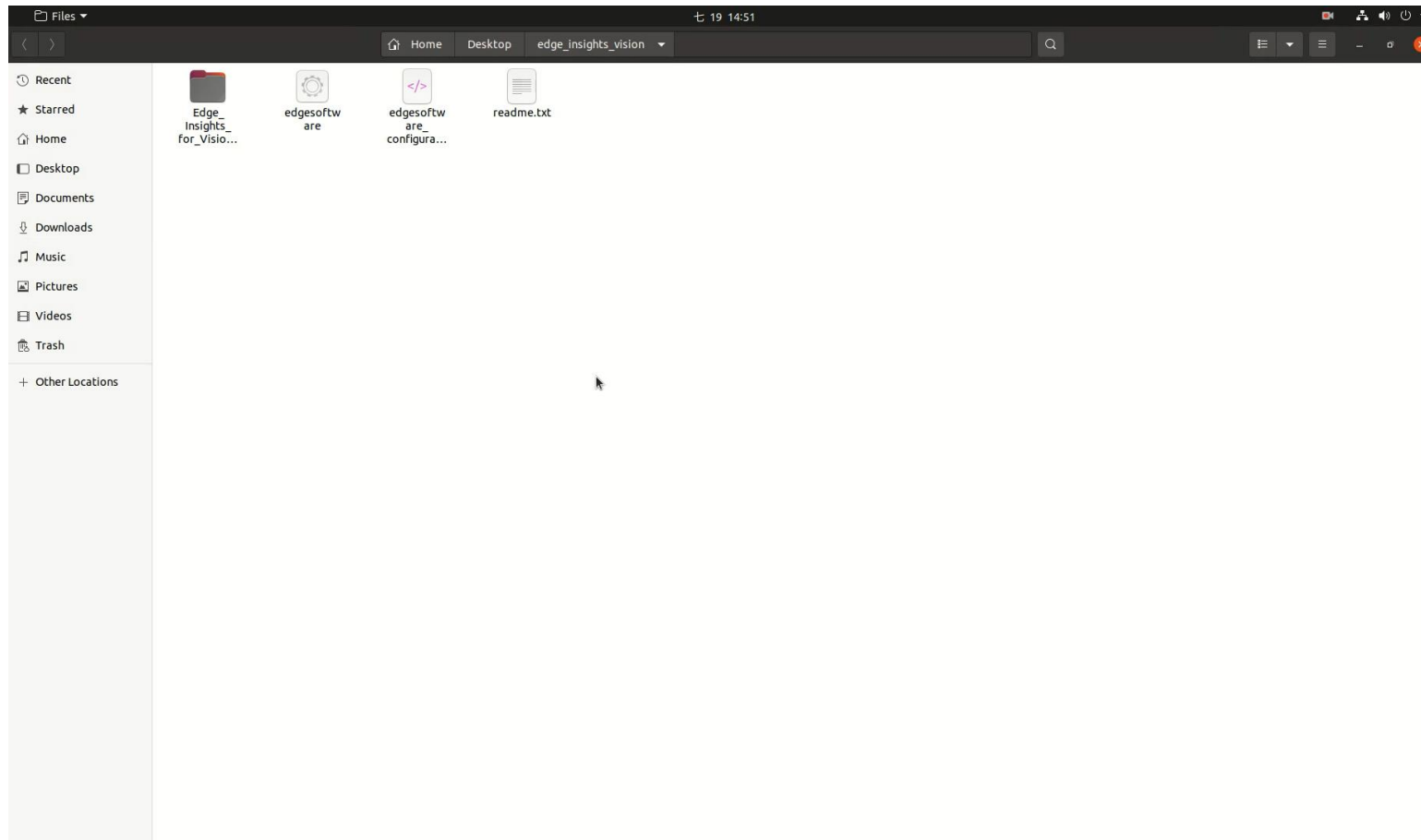
Install OpenVINO

8. Download the package.

The screenshot shows the Intel OpenVINO installation wizard at step 7, "Download". The page title is "Customize your Edge Insights for Vision installation". The breadcrumb trail is: Software Developer > Tools > Intel® DevCatalog > Edge Insights for Vision > Custom Download. The current step is "7. Download", which includes the instruction: "Downloads an installer file. Once the download is complete, copy the file to your target edge device and run the installer." There is a checked checkbox for "Yes, I would like to subscribe to product communications and stay connected by email and telephone. I understand that I can unsubscribe at any time." Below this is a blue "Download" button. A "Components" section lists the following items: Reference Implementation - Multi-Camera Detection of Social Distancing, Intel® Distribution of OpenVINO™ toolkit 2021.4.2 in a Container, Intel® Distribution of OpenVINO™ toolkit 2021.4.2 Runtime, Intel® Deep Learning Streamer, EdgeX Foundry*, Docker Compose*, Docker Community Edition (CE)*, K3s* (Lightweight Kubernetes*), and Amazon Web Services Greengrass Prerequisites. The left sidebar shows a list of components with a "6 of 7" indicator and "Back" and "Next" buttons.

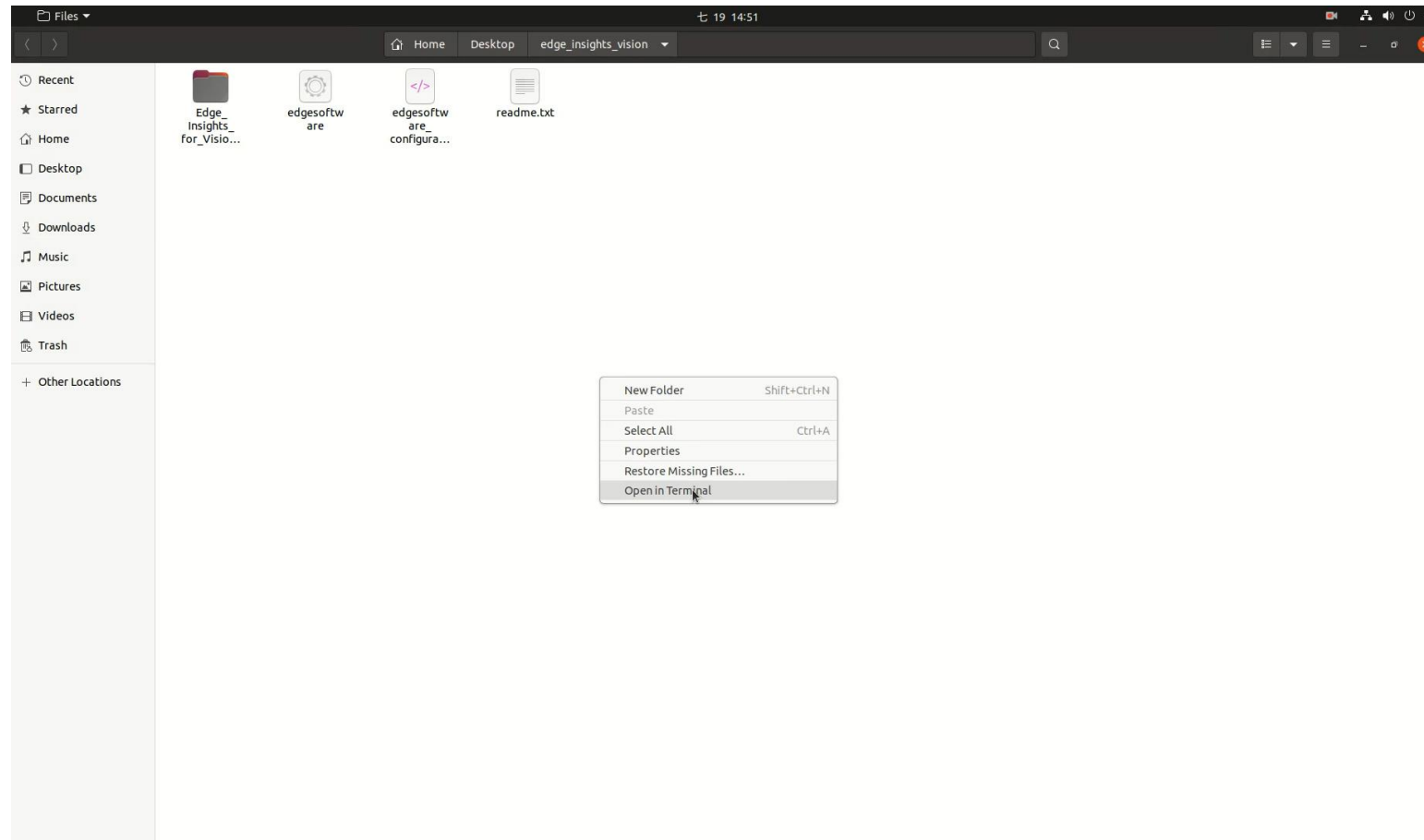
Install OpenVINO

9. Copy the .zip file to folder.



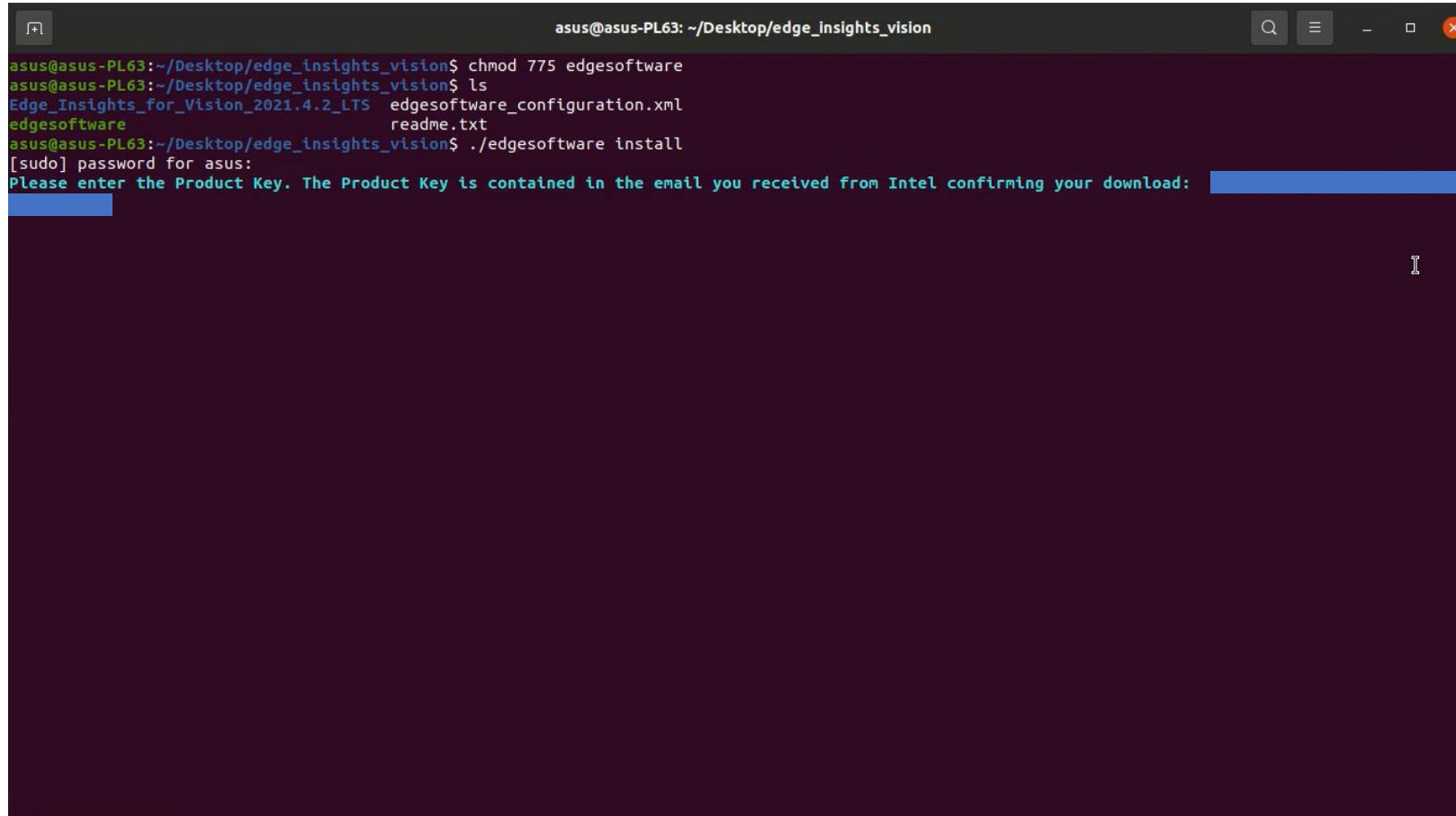
Install OpenVINO

10. Choose “Open in Terminal”.



Install OpenVINO

11. Type the white words and product key.



```
asus@asus-PL63: ~/Desktop/edge_insights_vision
asus@asus-PL63:~/Desktop/edge_insights_vision$ chmod 775 edgesoftware
asus@asus-PL63:~/Desktop/edge_insights_vision$ ls
Edge_Insights_for_Vision_2021.4.2_LTS  edgesoftware_configuration.xml
edgesoftware                           readme.txt
asus@asus-PL63:~/Desktop/edge_insights_vision$ ./edgesoftware install
[sudo] password for asus:
Please enter the Product Key. The Product Key is contained in the email you received from Intel confirming your download:
[Redacted]
```

Install OpenVINO

12. Wait for download. When the installation is complete, you will see the installation status for each module.

```
asus@asus-PL63: ~/Desktop/edge_insights_vision
Building Docker image. This step may take approximately 5 mins.
Building docker image [.....] 100%
Successfully installed Intel_Distribution_of_OpenVINO_toolkit_2021_4_2_in_a_Container took 2 minutes 6.15 seconds
Installing Docker_Compose
Verifying Docker [.....] 100%
Installing Docker Compose [.....] 100%
Successfully installed docker-compose
Successfully installed Docker_Compose took 25.93 seconds
Installing Edgex_Foundry
Installing EdgeX. This step may take approximately 5 mins.
Installing EdgeX [.....] 100%
Checking Edgex Installation [.....] 100%
Successfully installed Edgex_Foundry took 37.06 seconds
Installing RI_MultiCamera_Social_Distancing
Installing Multi-Camera dependencies. This step may take upto 20 mins.
Installing Multi-Camera dependencies [.....] 40% 00:12:01K
Installing Multi-Camera dependencies [.....] 50% 00:08:54deb https://repos.influxdata.co
Installing Multi-Camera dependencies [.....] 100%
Verify Install [.....] 100%
Please refer the get started guide 'Multi-Camera Detection of Social Distancing - Reference Implementation.pdf' available at path /home/asus/Desktop/edge_insights_vision/Edge_Insights_for_Vision_2021.4.2_LTS/RI_MultiCamera_Social_Distancing
Successfully installed RI_MultiCamera_Social_Distancing took 6 minutes 1.42 seconds
Installation of package complete
***Recommended to reboot system after installation***
+-----+-----+-----+
| Id | Module | Status |
+-----+-----+-----+
| 6021bb103cb8eb002ac47d71 | Amazon Web Services Greengrass Prerequisites | SUCCESS |
| 60e58b534c1e9d002a6d6b1f | K3s Lightweight Kubernetes | SUCCESS |
| 6194d44aff6f230021e437e2 | Intel Distribution of OpenVINO toolkit 2021 4 2 Runtime | SUCCESS |
| 6194d4caff6f230021e437f3 | Intel Deep Learning Streamer | SUCCESS |
| 605cab935a4b53002c272678 | Docker Community Edition CE | SUCCESS |
| 6194d509ff6f230021e43805 | Intel Distribution of OpenVINO toolkit 2021 4 2 in a Container | SUCCESS |
| 60e58fca4c1e9d002a6d6b2a | Docker Compose | SUCCESS |
| 60e58f414c1e9d002a6d6b29 | Edgex Foundry | SUCCESS |
| 6194da05ff6f230021e43858 | RI MultiCamera Social Distancing | SUCCESS |
+-----+-----+-----+
asus@asus-PL63:~/Desktop/edge_insights_vision$
```



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Run the demo

Run the demo

1. To get the demo video, please type words as below.

```
$ wget -O ~/Downloads/NewVideo2.mp4 \  
https://github.com/incluit/OpenVino-For-SmartCity\  
/raw/master/data/NewVideo2.mp4
```

```
asus@asus-PL63: ~/Desktop/edge_insights_vision  
Successfully installed Intel_Distribution_of_OpenVINO_toolkit_2021_4_2_in_a_Container took 2 minutes 6.15 seconds  
Installing Docker_Compose  
Verifying Docker [.....] 100%  
Installing Docker Compose [.....] 100%  
Successfully installed docker-compose  
Successfully installed Docker_Compose took 25.93 seconds  
Installing Edgex_Foundry  
Installing EdgeX. This step may take approximately 5 mins.  
Installing EdgeX [.....] 100%  
Checking Edgex Installation [.....] 100%  
Successfully installed Edgex_Foundry took 37.06 seconds  
Installing RI_MultiCamera_Social_Distancing  
Installing Multi-Camera dependencies. This step may take upto 20 mins.  
Installing Multi-Camera dependencies [.....] 40% 00:12:01OK  
Installing Multi-Camera dependencies [.....] 50% 00:08:54deb https://repos.influxdata.co  
Installing Multi-Camera dependencies [.....] 100%  
Verify Install [.....] 100%  
Please refer the get started guide 'Multi-Camera Detection of Social Distancing - Reference Implementation.pdf' available at path /home/asus/Desktop/  
edge_insights_vision/Edge_Insights_for_Vision_2021.4.2_LTS/RI_MultiCamera_Social_Distancing  
  
Successfully installed RI_MultiCamera_Social_Distancing took 6 minutes 1.42 seconds  
Installation of package complete  
***Recommended to reboot system after installation***  
+-----+-----+-----+  
| Id | Module | Status |  
+-----+-----+-----+  
| 6021bb103cb8eb002ac47d71 | Amazon Web Services Greengrass Prerequisites | SUCCESS |  
| 60e58b534c1e9d002a6d6b1f | K3s Lightweight Kubernetes | SUCCESS |  
| 6194d44aff6f230021e437e2 | Intel Distribution of OpenVINO toolkit 2021 4 2 Runtime | SUCCESS |  
| 6194d4caff6f230021e437f3 | Intel Deep Learning Streamer | SUCCESS |  
| 605cab935a4b53002c272678 | Docker Community Edition CE | SUCCESS |  
| 6194d509ff6f230021e43805 | Intel Distribution of OpenVINO toolkit 2021 4 2 in a Container | SUCCESS |  
| 60e58fca4c1e9d002a6d6b2a | Docker Compose | SUCCESS |  
| 60e58f414c1e9d002a6d6b29 | Edgex Foundry | SUCCESS |  
| 6194da05ff6f230021e43858 | RI MultiCamera Social Distancing | SUCCESS |  
+-----+-----+-----+  
asus@asus-PL63:~/Desktop/edge_insights_vision$ wget -O ~/Downloads/NewVideo2.mp4 \  
> https://github.com/incluit/OpenVino-For-SmartCity\  
> /raw/master/data/NewVideo2.mp4
```

Run the demo

2. Pull image from Docker Hub. Please type words as below.

```
$ docker pull wpig/opencvino:2021.3_developer_models
```

```
asus@asus-PL63: ~/Desktop/edge_insights_vision
edge_insights_vision/Edge_Insights_for_Vision_2021.4.2_LTS/RI_MultiCamera_Social_Distancing
Successfully installed RI_MultiCamera_Social_Distancing took 6 minutes 1.42 seconds
Installation of package complete
***Recommended to reboot system after installation***
+-----+-----+-----+
| Id | Module | Status |
+-----+-----+-----+
| 6021bb103cb8eb002ac47d71 | Amazon Web Services Greengrass Prerequisites | SUCCESS |
| 60e58b534c1e9d002a6d6b1f | K3s Lightweight Kubernetes | SUCCESS |
| 6194d44aff6f230021e437e2 | Intel Distribution of OpenVINO toolkit 2021 4 2 Runtime | SUCCESS |
| 6194d4caff6f230021e437f3 | Intel Deep Learning Streamer | SUCCESS |
| 605cab935a4b53002c272678 | Docker Community Edition CE | SUCCESS |
| 6194d509ff6f230021e43805 | Intel Distribution of OpenVINO toolkit 2021 4 2 in a Container | SUCCESS |
| 60e58fca4c1e9d002a6d6b2a | Docker Compose | SUCCESS |
| 60e58f414c1e9d002a6d6b29 | Edgex Foundry | SUCCESS |
| 6194da05ff6f230021e43858 | RI MultiCamera Social Distancing | SUCCESS |
+-----+-----+-----+
asus@asus-PL63:~/Desktop/edge_insights_vision$ wget -O ~/Downloads/NewVideo2.mp4 \
> https://github.com/incluit/OpenVino-For-SmartCity/
> /raw/master/data/NewVideo2.mp4
--2022-07-19 15:12:18-- https://github.com/incluit/OpenVino-For-SmartCity/raw/master/data/NewVideo2.mp4
Resolving github.com (github.com)... 13.114.40.48
Connecting to github.com (github.com)|13.114.40.48|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://raw.githubusercontent.com/incluit/OpenVino-For-SmartCity/master/data/NewVideo2.mp4 [following]
--2022-07-19 15:12:18-- https://raw.githubusercontent.com/incluit/OpenVino-For-SmartCity/master/data/NewVideo2.mp4
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.111.133, 185.199.108.133, 185.199.109.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.111.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 12914374 (12M) [application/octet-stream]
Saving to: '/home/asus/Downloads/NewVideo2.mp4'

/home/asus/Downloads/NewVideo2.mp4 100%[=====] 12.32M 295KB/s in 22s

2022-07-19 15:12:42 (565 KB/s) - '/home/asus/Downloads/NewVideo2.mp4' saved [12914374/12914374]
asus@asus-PL63:~/Desktop/edge_insights_vision$ docker pull wpig/opencvino:2021.3_developer_models
```

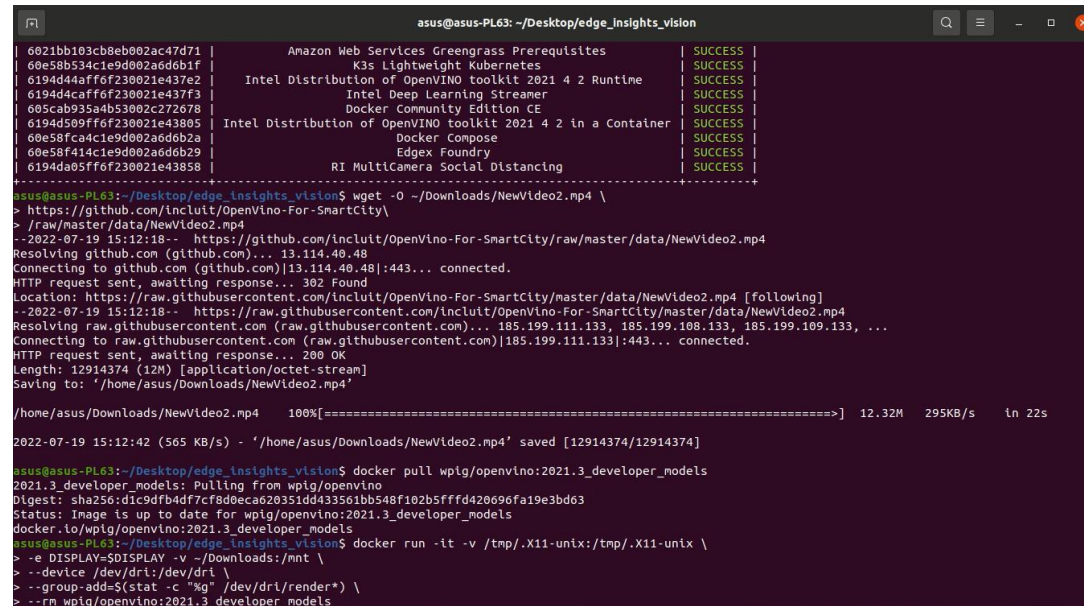
NOTE

“wpig” should be changed to existing resource locations: sertek or synnexgrp or wt1com

Run the demo

3. Run smart city demo. Please type words as below.

```
$ docker run -it -v /tmp/.X11-unix:/tmp/.X11-unix \  
-e DISPLAY=$DISPLAY -v ~/Downloads:/mnt \  
--device /dev/dri:/dev/dri \  
--group-add=$(stat -c "%g" /dev/dri/render*) \  
--rm wpig/openvino:2021.3_developer_models
```



```
asus@asus-PL63: ~/Desktop/edge_insights_vision  
| 6021bb103cb8e002ac47d71 | Amazon Web Services Greengrass Prerequisites | SUCCESS |  
| 60e58b534c1e9d002a6d6b1f | K3s Lightweight Kubernetes | SUCCESS |  
| 6194d44aff6f230021e437e2 | Intel Distribution of OpenVINO toolkit 2021 4 2 Runtime | SUCCESS |  
| 6194d44caff6f230021e437f3 | Intel Deep Learning Streamer | SUCCESS |  
| 605cab935a4b53002c272678 | Docker Community Edition CE | SUCCESS |  
| 6194d509ff6f230021e43805 | Intel Distribution of OpenVINO toolkit 2021 4 2 in a Container | SUCCESS |  
| 60e58fca4c1e9d002a6d6b2a | Docker Compose | SUCCESS |  
| 60e58f414c1e9d002a6d6b29 | Edgex Foundry | SUCCESS |  
| 6194da05ff6f230021e43858 | RI MultiCamera Social Distancing | SUCCESS |  
-----  
asus@asus-PL63:~/Desktop/edge_insights_vision$ wget -O ~/Downloads/NewVideo2.mp4 \  
> https://github.com/Inclut/OpenVino-For-SmartCity\  
> /raw/master/data/NewVideo2.mp4  
--2022-07-19 15:12:18-- https://github.com/Inclut/OpenVino-For-SmartCity/raw/master/data/NewVideo2.mp4  
Resolving github.com (github.com)... 13.114.40.48  
Connecting to github.com (github.com)[13.114.40.48]:443... connected.  
HTTP request sent, awaiting response... 302 Found  
Location: https://raw.githubusercontent.com/Inclut/OpenVino-For-SmartCity/master/data/NewVideo2.mp4 [following]  
--2022-07-19 15:12:18-- https://raw.githubusercontent.com/Inclut/OpenVino-For-SmartCity/master/data/NewVideo2.mp4  
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.111.133, 185.199.108.133, 185.199.109.133, ...  
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)[185.199.111.133]:443... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 12914374 (12M) [application/octet-stream]  
Saving to: '/home/asus/Downloads/NewVideo2.mp4'  
  
/home/asus/Downloads/NewVideo2.mp4 100%[=====] 12.32M 295KB/s in 22s  
2022-07-19 15:12:42 (565 KB/s) - '/home/asus/Downloads/NewVideo2.mp4' saved [12914374/12914374]  
  
asus@asus-PL63:~/Desktop/edge_insights_vision$ docker pull wpig/openvino:2021.3_developer_models  
2021.3_developer_models: Pulling from wpig/openvino  
Digest: sha256:d1c9dfb4df7cf8d0eca620351dd433561bb548f102b5ffffd420696fa19e3bd6  
Status: Image is up to date for wpig/openvino:2021.3_developer_models  
docker.io/wpig/openvino:2021.3_developer_models  
asus@asus-PL63:~/Desktop/edge_insights_vision$ docker run -it -v /tmp/.X11-unix:/tmp/.X11-unix \  
> -e DISPLAY=$DISPLAY -v ~/Downloads:/mnt \  
> --device /dev/dri:/dev/dri \  
> --group-add=$(stat -c "%g" /dev/dri/render*) \  
> --rm wpig/openvino:2021.3_developer_models
```


Run the demo

4. Please type words as below.

```
$ cd /home/opencvino/
```

```
openvino@15b3b1c54b8a: /opt/intel/opencvino_2021.3.394
| 605cab935a4b53002c272678 | Docker Community Edition CE | SUCCESS |
| 6194d509ff6f230021e43805 | Intel Distribution of OpenVINO toolkit 2021 4 2 in a Container | SUCCESS |
| 60e58fca4c1e9d002a6d6b2a | Docker Compose | SUCCESS |
| 60e58f414c1e9d002a6d6b29 | Edgex Foundry | SUCCESS |
| 6194da05ff6f230021e43858 | RI MultiCamera Social Distancing | SUCCESS |
+-----+-----+-----+
asus@asus-PL63: ~/Desktop/edge_insights_vision$ wget -O ~/Downloads/NewVideo2.mp4 \
> https://github.com/incluit/OpenVino-For-SmartCity\
> /raw/master/data/NewVideo2.mp4
--2022-07-19 15:12:18-- https://github.com/incluit/OpenVino-For-SmartCity/raw/master/data/NewVideo2.mp4
Resolving github.com (github.com)... 13.114.40.48
Connecting to github.com (github.com)|13.114.40.48|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://raw.githubusercontent.com/incluit/OpenVino-For-SmartCity/master/data/NewVideo2.mp4 [following]
--2022-07-19 15:12:18-- https://raw.githubusercontent.com/incluit/OpenVino-For-SmartCity/master/data/NewVideo2.mp4
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.111.133, 185.199.108.133, 185.199.109.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.111.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 12914374 (12M) [application/octet-stream]
Saving to: '/home/asus/Downloads/NewVideo2.mp4'

/home/asus/Downloads/NewVideo2.mp4 100%[=====>] 12.32M 295KB/s in 22s

2022-07-19 15:12:42 (565 KB/s) - '/home/asus/Downloads/NewVideo2.mp4' saved [12914374/12914374]

asus@asus-PL63:~/Desktop/edge_insights_vision$ docker pull wpig/opencvino:2021.3_developer_models
2021.3_developer_models: Pulling from wpig/opencvino
Digest: sha256:d1c9dfb4df7cf8d0eca620351dd433561bb548f102b5fffd420696fa19e3bd63
Status: Image is up to date for wpig/opencvino:2021.3_developer_models
docker.io/wpig/opencvino:2021.3_developer_models
asus@asus-PL63:~/Desktop/edge_insights_vision$ docker run -it -v /tmp/.X11-unix:/tmp/.X11-unix \
> -e DISPLAY=$DISPLAY -v ~/Downloads:/mnt \
> --device /dev/dri:/dev/dri \
> --group-add=$(stat -c "%g" /dev/dri/render*) \
> --rm wpig/opencvino:2021.3_developer_models
groups: cannot find name for group ID 109
error: XDG_RUNTIME_DIR not set in the environment.
[setupvars.sh] OpenVINO environment initialized
openvino@15b3b1c54b8a:/opt/intel/opencvino_2021.3.394$ cd /home/opencvino/
```



Run the demo

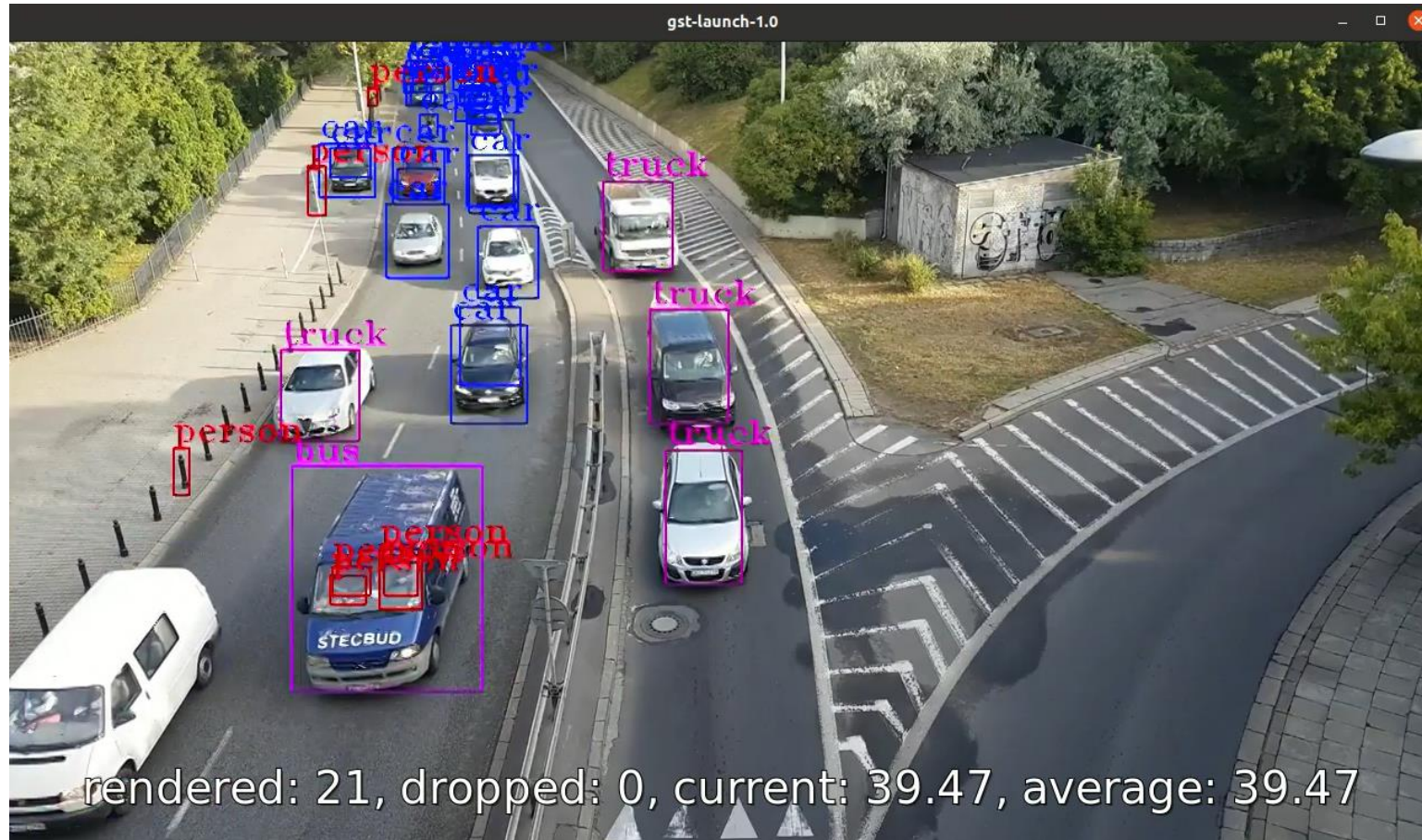
5. Please type words as below.

`$. /smartcity_demo.sh`

```
openvino@15b3b1c54b8a: ~  
| 6194d509ff6f230021e43805 | Intel Distribution of OpenVINO toolkit 2021 4 2 in a Container | SUCCESS |  
| 60e58fca4c1e9d002a6d6b2a | Docker Compose | SUCCESS |  
| 60e58f414c1e9d002a6d6b29 | Edgex Foundry | SUCCESS |  
| 6194da05ff6f230021e43858 | RI MultiCamera Social Distancing | SUCCESS |  
+-----+  
asus@asus-PL63:~/Desktop/edge_insights_vision$ wget -O ~/Downloads/NewVideo2.mp4 \  
> https://github.com/incluit/OpenVino-For-SmartCity\  
> /raw/master/data/NewVideo2.mp4  
--2022-07-19 15:12:18-- https://github.com/incluit/OpenVino-For-SmartCity/raw/master/data/NewVideo2.mp4  
Resolving github.com (github.com)... 13.114.40.48  
Connecting to github.com (github.com)|13.114.40.48|:443... connected.  
HTTP request sent, awaiting response... 302 Found  
Location: https://raw.githubusercontent.com/incluit/OpenVino-For-SmartCity/master/data/NewVideo2.mp4 [following]  
--2022-07-19 15:12:18-- https://raw.githubusercontent.com/incluit/OpenVino-For-SmartCity/master/data/NewVideo2.mp4  
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.111.133, 185.199.108.133, 185.199.109.133, ...  
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.111.133|:443... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 12914374 (12M) [application/octet-stream]  
Saving to: '/home/asus/Downloads/NewVideo2.mp4'  
  
/home/asus/Downloads/NewVideo2.mp4 100%[=====] 12.32M 295KB/s in 22s  
  
2022-07-19 15:12:42 (565 KB/s) - '/home/asus/Downloads/NewVideo2.mp4' saved [12914374/12914374]  
  
asus@asus-PL63:~/Desktop/edge_insights_vision$ docker pull wpig/openvino:2021.3_developer_models  
2021.3_developer_models: Pulling from wpig/openvino  
Digest: sha256:d1c9dfb4df7cf8d0eca620351dd433561bb548f102b5ffffd420696fa19e3bd63  
Status: Image is up to date for wpig/openvino:2021.3_developer_models  
docker.io/wpig/openvino:2021.3_developer_models  
asus@asus-PL63:~/Desktop/edge_insights_vision$ docker run -it -v /tmp/.X11-unix:/tmp/.X11-unix \  
> -e DISPLAY=$DISPLAY -v ~/Downloads:/mnt \  
> --device /dev/dri:/dev/dri \  
> --group-add=$(stat -c "%g" /dev/dri/render*) \  
> --rm wpig/openvino:2021.3_developer_models  
groups: cannot find name for group ID 109  
error: XDG_RUNTIME_DIR not set in the environment.  
[setupvars.sh] OpenVINO environment initialized  
openvino@15b3b1c54b8a:/opt/intel/openvino_2021.3.394$ cd /home/openvino/  
openvino@15b3b1c54b8a:~$ ./smartcity_demo.sh
```


Run the demo

6. Run the smart city video.



Run the demo

7. Prepare for the benchmark.

```
$ docker run -it -v /tmp/.X11-unix:/tmp/.X11-unix \  
-e DISPLAY=$DISPLAY -v ~/Downloads:/mnt \  
--device /dev/dri:/dev/dri \  
--group-add=$(stat -c "%g" /dev/dri/render*) \  
--rm wpig/opencvino:2021.3_developer_models  
$ cd /home/opencvino/  
$ python3 run_command.py
```

Run the demo

8. Benchmark results.

```
openvino@15b3b1c54b8a: ~  
[Step 10/11] Measuring performance (Start inference asynchronously, 4 inference requests using 4 streams for CPU, limits: 60000 ms duration)  
[ INFO ] First inference took 573.99 ms  
Latency: 1338.80 ms  
Throughput: 2.94 FPS  
cmd:python3 /opt/intel/openvino/deployment_tools/tools/benchmark_tool/benchmark_app.py -m /opt/intel/openvino_models/public/yolo-v4-tf/FP16/yolo-v4-tf.xml -d CPU  
-api async -t 60  
  
MKLDNNPlugin..... version 2.1  
[ INFO ] Read network took 120.13 ms  
[ INFO ] Load network took 1002.81 ms  
[Step 10/11] Measuring performance (Start inference asynchronously, 4 inference requests using 4 streams for CPU, limits: 60000 ms duration)  
[ INFO ] First inference took 573.38 ms  
Latency: 1338.63 ms  
Throughput: 2.94 FPS  
cmd:python3 /opt/intel/openvino/deployment_tools/tools/benchmark_tool/benchmark_app.py -m /opt/intel/openvino_models/public/yolo-v4-tf/FP16-INT8/yolo-v4-tf.xml -  
d CPU -api async -t 60  
  
MKLDNNPlugin..... version 2.1  
cmd:python3 /opt/intel/openvino/deployment_tools/tools/benchmark_tool/benchmark_app.py -m /opt/intel/openvino_models/public/yolo-v4-tf/FP32/yolo-v4-tf.xml -d GPU  
-api async -t 60  
  
cLDNNPlugin..... version 2.1  
[ INFO ] Read network took 92.96 ms  
[ INFO ] Load network took 50265.99 ms  
[Step 10/11] Measuring performance (Start inference asynchronously, 4 inference requests using 2 streams for GPU, limits: 60000 ms duration)  
[ INFO ] First inference took 184.99 ms  
Latency: 732.58 ms  
Throughput: 5.46 FPS  
cmd:python3 /opt/intel/openvino/deployment_tools/tools/benchmark_tool/benchmark_app.py -m /opt/intel/openvino_models/public/yolo-v4-tf/FP16/yolo-v4-tf.xml -d GPU  
-api async -t 60  
  
cLDNNPlugin..... version 2.1  
[ INFO ] Read network took 49.00 ms  
[ INFO ] Load network took 49626.72 ms  
[Step 10/11] Measuring performance (Start inference asynchronously, 4 inference requests using 2 streams for GPU, limits: 60000 ms duration)  
[ INFO ] First inference took 92.25 ms  
Latency: 349.24 ms  
Throughput: 11.43 FPS  
cmd:python3 /opt/intel/openvino/deployment_tools/tools/benchmark_tool/benchmark_app.py -m /opt/intel/openvino_models/public/yolo-v4-tf/FP16-INT8/yolo-v4-tf.xml -  
d GPU -api async -t 60  
  
cLDNNPlugin..... version 2.1  
openvino@15b3b1c54b8a:~$
```




IN SEARCH OF INCREDIBLE

Thank you