PROJECT UPDATE 1. Provide an update on the status of your data collection. Have you been able to successfully collect and label a packet trace collected through netunicorn for your project? If yes, how many traces have you collected? Do you plan to scale up your data collection any further? Currently, we have collected the data of five videos from each platform: YouTube, Vimeo, and Twitch. For YouTube and Vimeo, each video has a different duration (1 min, 2 min, 5 min, 10 min, and 15 min). For Twitch, each video is around 1 minute long. Our pipeline is setup to collect data from 15 videos (5 from each platform). In total, our pipeline has collected 15 packet traces (.pcap files). We are currently in the process of labeling and extracting the features of the packet traces we have collected so far. We are considering expanding our data collection (by 1-2 videos) for each platform. In the code below, we are using netUnicorn to collect the packet traces and preprocessing them to train our model. 1. Provide a list of features that you will extract from the packet traces for your model. For our model, we plan on extracting these features from the packet traces: • Size: of video chunk in bytes • Delivery Rate: rate (in bytes per second) at which data is delivered • RRT (Round-Trip Time): latency (in seconds) between client and server Transmission Time: total time taken to download the video chunk 1. Please provide a high-level explanation of the model type that you plan to train / evaluate. Provide a link to the python sci-kit implementation that you plan to use. We plan on using the RandomForestRegressor to train and evaluate our data collection. The RandomForestRegressor is suitable for our project because it can predict numerical outcomes, such as the download time for video chunks or QoE metrics. This can be useful in understanding the significance of different features in classifying network traffic. This scikit-learn model is more complex and useful for capturing non-linear relationships between features and outcomes. In the code below, we have provided the implementation of the model we plan on using for our project. https://scikit-learn.org/dev/modules/generated/sklearn.ensemble.RandomForestRegressor.html From Checkpoint #1 **EXPERIMENT** Provide a high-level explanation of the experiment(s) that you want to run through netUnicorn/netReplica. What type of data do you need to collect? Our project's goal is to predict download times of video chunks on video streaming platforms to minimize the interruptions caused by fluctuations in network performance. The input of our model will be historic QoS metrics, including throughput, latency, and packet loss. As for the training data we plan on running through netUnicorn/netReplica, we will collect time-series data on historical QoS metrics for video streaming sessions. DATA COLLECTION PIPELINES Provide (pseudo)code for the pipeline(s) that you will run for your data collection. Import Statements For each task in your pipeline, provide a reference to the implementation of this task that you will use for your data collection. These imports statements are our reference to the implementations used in our pipeline tasks. import os import time import pandas as pd from netunicorn.client.remote import RemoteClient, RemoteClientException from netunicorn.base import Experiment, ExperimentStatus, Pipeline from netunicorn.library.tasks.capture.tcpdump import StartCapture, StopNamedCapture from netunicorn.library.tasks.upload.fileio import UploadToFileIO from netunicorn.library.tasks.upload.webdav import UploadToWebDav from netunicorn.library.tasks.basic import SleepTask from netunicorn.library.tasks.measurements.ookla_speedtest import SpeedTest from netunicorn.library.tasks.video_watchers.youtube_watcher import WatchYouTubeVideo from netunicorn.library.tasks.video_watchers.vimeo_watcher import WatchVimeoVideo from netunicorn.library.tasks.video_watchers.twitch_watcher import WatchTwitchStream Set Up netUnicorn Choosing a device for our project. Using our group's netUnicorn API credentials. NETUNICORN_ENDPOINT = os.environ.get('NETUNICORN_ENDPOINT', 'https://pinot.cs.ucsb.edu/netunicorn') NETUNICORN_LOGIN = os.environ.get('NETUNICORN_LOGIN', 'cs190n8') NETUNICORN_PASSWORD = os.environ.get('NETUNICORN_PASSWORD', 'kfazTdrx') client = RemoteClient(endpoint=NETUNICORN_ENDPOINT, login=NETUNICORN_LOGIN, password=NETUNICORN_PASSWORD) print("Health Check: {}".format(client.healthcheck())) nodes = client.get_nodes() print (nodes) Health Check: True [<Uncountable node pool with next node template: [aws-fargate-A-cs190n8-, aws-fargate-B-cs190n8-, aws-fargate-ARM64-cs190n8-]>] working_node = 'aws-fargate-A-cs190n8-' Collecting Network Data for Video Streaming In our collecting network data pipeline we will be collecting packet captures while streaming video for YouTube. from netunicorn.executor import get_local_executor executor = get_local_executor(pipeline) INFO: executor_local: Parsed configuration: Gateway located on fake INFO:executor_local:Current directory: /home/psabherwal/cs190n-fall-2024/project pipeline = Pipeline() # Flag to enable early stopping -- so if any task fails pipeline would go on working # pipeline.early_stopping = False # Generate Data for YouTube pipeline.then(StartCapture(filepath="/tmp/youtube_1min.pcap", name="1min_captureYT")) **for** _ **in** range(5): pipeline.then(WatchYouTubeVideo("https://www.youtube.com/watch?v=0g1Q4fBDp2U&pp=ygUMMSBtaW4gdmlkZW9z", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="1min_captureYT")) pipeline.then(SleepTask(2)) pipeline.then(StartCapture(filepath="/tmp/youtube_2min.pcap", name="2min_captureYT")) for $_$ in range(5): pipeline.then(WatchYouTubeVideo("https://www.youtube.com/watch?v=0CmtDk-joT4&ab_channel=Koi", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="2min_captureYT")) pipeline.then(SleepTask(2)) pipeline.then(StartCapture(filepath="/tmp/youtube_5min.pcap", name="5min_captureYT")) for in range(5): pipeline.then(WatchYouTubeVideo("https://www.youtube.com/watch?v=6-2ra25RVRs&pp=ygUMNSBtaW4gdmlkZW9z", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="5min_captureYT")) pipeline.then(SleepTask(2)) pipeline.then(StartCapture(filepath="/tmp/youtube_10min.pcap", name="10min_captureYT")) for $_{\rm in}$ range (5): pipeline.then(WatchYouTubeVideo("https://www.youtube.com/watch?v=vCkhJeom7zU&pp=ygUNMTAgbWluIHZpZGVvcw%3D%3D", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="10min_captureYT")) pipeline.then(SleepTask(2)) pipeline.then(StartCapture(filepath="/tmp/youtube_15min.pcap", name="15min_captureYT")) **for** _ **in** range(5): pipeline.then(WatchYouTubeVideo("https://www.youtube.com/watch?v=co47u19cbds&pp=ygUNMTUgbWluIHZpZGVvcw%3D%3D", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="15min_captureYT")) # Generate Data for Twitch pipeline.then(SleepTask(2)) pipeline.then(StartCapture(filepath="/tmp/twitch_capture1.pcap", name="1_captureTW")) for $_$ in range(5): pipeline.then(WatchTwitchStream("https://www.twitch.tv/emilycc/clip/BoringGloriousGoblinOMGScoots-HzN323BdbgWMC8z2", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="1_captureTW")) pipeline.then(SleepTask(2)) pipeline.then(StartCapture(filepath="/tmp/twitch_capture2.pcap", name="2_captureTW")) pipeline.then(WatchTwitchStream("https://www.twitch.tv/chess24/clip/EvilHedonisticLadiesDBstyle-Qvx2Iv5rD18TBkMc", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="2_captureTW")) pipeline.then(SleepTask(2)) pipeline.then(StartCapture(filepath="/tmp/twitch_capture3.pcap", name="3_captureTW")) for $_{\rm in}$ range (5): pipeline.then(WatchTwitchStream("https://www.twitch.tv/dinabelenkaya/clip/BlueArtisticLarkDendiFace-6GsaEv3Rt8vpRoTL", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="3_captureTW")) pipeline.then(SleepTask(2)) pipeline.then(StartCapture(filepath="/tmp/twitch_capture4.pcap", name="4_captureTW")) pipeline.then(WatchTwitchStream("https://www.twitch.tv/chess24/clip/PlayfulEndearingOpossumPeoplesChamp-dlsejwuAMspNlEz7", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="4_captureTW")) pipeline.then(SleepTask(2)) pipeline.then(StartCapture(filepath="/tmp/twitch_capture5.pcap", name="5_captureTW")) for $_{\rm in}$ range (5): pipeline.then(WatchTwitchStream("", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="5_captureTW")) pipeline.then(UploadToWebDav(filepaths={"/tmp/youtube_1min.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/youtube_capture", username="uploader", pass pipeline.then(UploadToWebDav(filepaths={"/tmp/youtube_2min.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/youtube_capture", username="uploader", pass pipeline.then(UploadToWebDav(filepaths={"/tmp/youtube_5min.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/youtube_capture", username="uploader", pass pipeline.then(UploadToWebDav(filepaths={"/tmp/youtube_10min.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/youtube_capture", username="uploader", page 10 pipeline.then(UploadToWebDav(filepaths={"/tmp/youtube_10min.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/youtube_capture", username="uploader", page 10 pipeline.then(UploadToWebDav(filepaths={"/tmp/youtube_10min.pcap"}), endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/youtube_capture", username="uploader", page 10 pipeline.then(UploadToWebDav(filepaths={"/tmp/youtube_10 min.pcap"}), endpoint="uploader", page 10 pipeline.then(Uploader), page 10 pipeline pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture1.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture", username="uploader", page 1.00 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture1.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture", username="uploader", page 1.00
pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture1.pcap"}), endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture2.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture", username="uploader", page 1900 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture2.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture", username="uploader", page 1900 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture2.pcap"}), endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture3.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture", username="uploader", page 1900 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture3.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture", username="uploader", page 1900 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture3.pcap"}), endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture4.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture", username="uploader", page 1.5 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture4.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture", username="uploader", page 1.5 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture4.pcap"}), endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture", username="uploader", page 1.5 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture4.pcap"}), endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture", username="uploader", page 1.5 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture4.pcap"}), endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture4.pcap", username="uploader", page 1.5 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture4.pcap"}), endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs19 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture5.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture", username="uploader", page 1900 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture5.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture", username="uploader", page 1900 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture5.pcap"}), endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture", username="uploader", page 1900 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture5.pcap"}), endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture", username="uploader", page 1900 pipeline.then(UploadToWebDav(filepaths={"/tmp/twitch_capture5.pcap"}), endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/twitch_capture5.pcap") Pipeline(07e70550-e8cf-4a6c-909f-e439dd021d4b): {'root': [<netunicorn.library.tasks.capture.tcpdump.StartCapture object at 0x7f2d2dfe7a30>], 1: [<netunicorn.library.ta sks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2dfe6bf0>], 2: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2dfe6200>], 3: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2dfe6230>], 4: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2dfe6230>], 4: [<netunicorn.library.tasks.video_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watcher chers.voutube watcher.WatchYouTubeVideo object at 0x7f2d2dfe6290>], 5: [<netunicorn.library.tasks.video_watchers.youtube_watchers.WatchYouTubeVideo object at 0x7f2d2dfe 62f0>], 6: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f2d2dfe61d0>], 7: [<netunicorn.library.tasks.basic.SleepTask with name 0250daad-774 c-4284-8734-d49d5b004018>], 8: [<netunicorn.library.tasks.capture.tcpdump.StartCapture object at 0x7f2d2dfe6bc0>], 9: [<netunicorn.library.tasks.video_watchers.youtube
_watcher.WatchYouTubeVideo object at 0x7f2d2dfe6e60>], 10: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2dfe6ef50>], 11: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2dfe6f80>], 12: [<netunicorn.library.tasks.video_watchers.youtube_watchers.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher atchYouTubeVideo object at 0x7f2d2dfe6fe0>], 13: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2dfe7040>], 14: [<netunico rn.library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f2d2dfe6f20>], 15: [<netunicorn.library.tasks.basic.SleepTask with name 734c0be6-1c82-4478-94dc-5f1a0eb3 7626>], 16: [<netunicorn.library.tasks.capture.tcpdump.StartCapture object at 0x7f2d2dfe70a0>], 17: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouT ubeVideo object at 0x7f2d2e03b130>], 18: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2e03b040>], 19: [<netunicorn.libra ry.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2e03b010>], 20: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo o bject at 0x7f2d2e03afb0>], 21: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2e03af50>], 22: [<netunicorn.library.tasks.c apture.tcpdump.StopNamedCapture object at 0x7f2d2e03b070>], 23: [<netunicorn.library.tasks.basic.SleepTask with name 4b396025-3b10-462c-8f49-e07ea0d6c456>], 24: [<netunicorn.library.tasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic. nicorn.library.tasks.capture.tcpdump.StartCapture object at 0x7f2d2e03b100>], 25: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2e03ad70>], 26: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2e03ac80>], 27: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2e03ac80>], 27: [<netunicorn.library.tasks.video_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watcher hers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2e03ac50>], 28: [<netunicorn.library.tasks.video_watchers.youtube_watchers.WatchYouTubeVideo object at 0x7f2d2e03 abf0>], 29: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2e03ab90>], 30: [<netunicorn.library.tasks.video_watchers.youtube_watchers.youtube_watchers.watchYouTubeVideo object at 0x7f2d2e03ab90>], 30: [<netunicorn.library.tasks.video_watchers.youtube_watchers.watchYouTubeVideo object at 0x7f2d2e03ab90>], 30: [<netunicorn.library.tasks.video_watchers.youtube_watchers.watchYouTubeVideo object at 0x7f2d2e03ab90>], 30: [<netunicorn.library.tasks.video_watchers.watchYouTubeVideo object at 0x7f2d2e03ab90>], 30: [<netunicorn.library.tasks.video_watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watch NamedCapture object at 0x7f2d2e03acb0>], 31: [<netunicorn.library.tasks.basic.SleepTask with name 968175aa-464b-433c-b97f-11ac288ed23e>], 32: [<netunicorn.library.tasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.Sl s.capture.tcpdump.StartCapture object at 0x7f2d2e03ad40>], 33: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at
0x7f2d2e039bd0>], 34: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2e039ae0>], 35: [<netunicorn.library.tasks.video_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtube_watchers.youtu er.WatchYouTubeVideo object at 0x7f2d2e039ab0>], 36: [<netunicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2e039ab0>], 37: [<netunicorn.library.tasks.video_watchers.youtube_watchers.watchYouTubeVideo object at 0x7f2d2e039ab0>], 36: [<netunicorn.library.tasks.video_watchers.youtube_watchers.watchYouTubeVideo object at 0x7f2d2e039ab0>], 36: [<netunicorn.library.tasks.video_watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watchers.watch nicorn.library.tasks.video_watchers.youtube_watcher.WatchYouTubeVideo object at 0x7f2d2e0399f0>], 38: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture objec t at 0x7f2d2e039b10>], 39: [<netunicorn.library.tasks.basic.SleepTask with name 498f7f22-9a68-41f7-bd91-5884ecb23dbd>], 40: [<netunicorn.library.tasks.capture.tcpdump. StartCapture object at 0x7f2d2e039ba0>], 41: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e039810>], 42: [<netunicorn.li brary.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e039720>], 43: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e0396f0>], 44: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e039690>], 45: [<netunicorn.library.tasks.v ideo_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e10f310>], 46: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f2d2e039750>], 47: [<netunicorn.library.tasks.basic.SleepTask with name 8d288139-3b37-4de4-88f3-69a3ea124cca>], 48: [<netunicorn.library.tasks.capture.tcpdump.StartCapture object at 0x7f2d2e10f3d0>], 49: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e10ff40>], 50: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e10ff40>], 50: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e10ff40>], 50: [<netunicorn.library.tasks.video_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watche ers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e10fd30>], 51: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e10fd30 0>], 52: [<netunicorn.library.tasks.video_watchers.twitch_watchTwitchStream object at 0x7f2d2e10e8f0>], 53: [<netunicorn.library.tasks.video_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watche tcher.WatchTwitchStream object at 0x7f2d2e10f5b0>], 54: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f2d2e10e2f0>], 55: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f2d2e10e2f0>], 56: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f2d2e10e2f0>], 57: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f2d2e10e2f0>], 58: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f2d2e10e2f0>], 58: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f2d2e10e2f0>], 58:
[<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.stopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.St y.tasks.basic.SleepTask with name d2c448b0-502a-4074-8196-24fd96e9227a>], 56: [<netunicorn.library.tasks.capture.tcpdump.StartCapture object at 0x7f2d2e10eef0>], 57: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e10d750>], 58: [<netunicorn.library.tasks.video_watchers.twitch_watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Wa chTwitchStream object at 0x7f2d2e1a91b0>], 59: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e1a8130>], 60: [<netunicorn. library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e1ab5e0>], 61: [<netunicorn.library.tasks.video_watchers.twitch_watchers.WatchTwitchStream m object at 0x7f2d2e1a9330>], 62: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f2d2e10eb30>], 63: [<netunicorn.library.tasks.basic.SleepTas k with name 055c45e6-3921-415e-b66e-eaca2807b92d>], 64: [<netunicorn.library.tasks.capture.tcpdump.StartCapture object at 0x7f2d2e1a95a0>], 65: [<netunicorn.library.tasks.capture.tcpdump.StartCapture object at 0x7f2d2e1a95a0>], 65: [<netunicorn.library.tasks.capture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCa sks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e1a8e20>], 66: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object a t 0x7f2dfb472f80>], 67: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2dfb472ce0>], 68: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2dfb472ce0>], 68: [<netunicorn.library.tasks.video_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch_watchers.twitch chers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e06c040>], 69: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e06c 070>], 70: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f2dfb545870>], 71: [<netunicorn.library.tasks.basic.SleepTask with name 06375973-ae 25-4e38-883b-4cd3fa2a62a6>], 72: [<netunicorn.library.tasks.video_watchers.twit ch_watcher.WatchTwitchStream object at 0x7f2d2e06c220>], 74: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e06c310>], 75: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e06c340>], 76:
[<netunicorn.library.tasks.video_watchers.twitch_watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Watcher.Wa chTwitchStream object at 0x7f2d2e06c3a0>], 77: [<netunicorn.library.tasks.video_watchers.twitch_watcher.WatchTwitchStream object at 0x7f2d2e06c400>], 78: [<netunicorn. library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f2d2e06c2e0>], 79: [<netunicorn.library.tasks.upload.webdav.UploadToWebDav object at 0x7f2d2e06c190>], 80: [<netunicorn.library.tasks.upload.webdav.UploadToWebDav object at 0x7f2d2e06c250>], 81: [<netunicorn.library.tasks.upload.webdav.UploadToWebDav object at 0x7f2d2e06c5e 0>], 82: [<netunicorn.library.tasks.upload.webdav.UploadToWebDav object at 0x7f2d2e06c640>], 83: [<netunicorn.library.tasks.upload.webdav.UploadToWebDav object at 0x7f 2d2e06c6a0>], 84: [<netunicorn.library.tasks.upload.webdav.UploadToWebDav object at 0x7f2d2e06c700>], 85: [<netunicorn.library.tasks.upload.webdav.UploadToWebDav object t at 0x7f2d2e06c760>], 86: [<netunicorn.library.tasks.upload.webdav.UploadToWebDav object at 0x7f2d2e06c7c0>], 87: [<netunicorn.library.tasks.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav. Dav object at 0x7f2d2e06c820>], 88: [<netunicorn.library.tasks.upload.webdav.UploadToWebDav object at 0x7f2d2e06c880>]} executor() ERROR:executor_local:asyncio.run() cannot be called from a running event loop Traceback (most recent call last): File "/srv/netunicorn/netunicorn-executor/src/netunicorn/executor/executor.py", line 134, in __call__ asyncio.run(self.execute()) File "/usr/lib/python3.10/asyncio/runners.py", line 33, in run raise RuntimeError(RuntimeError: asyncio.run() cannot be called from a running event loop CRITICAL: executor_local: Failed to execute the graph. Shutting down. /srv/netunicorn/netunicorn-executor/src/netunicorn/executor/executor.py:143: RuntimeWarning: coroutine 'Executor.execute' was never awaited RuntimeWarning: Enable tracemalloc to get the object allocation traceback INFO: executor_local: Skipping reporting results due to execution graph setting. pipeline = Pipeline() # Flag to enable early stopping -- so if any task fails pipeline would go on working # pipeline.early_stopping = False # Generate Data for Vimeo pipeline.then(SleepTask(2)) pipeline.then(StartCapture(filepath="/tmp/vimeo_lmin.pcap", name="lmin_captureVM")) for $_{\rm in}$ range (5): pipeline.then(WatchVimeoVideo("https://vimeo.com/820625227?autoplay=1", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="1min_captureVM")) pipeline.then(SleepTask(2)) pipeline.then(StartCapture(filepath="/tmp/vimeo_2min.pcap", name="2min_captureVM")) for $_$ in range(5): pipeline.then(WatchVimeoVideo("https://vimeo.com/867196026", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="2min_captureVM")) pipeline.then(SleepTask(2)) pipeline.then(StartCapture(filepath="/tmp/vimeo_5min.pcap", name="5min_captureVM")) for $_{\rm in}$ range(5): pipeline.then(WatchVimeoVideo("https://vimeo.com/391703912", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="5min_captureVM")) pipeline.then(SleepTask(2)) pipeline.then(StartCapture(filepath="/tmp/vimeo_10min.pcap", name="10min_captureVM")) pipeline.then(WatchVimeoVideo("https://vimeo.com/675873896", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="10min_captureVM")) pipeline.then(SleepTask(2)) pipeline.then(StartCapture(filepath="/tmp/vimeo_15min.pcap", name="15min_captureVM")) for $_$ in range(5): pipeline.then(WatchVimeoVideo("https://vimeo.com/1031379349", 10)) pipeline.then(StopNamedCapture(start_capture_task_name="15min_captureVM")) pipeline.then(UploadToWebDav(filepaths={"/tmp/vimeo_lmin.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/vimeo_capture", username="uploader", passwore pipeline.then(UploadToWebDav(filepaths={"/tmp/vimeo_2min.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/vimeo_capture", username="uploader", passwork pipeline.then(UploadToWebDav(filepaths={"/tmp/vimeo_5min.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/vimeo_capture", username="uploader", password pipeline.then(UploadToWebDav(filepaths={"/tmp/vimeo_10min.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/vimeo_capture", username="uploader", password pipeline.then(UploadToWebDav(filepaths={"/tmp/vimeo_10min.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/vimeo_capture", username="uploader", password pipeline.then(UploadToWebDav(filepaths={"/tmp/vimeo_10min.pcap"}), endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs190n/cs pipeline.then(UploadToWebDav(filepaths={"/tmp/vimeo_15min.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/vimeo_capture", username="uploader", password pipeline.then(UploadToWebDav(filepaths={"/tmp/vimeo_15min.pcap"}, endpoint="http://snl-server-5.cs.ucsb.edu/cs190n/cs190n8/vimeo_capture", username="uploader", password pipeline.then(UploadToWebDav(filepaths={"/tmp/vimeo_15min.pcap"}), endpoint="uploader", password pipeline.then(UploadToWebDav(filepaths={"/tmp/vimeo_15min.pcap"}), endpoint="uploader", password pipeline.then(UploadToWebDav(filepaths={"/tmp/vimeo_15min.pcap"}), endpoint="uploader", password pipeline.then(UploadToWebDav(filepaths={"/tmp/vimeo_15min.pcap"}), endpoint="uploader", password pipeline.then(UploadEoWebDav(filepaths={"/tmp/vimeo_15min.pcap"}), endpoint="uploader", password pipeline.then(UploadEoWebDav(filepaths={"/tmp/vimeo_15min.pcap"}), endpoint="uploader", password pipeline.then(UploadEoWebDav(filepaths={"/tmp/vimeo_15min.pcap"}), endpoint="uploader", password pipeline. Pipeline (94e758bd-c3e4-415d-9ae0-3898c9c0a863): {'root': [<netunicorn.library.tasks.basic.SleepTask with name 886ff3c3-8d68-4152-afcf-3cfe33228a45>], 1: [<netunicorn.l ibrary.tasks.capture.tcpdump.StartCapture object at 0x7f38c9e8f700>], 2: [<netunicorn.library.tasks.video_watchers.vimeo_watchers.WatchVimeoVideo object at 0x7f38c9e8f6 d0>], 3: [<netunicorn.library.tasks.video_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f38c9e8c880>], 4:
[<netunicorn.library.tasks.video_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vi r.WatchVimeoVideo object at 0x7f38c9e8c7c0>], 5: [<netunicorn.library.tasks.video_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f38c9e8c7c0>], 6: [<netunicorn.li brary.tasks.video_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f38c9e8c7f0>], 7: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f38c9e 8c700>], 8: [<netunicorn.library.tasks.basic.SleepTask with name 2bd9699a-e514-46a9-9728-db5da4df4ac2>], 9: [<netunicorn.library.tasks.capture.tcpdump.StartCapture obj ect at 0x7f38c9e8ec20>], 10: [<netunicorn.library.tasks.video_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f38c9e8c8b0>], 11: [<netunicorn.library.tasks.video_w atchers.vimeo watcher.WatchVimeoVideo object at 0x7f38c9e2fa60>], 12: [<netunicorn.library.tasks.video watchers.vimeo watcher.WatchVimeoVideo object at 0x7f38c9e2fa60>] >], 13: [<netunicorn.library.tasks.video_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f38c9e2ea10>], 14: [<netunicorn.library.tasks.video_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vi r.WatchVimeoVideo object at 0x7f38c9e2eda0>], 15: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f38c9e2fa90>], 16: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedCapture.tcpdump.StopNamedC s.basic.SleepTask with name 29fc15ce-e0bf-4968-9935-4e24c8aae823>], 17: [<netunicorn.library.tasks.capture.tcpdump.StartCapture object at 0x7f38c9e2ece0>], 18: [<netunicorn.library.tasks.capture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.StartCapture.tcpdump.Start icorn.library.tasks.video_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f38c9e2c760>], 19: [<netunicorn.library.tasks.video_watchers.vimeo_watchers.WatchVimeoVideo o object at 0x7f399721e5c0>], 20: [<netunicorn.library.tasks.video_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f399721e9e0>], 21: [<netunicorn.library.tasks.vi deo_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f399721d5d0>], 22: [<netunicorn.library.tasks.video_watchers.vimeo_watchers.WatchVimeoVideo object at 0x7f399721 f010>], 23: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture object at 0x7f38c9e2e560>], 24: [<netunicorn.library.tasks.basic.SleepTask with name 60260ecc-1 e98-44ec-bbb6-0116c6f46676>], 25: [<netunicorn.library.tasks.capture.tcpdump.StartCapture object at 0x7f399721c940>], 26: [<netunicorn.library.tasks.video_watchers.vim eo_watcher.WatchVimeoVideo object at 0x7f38c9ed0a30>], 27: [<netunicorn.library.tasks.video_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f38c9ed0a30>], 28: [<ne tunicorn.library.tasks.video_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f38c9ed0910>], 29: [<netunicorn.library.tasks.video_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f38c9ed0910>], ideo object at 0x7f38c9ed08b0>], 30: [<netunicorn.library.tasks.video_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f38c9ed0850>], 31: [<netunicorn.library.task s.capture.tcpdump.StopNamedCapture object at 0x7f38c9ed0970>], 32: [<netunicorn.library.tasks.basic.SleepTask with name a2e47b97-ad1d-46a6-810d-20c8dbb3f0c2>], 33:
[<netunicorn.library.tasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTasks.basic.SleepTa etunicorn.library.tasks.capture.tcpdump.StartCapture object at 0x7f38c9ed0a00>], 34: [<netunicorn.library.tasks.video_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f38c9ed0670>], 35: [<netunicorn.library.tasks.video_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f38c9ed0580>], 36: [<netunicorn.library.tasks.video_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo_watchers.vim s.vimeo_watcher.WatchVimeoVideo object at 0x7f38c9ed0550>], 37: [<netunicorn.library.tasks.video_watchers.vimeo_watcher.WatchVimeoVideo object at 0x7f38c9ed04f0>], 38: [<netunicorn.library.tasks.video_watchers.vimeo_watchers.wimeo_watchers.vimeo_watchers.vimeo_watchers.vimeo], 39: [<netunicorn.library.tasks.capture.tcpdump.StopNamedCapture obj ect at 0x7f38c9ed05b0>], 40: [<netunicorn.library.tasks.upload.webdav.UploadToWebDav object at 0x7f38c9ed0700>], 41: [<netunicorn.library.tasks.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.webdav.upload.w ebDav object at 0x7f38c9ed0640>], 42: [<netunicorn.library.tasks.upload.webdav.UploadToWebDav object at 0x7f38c9ed02b0>], 43: [<netunicorn.library.tasks.upload.webdav. UploadToWebDav object at 0x7f38c9ed0250>], 44: [<netunicorn.library.tasks.upload.webdav.UploadToWebDav object at 0x7f38c9ed01f0>]} client = RemoteClient(endpoint=NETUNICORN_ENDPOINT, login=NETUNICORN_LOGIN, password=NETUNICORN_PASSWORD) print("Health Check: {}".format(client.healthcheck())) nodes = client.get_nodes() print (nodes) Health Check: True [<Uncountable node pool with next node template: [aws-fargate-A-cs190n8-, aws-fargate-B-cs190n8-, aws-fargate-ARM64-cs190n8-]>] working_nodes = nodes.filter(lambda node: node.name.startswith(working_node)).take(1) # Creating the experiment experiment = Experiment().map(pipeline, working_nodes) print(experiment) - Deployment: Node=aws-fargate-A-cs190n8-2, executor_id=, prepared=False, error=None Preparing the Experiment We will use a predefined DockerImage. In [34]: from netunicorn.base import DockerImage for deployment in experiment: # you can explore the image on the DockerHub deployment.environment_definition = DockerImage(image='satyandraguthula/netunicorn_images') experiment_label = "dalaco113c1i0ns" Now we can prepare the experiment, check for any errors and execute. try: client.delete_experiment(experiment_label) except RemoteClientException: client.prepare_experiment(experiment, experiment_label) while True: info = client.get_experiment_status(experiment_label) print(info.status) if info.status == ExperimentStatus.READY: break time.sleep(20) ExperimentStatus.PREPARING ExperimentStatus.READY for deployment in client.get_experiment_status(experiment_label).experiment: print(f"Prepared: {deployment.prepared}, error: {deployment.error}") Prepared: True, error: None client.start_execution(experiment_label) while True: info = client.get_experiment_status(experiment_label) print(info.status) if info.status != ExperimentStatus.RUNNING: break time.sleep(20) ExperimentStatus.RUNNING ExperimentStatus.RUNNING ExperimentStatus.RUNNING ExperimentStatus.RUNNING ExperimentStatus.RUNNING ExperimentStatus.RUNNING ExperimentStatus.FINISHED from returns.pipeline import is_successful for report in info.execution_result: print(f"Node name: {report.node.name}") print(f"Error: {report.error}") result, log = report.result # report stores results of execution and corresponding log # result is a returns.result.Result object, could be Success of Failure print(f"Result is: {type(result)}") data = result.unwrap() if is_successful(result) else result.failure() for key, value in data.items(): print(f"{key}: {value}") # we also can explore logs for line in log: print(line.strip()) print() Node name: aws-fargate-A-cs190n8-2 Result is: <class 'returns.result.Failure'> lmin_captureYT: [<Success: 8>] 1c366fc6-8ec1-4f6f-b699-603bfdc1914b: [<Failure: Traceback (most recent call last): File "/usr/local/lib/python3.10/site-packages/netunicorn/executor/utils.py", line 32, in decorator result = function(*args, **kwargs) File "/usr/local/lib/python3.10/dist-packages/netunicorn/library/tasks/video_watchers/youtube_watcher.py", line 157, in run File "/usr/local/lib/python3.10/dist-packages/netunicorn/library/tasks/video_watchers/youtube_watcher.py", line 73, in watch File "/usr/local/lib/python3.10/site-packages/selenium/webdriver/remote/webelement.py", line 231, in send_keys File "/usr/local/lib/python3.10/site-packages/selenium/webdriver/remote/webelement.py", line 395, in _execute return self._parent.execute(command, params) File "/usr/local/lib/python3.10/site-packages/selenium/webdriver/remote/webdriver.py", line 384, in execute self.error_handler.check_response(response) File "/usr/local/lib/python3.10/site-packages/selenium/webdriver/remote/errorhandler.py", line 232, in check_response raise exception_class(message, screen, stacktrace) selenium.common.exceptions.ElementNotInteractableException: Message: element not interactable (Session info: chrome=125.0.6422.141) Stacktrace: #0 0x564fd9542e3a <unknown> #1 0x564fd922c2a1 <unknown> #2 0x564fd92723e8 <unknown> #3 0x564fd92707cf <unknown> #4 0x564fd929b4b2 <unknown> #5 0x564fd926ca79 <unknown> #6 0x564fd929b67e <unknown> #7 0x564fd92ba2cc <unknown> #8 0x564fd929b253 <unknown> #9 0x564fd926b1c7 <unknown> #10 0x564fd926bb3e <unknown> #11 0x564fd950927b <unknown> #12 0x564fd950d327 <unknown> #13 0x564fd94f5dae <unknown> #14 0x564fd950ddf2 <unknown> #15 0x564fd94da74f <unknown> #16 0x564fd9532128 <unknown> #17 0x564fd95322fb <unknown> #18 0x564fd9541f6c <unknown> #19 0x7fa4a4c1f1c4 <unknown> Parsed configuration: Gateway located on https://pinot.cs.ucsb.edu/netunicorn/gateway Current directory: / Successfully received the execution graph. Traceback (most recent call last): File "/usr/local/lib/python3.10/site-packages/netunicorn/executor/utils.py", line 32, in decorator result = function(*args, **kwargs) File "/usr/local/lib/python3.10/dist-packages/netunicorn/library/tasks/video_watchers/youtube_watcher.py", line 157, in run File "/usr/local/lib/python3.10/dist-packages/netunicorn/library/tasks/video_watchers/youtube_watcher.py", line 73, in watch File "/usr/local/lib/python3.10/site-packages/selenium/webdriver/remote/webelement.py", line 231, in send_keys File "/usr/local/lib/python3.10/site-packages/selenium/webdriver/remote/webelement.py", line 395, in _execute return self._parent.execute(command, params) File "/usr/local/lib/python3.10/site-packages/selenium/webdriver/remote/webdriver.py", line 384, in execute self.error_handler.check_response(response) File "/usr/local/lib/python3.10/site-packages/selenium/webdriver/remote/errorhandler.py", line 232, in
check_response raise exception_class(message, screen, stacktrace) selenium.common.exceptions.ElementNotInteractableException: Message: element not interactable (Session info: chrome=125.0.6422.141) Stacktrace: #0 0x564fd9542e3a <unknown> #1 0x564fd922c2a1 <unknown> #2 0x564fd92723e8 <unknown> #3 0x564fd92707cf <unknown> #4 0x564fd929b4b2 <unknown> #5 0x564fd926ca79 <unknown> #6 0x564fd929b67e <unknown> #7 0x564fd92ba2cc <unknown> #8 0x564fd929b253 <unknown> #9 0x564fd926b1c7 <unknown> #10 0x564fd926bb3e <unknown> #11 0x564fd950927b <unknown> #12 0x564fd950d327 <unknown> #13 0x564fd94f5dae <unknown> #14 0x564fd950ddf2 <unknown> #15 0x564fd94da74f <unknown> #16 0x564fd9532128 <unknown> #17 0x564fd95322fb <unknown> #18 0x564fd9541f6c <unknown> #19 0x7fa4a4c1f1c4 <unknown> Execution is finished, start reporting results. Checkpoint #2 Convert Packet Trace to CSV df_youtube1 = pd.read_csv("/mnt/md0/cs190n/cs190n8/youtube_1min_capture_ISCX.csv") df_youtube2 = pd.read_csv("/mnt/md0/cs190n/cs190n8/youtube_2min_capture_ISCX.csv") df_youtube5 = pd.read_csv("/mnt/md0/cs190n/cs190n8/youtube_5min_capture_ISCX.csv") df_youtube10 = pd.read_csv("/mnt/md0/cs190n/cs190n8/youtube_10min_capture_ISCX.csv") df_youtube15 = pd.read_csv("/mnt/md0/cs190n/cs190n8/youtube_15min_capture_ISCX.csv") df_vimeo1 = pd.read_csv("/mnt/md0/cs190n/cs190n8/vimeo_lmin_capture_ISCX.csv") df_vimeo2 = pd.read_csv("/mnt/md0/cs190n/cs190n8/vimeo_2min_capture_ISCX.csv") df vimeo5 = pd.read csv("/mnt/md0/cs190n/cs190n8/vimeo 5min capture ISCX.csv") df vimeo10 = pd.read csv("/mnt/md0/cs190n/cs190n8/vimeo 10min capture ISCX.csv") df_vimeo15 = pd.read_csv("/mnt/md0/cs190n/cs190n8/vimeo_15min_capture_ISCX.csv") df_twitch1 = pd.read_csv("/mnt/md0/cs190n/cs190n8/twitch_capture1_ISCX.csv") df_twitch2 = pd.read_csv("/mnt/md0/cs190n/cs190n8/twitch_capture2_ISCX.csv") df_twitch3 = pd.read_csv("/mnt/md0/cs190n/cs190n8/twitch_capture3_ISCX.csv") df_twitch4 = pd.read_csv("/mnt/md0/cs190n/cs190n8/twitch_capture4_ISCX.csv") df_twitch5 = pd.read_csv("/mnt/md0/cs190n/cs190n8/twitch_capture5_ISCX.csv") FileNotFoundError Traceback (most recent call last) /tmp/ipykernel_4170512/3454718174.py in <module> ---> 1 df_youtube = pd.read_csv("/mnt/md0/cs190n-test/youtube_video_capture_ISCX.csv") 2 df_vimeo = pd.read_csv("/mnt/md0/cs190n-test/vimeo_video_capture_ISCX.csv") 3 df_twitch = pd.read_csv("/mnt/md0/cs190n/cs190n8/twitch_stream_capture_ISCX.csv") 5 print(df_youtube.columns) /usr/local/lib/python3.10/dist-packages/pandas/util/_decorators.py in wrapper(*args, **kwargs) stacklevel=stacklevel, 310 --> 311 return func(*args, **kwargs) 312 313 return wrapper /usr/local/lib/python3.10/dist-packages/pandas/io/parsers/readers.py in read_csv(filepath_or_buffer, sep, delimiter, header, names, index_col, usecols, squeeze, prefi x, mangle_dupe_cols, dtype, engine, converters, true_values, false_values, skipinitialspace, skiprows, skipfooter, nrows, na_values, keep_default_na, na_filter, verbos e, skip_blank_lines, parse_dates, infer_datetime_format, keep_date_col, date_parser, dayfirst, cache_dates, iterator, chunksize, compression, thousands, decimal, linet erminator, quotechar, quoting, doublequote, escapechar, comment, encoding_errors, dialect, error_bad_lines, warn_bad_lines, on_bad_lines, delim_whitespace, l ow_memory, memory_map, float_precision, storage_options) 676 kwds.update(kwds_defaults) 677 --> 678 return _read(filepath_or_buffer, kwds) 679 /usr/local/lib/python3.10/dist-packages/pandas/io/parsers/readers.py in _read(filepath_or_buffer, kwds) 573 574 # Create the parser. --> 575 parser = TextFileReader(filepath_or_buffer, **kwds) 576 577 if chunksize or iterator: /usr/local/lib/python3.10/dist-packages/pandas/io/parsers/readers.py in __init__(self, f, engine, **kwds) 930 self.handles: IOHandles | None = None 931 --> 932 self._engine = self._make_engine(f, self.engine) 933 934 def close(self): /usr/local/lib/python3.10/dist-packages/pandas/io/parsers/readers.py in _make_engine(self, f, engine) # "Union[str, PathLike[str], ReadCsvBuffer[bytes], ReadCsvBuffer[str]]" # , "str", "bool", "Any", "Any", "Any", "Any", "Any" 1215 -> 1216 self.handles = get_handle(# type: ignore[call-overload] 1217 1218 mode. /usr/local/lib/python3.10/dist-packages/pandas/io/common.py in get_handle(path_or_buf, mode, encoding, compression, memory_map, is_text, errors, storage_options) if ioargs.encoding and "b" not in ioargs.mode: 785 # Encoding --> 786 handle = open(787 handle, 788 ioargs.mode, FileNotFoundError: [Errno 2] No such file or directory: '/mnt/md0/cs190n-test/youtube_video_capture_ISCX.csv' Separate CSVs to video sent & video acked def separate_video_packets(df): # Add label to classify packets as 'sent' or 'acked' df['Label'] = 'other' # Define criteria for video sent and video acked df.loc[df['Total Fwd Packet'] > 0, 'Label'] = 'sent' # Forward packets (video sent) df.loc[df['Total Bwd packets'] > 0, 'Label'] = 'acked' # Backward packets (video acked) # Filter out irrelevant rows (optional, depending on your needs) df = df.drop(df[(df['Protocol'] == 17) & (df['Label'] != 'sent')].index) # Separate into sent and acked dataframes df_sent = df[df['Label'] == 'sent'] df_acked = df[df['Label'] == 'acked'] return df_sent, df_acked df_youtube1_sent, df_youtube1_acked = separate_video_packets(df_youtube1) df_youtube2_sent, df_youtube2_acked = separate_video_packets(df_youtube2) df_youtube5_sent, df_youtube5_acked = separate_video_packets(df_youtube5) df_youtube10_sent, df_youtube10_acked = separate_video_packets(df_youtube10) df_youtube15_sent, df_youtube15_acked = separate_video_packets(df_youtube15) df_vimeo1_sent, df_vimeo1_acked = separate_video_packets(df_vimeo1) df_vimeo2_sent, df_vimeo2_acked = separate_video_packets(df_vimeo2) df_vimeo5_sent, df_vimeo5_acked = separate_video_packets(df_vimeo5) df_vimeo10_sent, df_vimeo10_acked = separate_video_packets(df_vimeo10) df_vimeo15_sent, df_vimeo15_acked = separate_video_packets(df_vimeo15) df_twitch1_sent, df_twitch1_acked = separate_video_packets(df_twitch1) df_twitch2_sent, df_twitch2_acked = separate_video_packets(df_twitch2) df_twitch3_sent, df_twitch3_acked = separate_video_packets(df_twitch3) df_twitch4_sent, df_twitch4_acked = separate_video_packets(df_twitch4) df_twitch5_sent, df_twitch5_acked = separate_video_packets(df_twitch5) NameError Traceback (most recent call last) /tmp/ipykernel_193969/2742352043.py in <module> ----> 1 df_twitch['Label'] = 'other' 2 df_twitch.loc[(df_twitch['Total Fwd Packet'] > 30) | (df_twitch['Total Bwd packets'] > 30), 'Label'] = 'twitch' 3 df_twitch = df_twitch.drop(df_twitch[(df_twitch['Protocol'] == 17) & (df_twitch['Label'] != 'twitch')].index) NameError: name 'df_twitch' is not defined import pandas as pd import numpy as np import pickle import argparse VIDEO_DURATION = 180180 $PKT_BYTES = 1500$ MILLION = 1000000PAST_CHUNKS = 8 FUTURE_CHUNKS = 5 Prepare CSV Data def prepare_raw_data(video_sent_path, video_acked_path, time_start=None, time_end=None): Load data from files and calculate chunk transmission times. video_sent_df = pd.read_csv(video_sent_path) video acked df = pd.read csv(video acked path) # Rename "time (ns GMT)" to "time" for convenience video_sent_df.rename(columns={'time (ns GMT)': 'time'}, inplace=True) video_acked_df.rename(columns={'time (ns GMT)': 'time'}, inplace=True) # Convert nanosecond timestamps to datetime video_sent_df['time'] = pd.to_datetime(video_sent_df['time'], unit='ns') video_acked_df['time'] = pd.to_datetime(video_acked_df['time'], unit='ns') # Filter by time range if time_start: time_start = pd.to_datetime(time_start) video_sent_df = video_sent_df[video_sent_df['time'] >= time_start] video_acked_df = video_acked_df['video_acked_df['time'] >= time_start] time end = pd.to datetime(time end) video_sent_df = video_sent_df[video_sent_df['time'] <= time_end]</pre> video_acked_df = video_acked_df[video_acked_df['time'] <= time_end]</pre> # Process the data return calculate_trans_times(video_sent_df, video_acked_df) Calculate Transmission Times & Divide into Chunks def calculate_trans_times(video_sent_df, video_acked_df): Calculate transmission times from video_sent and video_acked datasets using session_id. $d = \{ \}$ last_video_ts = {} for _, row in video_sent_df.iterrows(): session = row['session_id'] # Use only session_id to track sessions if session not in d: $d[session] = {}$ last_video_ts[session] = None video_ts = int(row['video_ts']) if last video ts[session] is not None: if video_ts != last_video_ts[session] + VIDEO_DURATION: continue last_video_ts[session] = video_ts d[session][video_ts] = { 'sent_ts': pd.Timestamp(row['time']), 'size': float(row['size']) / PKT_BYTES, 'delivery_rate': float(row['delivery_rate']) / PKT_BYTES, 'rtt': float(row['rtt']) / MILLION, for _, row in video_acked_df.iterrows(): session = row['session_id'] # Use only session_id if session not in d: continue video_ts = int(row['video_ts']) if video_ts not in d[session]: continue dsv = d[session][video_ts] sent_ts = dsv['sent_ts'] acked_ts = pd.Timestamp(row['time']) dsv['acked_ts'] = acked_ts dsv['trans_time'] = (acked_ts - sent_ts).total_seconds() return d prepare raw data("/mnt/md0/cs190n/video sent.csv", "/mnt/md0/cs190n/video acked.csv") def append_past_chunks(ds, next_ts, row): i = 1past_chunks = [] while i <= PAST_CHUNKS:</pre> ts = next_ts - i * VIDEO_DURATION if ts in ds and 'trans_time' in ds[ts]: past_chunks = [ds[ts]['delivery_rate'], ds[ts]['rtt'], ds[ts]['size'], ds[ts]['trans_time']] + past_chunks else: nts = ts + VIDEO_DURATION # padding with the nearest ts padding = [ds[nts]['delivery_rate'], ds[nts]['rtt']] if nts == next_ts: padding += [0, 0] # next_ts is the first chunk to send padding += [ds[nts]['size'], ds[nts]['trans_time']] break if i != PAST_CHUNKS + 1: # break in the middle; padding must exist while i <= PAST_CHUNKS:</pre> past_chunks = padding + past_chunks row += past_chunks def prepare_input_output(d): ret = [{'in': [], 'out': []} for _ in range(5)] #
FUTURE_CHUNKS = 5 for session in d: ds = d[session]for next_ts in ds: if 'trans_time' not in ds[next_ts]: row = [] # Append past chunks append_past_chunks(ds, next_ts, row) # Append the TCP info of the next chunk row += [ds[next_ts]['delivery_rate'], ds[next_ts]['rtt']] # Generate FUTURE_CHUNKS rows for i in range(5): # FUTURE_CHUNKS = 5 row_i = row.copy() ts = next_ts + i * VIDEO_DURATION if ts in ds and 'trans_time' in ds[ts]: row_i += [ds[ts]['size']] ret[i]['in'].append(row_i) ret[i]['out'].append(ds[ts]['trans_time']) return ret def save_processed_data(output_file, processed_data): Save processed data to a file. with open(output_file, 'wb') as f: pickle.dump(processed_data, f) print(f"Processed data saved to {output_file}") if __name__ == '__main__': DEFAULT_VIDEO_SENT_PATH = '' DEFAULT_VIDEO_ACKED_PATH = '' DEFAULT_OUTPUT_FILE = '' #Latest datasets can be found at https://puffer.stanford.edu/results/ parser = argparse.ArgumentParser(description="Process video streaming datasets.") parser.add_argument('--video_sent_path', type=str, help='Path to the video_sent dataset CSV file.') parser.add_argument('--video_acked_path', type=str, help='Path to the video_acked dataset CSV file.') parser.add_argument('--output_file', type=str, help='Path to save the processed data.') parser.add_argument('--time_start', type=str, default=None, help='Start time for filtering data (RFC3339 format).') parser.add_argument('--time_end', type=str, default=None, help='End time for filtering data (RFC3339 format).') #args = parser.parse_args() #processed_data = prepare_input_output (prepare_raw_data(args.video_sent_path, args.video_acked_path, time_start=args.time_start, time_end=args.time_end)) # save_processed_data(args.output_file, processed_data) processed_data = prepare_input_output(prepare_raw_data(DEFAULT_VIDEO_SENT_PATH, DEFAULT_VIDEO_ACKED_PATH, time_start=None, time_end=None)) save_processed_data(DEFAULT_OUTPUT_FILE, processed_data) Training the Model %pip install scikit-learn Defaulting to user installation because normal site-packages is not writeable Requirement already satisfied: scikit-learn in /home/psabherwal/.local/lib/python3.10/site-packages (1.5.2) Requirement already satisfied: numpy>=1.19.5 in /usr/local/lib/python3.10/dist-packages (from scikit-learn) (1.23.3) Requirement already satisfied: scipy>=1.6.0 in /usr/lib/python3/dist-packages (from scikit-learn) (1.8.0) Requirement already satisfied: joblib>=1.2.0 in /home/psabherwal/.local/lib/python3.10/site-packages (from scikit-learn) (1.4.2) Requirement already satisfied: threadpoolctl>=3.1.0 in /home/psabherwal/.local/lib/python3.10/site-packages (from scikit-learn) (3.5.0) [notice] A new release of pip is available: 23.3.1 -> 24.3.1 [notice] To update, run: python3 -m pip install --upgrade pip Note: you may need to restart the kernel to use updated packages. # required imports import sklearn from sklearn.ensemble import RandomForestRegressor from sklearn.model_selection import train_test_split from sklearn.metrics import mean_squared_error from sklearn import metrics from sklearn.tree import plot_tree # Select the features and target variable X = df[['trans_time', 'size', 'delivery_rate', 'rtt']] y = df['video_chunk_download_time'] # Split the data into training and testing sets X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42) # Instantiate the Random Forest Regressor model model = RandomForestRegressor(n_estimators=100, random_state=42) # Train the model model.fit(X_train, y_train) # Make predictions on the test set y_pred = model.predict(X_test)

Evaluate the model using Mean Squared Error (MSE)

R-squared score (good for understanding how well the model fits the data)

Feature Importance: This shows the relative importance of each feature

mse = mean_squared_error(y_test, y_pred)
print(f'Mean Squared Error: {mse}')

r2 = model.score(X_test, y_test)

print("Feature Importances:")
print(model.feature_importances_)

import matplotlib.pyplot as plt

plt.scatter(y_test, y_pred)
plt.xlabel('Actual values')
plt.ylabel('Predicted values')

Plot actual vs predicted values

plt.title('Actual vs Predicted (Random Forest)')

print(f'R-squared: {r2}')

Plotting Results

plt.show()

Term Project: Checkpoint #2

Group 8: Palvi Sabherwal, Emily Thai, Hannah Shakouri