

Action	Expected Result	Actual Result
main.py file is run without arguments	usage: main.py [-h] --path PATH --address ADDRESS --port PORT main.py: error: the following arguments are required: --path, -address, --port	<pre>python3 main.py usage: main.py [-h] --path PATH --address ADDRESS --port PORT main.py: error: the following arguments are required: --path, --address, --port</pre>
build_and_run.sh file is run without arguments	ERROR : Mandatory Arguments are not given	<pre>bash build_and_run.sh ERROR : Mandatory Arguments are not given</pre>
main.py file is run with correct arguments	Making MQTT Connection New Watch Added onto /home/rkumarv Mqtt Broker Connected Successfully onto mqtt.eclipseprojects.io	<pre>python3 main.py --path=/home/rkumarv --address=mqtt.eclipseprojects.io --port=1883 Making MQTT Connection New Watch Added onto /home/rkumarv Mqtt Broker Connected Successfully onto mqtt.eclipseprojects.io</pre>
main.py file is run with invalid path	pyinotify ERROR add_watch: cannot watch /home/rkumarv/test WD=-1, Errno=No such file or directory (ENOENT) Unable to add watch on /home/rkumarv/test	<pre>python3 main.py --path=/home/rkumarv/test --address=mqtt.eclipseprojects.io --port=1883 Making MQTT Connection [2023-10-12 21:38:15,746 pyinotify ERROR] add_watch: cannot watch /home/rkumarv/test WD=-1, Errno=No such file or directory (ENOENT) Unable to add watch on /home/rkumarv/test</pre>
main.py file is run with invalid mqtt broker	[Errno -2] Name or service not known	<pre>python3 main.py --path=/home --address=dfgdsfg --port=2023 Making MQTT Connection [Errno -2] Name or service not known</pre>
open specified directory (cd /path)	All the events Related change directory are published onto the absolute path as topic	<pre>python3 mqtt_subscribe.py --path=/home/rkumarv --address=mqtt.eclipseprojects.io --port=1883 Connected with result code 0 /home/rkumarv b"{'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:48:04.344116'}" /home/rkumarv b"{'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:48:04.348995'}" /home/rkumarv b"{'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:48:04.574399'}" /home/rkumarv b"{'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:48:04.574692'}" /home/rkumarv b"{'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:48:04.574869'}" /home/rkumarv b"{'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:48:04.574937'}" /home/rkumarv b"{'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:48:04.575048'}" /home/rkumarv b"{'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:48:04.575338'}" /home/rkumarv b"{'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:48:04.576142'}"</pre>
create new file (touch /path/1)	File creation event is posted onto /path/1 access events is posted onto /path	<pre>/home/rkumarv b"{'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:48:04.576142'}" /home/rkumarv b"{'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:52:34.480470'}" /home/rkumarv b"{'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:52:34.480780'}" /home/rkumarv b"{'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:52:34.482004'}" /home/rkumarv b"{'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:52:34.482397'}" /home/rkumarv b"{'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:52:34.482710'}" /home/rkumarv b"{'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:52:34.483065'}" published - {'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:48:04.576142'} onto Topic /home/rkumarv published - {'event': 'IN_CREATE', 'is_directory': False, 'timestamp': '2023-10-12T21:52:34.396134'} onto Topic /home/rkumarv/1 published - {'event': 'IN_OPEN', 'is_directory': False, 'timestamp': '2023-10-12T21:52:34.396832'} onto Topic /home/rkumarv/1 published - {'event': 'IN_ATTRIB', 'is_directory': False, 'timestamp': '2023-10-12T21:52:34.397233'} onto Topic /home/rkumarv/1 published - {'event': 'IN_CLOSE_WRITE', 'is_directory': False, 'timestamp': '2023-10-12T21:52:34.398090'} onto Topic /home/rkumarv/1 published - {'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:52:34.480470'} onto Topic /home/rkumarv published - {'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:52:34.480780'} onto Topic /home/rkumarv published - {'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:52:34.482004'} onto Topic /home/rkumarv published - {'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:52:34.482397'} onto Topic /home/rkumarv published - {'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:52:34.482710'} onto Topic /home/rkumarv published - {'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:52:34.483065'} onto Topic /home/rkumarv</pre>
delete a file (rm 1)	Delete event is posted onto /path/1 access events is posted onto /path	<pre>/home/rkumarv b"{'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:52:34.483065'}" /home/rkumarv b"{'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:57:10.348708'}" /home/rkumarv b"{'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:57:10.349515'}" /home/rkumarv b"{'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:57:10.349677'}" /home/rkumarv b"{'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:57:10.350594'}" /home/rkumarv b"{'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:57:10.351173'}" /home/rkumarv b"{'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:57:10.351747'}" published - {'event': 'IN_DELETE', 'is_directory': False, 'timestamp': '2023-10-12T21:57:10.270471'} onto Topic /home/rkumarv/1 published - {'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:57:10.348708'} onto Topic /home/rkumarv published - {'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:57:10.349515'} onto Topic /home/rkumarv published - {'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:57:10.349677'} onto Topic /home/rkumarv published - {'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:57:10.350594'} onto Topic /home/rkumarv published - {'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:57:10.351173'} onto Topic /home/rkumarv published - {'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T21:57:10.351747'} onto Topic /home/rkumarv</pre>

rename a file (mv 1 2)	Move from is posted onto /path/1 Moved To is posted onto /path/2 access events is posted onto /path	<pre>published - {'event': 'IN_MOVED_FROM', 'is_directory': False, 'timestamp': '2023-10-12T22:00:00.101977'} onto Topic /home/rkumarv/1 published - {'event': 'IN_MOVED_TO', 'is_directory': False, 'timestamp': '2023-10-12T22:00:00.102327'} onto Topic /home/rkumarv/2 published - {'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:00:00.195521'} onto Topic /home/rkumarv published - {'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:00:00.196114'} onto Topic /home/rkumarv published - {'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:00:00.196616'} onto Topic /home/rkumarv published - {'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:00:00.196745'} onto Topic /home/rkumarv published - {'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:00:00.197259'} onto Topic /home/rkumarv published - {'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:00:00.197408'} onto Topic /home/rkumarv</pre>
make a new directory (mkdir test)	Creation event is posted onto /path/test access events is posted onto /path	<pre>published - {'event': 'IN_CREATE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:05:04.812817'} onto Topic /home/rkumarv/test published - {'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:05:04.902857'} onto Topic /home/rkumarv published - {'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:05:04.903275'} onto Topic /home/rkumarv published - {'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:05:04.903378'} onto Topic /home/rkumarv published - {'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:05:04.903570'} onto Topic /home/rkumarv published - {'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:05:04.903687'} onto Topic /home/rkumarv published - {'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:05:04.903799'} onto Topic /home/rkumarv</pre>
Delete watching directory (rm -r /path)	Delete Self Event is posted and program stops to execute	<pre>published - {'event': 'IN_OPEN IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:08:13.558874'} onto Topic /home/rkumarv/test published - {'event': 'IN_ACCESS IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:08:13.559340'} onto Topic /home/rkumarv/test published - {'event': 'IN_CLOSE_NOWRITE IN_ISDIR', 'is_directory': True, 'timestamp': '2023-10-12T22:08:13.559608'} onto Topic /home/rkumarv/test published - {'event': 'IN_DELETE_SELF', 'is_directory': True, 'timestamp': '2023-10-12T22:08:13.559824'} onto Topic /home/rkumarv/test /home/rkumarv/test does not exist anymore ... !!!</pre>