

Protokol Komunikasi MQTT

Bengkel Internet of Things
D3 Teknologi Telekomunikasi
Fakultas Ilmu Terapan

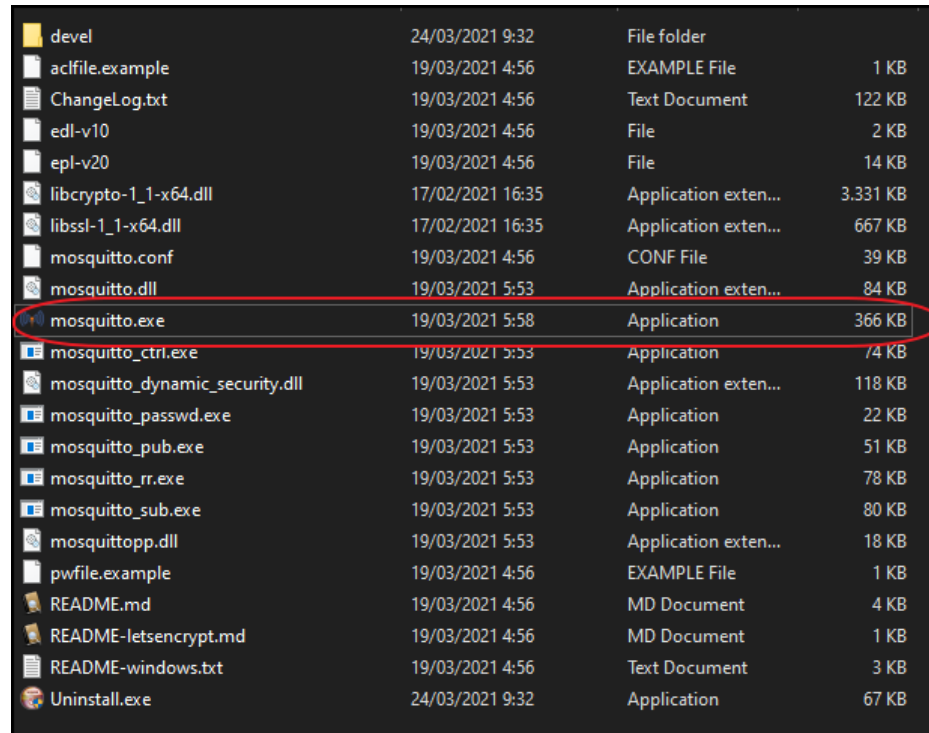
Local MQTT

Konfigurasi Broker

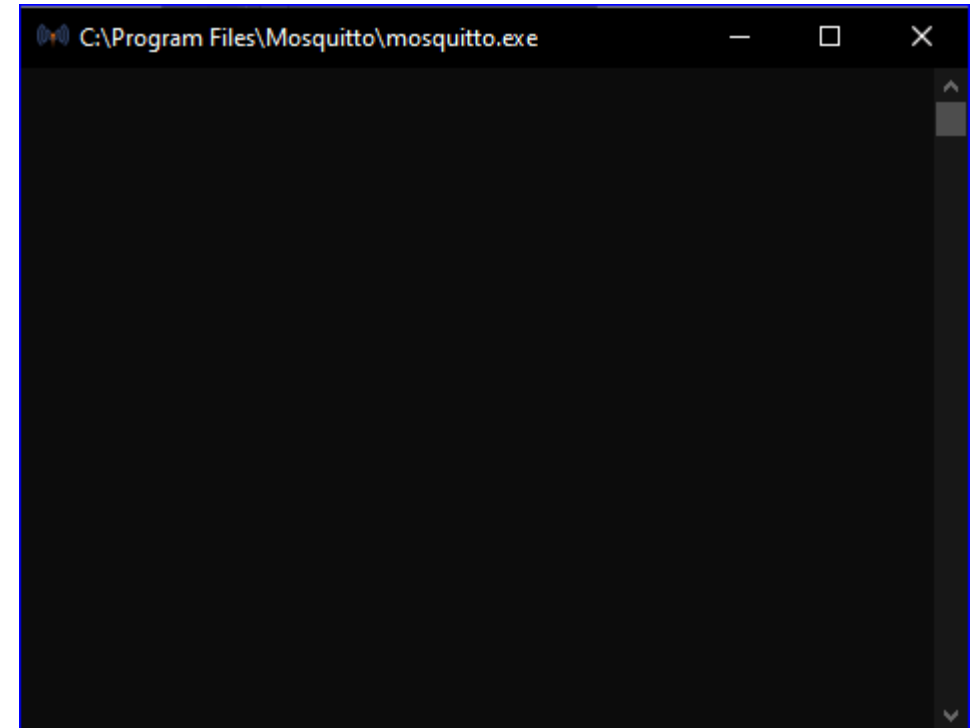
- Langkah-Langkah untuk konfigurasi broker :
 - Download MQTT pada link mosquitto.org/download
 - Install MQTT menggunakan file yang telah didownload
 - Untuk menjalankan MQTT broker, buka CMD (Command Prompt)
 - Pindah ke direktori lokasi instalasi MQTT
 - Gunakan mosquito untuk menjalankan broker MQTT.
 - Konfigurasi MQTT broker selesai.
- Atau dapat menggunakan broker public yang disediakan oleh Hivemq <https://www.hivemq.com/public-mqtt-broker/>

Lokal

- Butuh mosquito server
- Pilih pada mosquito.exe



File Name	Modified	Type	Size
devel	24/03/2021 9:32	File folder	
acfile.example	19/03/2021 4:56	EXAMPLE File	1 KB
ChangeLog.txt	19/03/2021 4:56	Text Document	122 KB
edl-v10	19/03/2021 4:56	File	2 KB
epl-v20	19/03/2021 4:56	File	14 KB
libcrypto-1_1-x64.dll	17/02/2021 16:35	Application exten...	3.331 KB
libssl-1_1-x64.dll	17/02/2021 16:35	Application exten...	667 KB
mosquitto.conf	19/03/2021 4:56	CONF File	39 KB
mosquitto.dll	19/03/2021 5:53	Application exten...	84 KB
mosquito.exe	19/03/2021 5:58	Application	366 KB
mosquitto_ctrl.exe	19/03/2021 5:53	Application	74 KB
mosquitto_dynamic_security.dll	19/03/2021 5:53	Application exten...	118 KB
mosquitto_passwd.exe	19/03/2021 5:53	Application	22 KB
mosquitto_pub.exe	19/03/2021 5:53	Application	51 KB
mosquitto_rr.exe	19/03/2021 5:53	Application	78 KB
mosquitto_sub.exe	19/03/2021 5:53	Application	80 KB
mosquittopp.dll	19/03/2021 5:53	Application exten...	18 KB
pwfile.example	19/03/2021 4:56	EXAMPLE File	1 KB
README.md	19/03/2021 4:56	MD Document	4 KB
README-letsencrypt.md	19/03/2021 4:56	MD Document	1 KB
README-windows.txt	19/03/2021 4:56	Text Document	3 KB
Uninstall.exe	24/03/2021 9:32	Application	67 KB



Subscriber

- Subscriber : membuat topik bebas, contoh “dtt”, dan mengaktifkan localhost sebagai alamat lokal

```
C:\Program Files\Mosquitto>mosquitto_sub.exe -h  
127.0.0.1 -t dtt
```

- Publisher : mengirimkan informasi kepada subscriber dengan pesan “Hello Word”

```
C:\Program Files\Mosquitto>mosquitto_pub.exe -h  
127.0.0.1 -t dtt -m "Hello World"  
  
C:\Program Files\Mosquitto>
```

- Setelah proses pengiriman akan diterima pada subscriber pesan yang dikirim

```
C:\Program Files\Mosquitto>mosquitto_sub.exe -h  
127.0.0.1 -t dtt  
Hello World
```

Contoh Pesan Informasi dengan MQTT

```
C:\Program Files\Mosquitto>mosquitto_pub.exe -h  
127.0.0.1 -t dtt -m "Hello World"  
  
C:\Program Files\Mosquitto>mosquitto_pub.exe -h  
127.0.0.1 -t dtt -m "Selamat Datang di D3TT"  
  
C:\Program Files\Mosquitto>mosquitto_pub.exe -h  
127.0.0.1 -t dtt -m "Fakultas Ilmu Terapan"  
  
C:\Program Files\Mosquitto>mosquitto_pub.exe -h  
127.0.0.1 -t dtt -m "Telkom University"  
  
C:\Program Files\Mosquitto>
```

```
C:\Program Files\Mosquitto>mosquitto_sub.exe -h  
127.0.0.1 -t dtt  
Hello World  
Selamat Datang di D3TT  
Fakultas Ilmu Terapan  
Telkom University
```

Kondisi Ketika server mati

- Ketika broker dimatikan, maka akan terdapat pesan error

```
C:\Program Files\Mosquitto>mosquitto_pub.exe -h  
127.0.0.1 -t dtt -m "Telkom University"  
Error: No connection could be made because the t  
arget machine actively refused it.
```

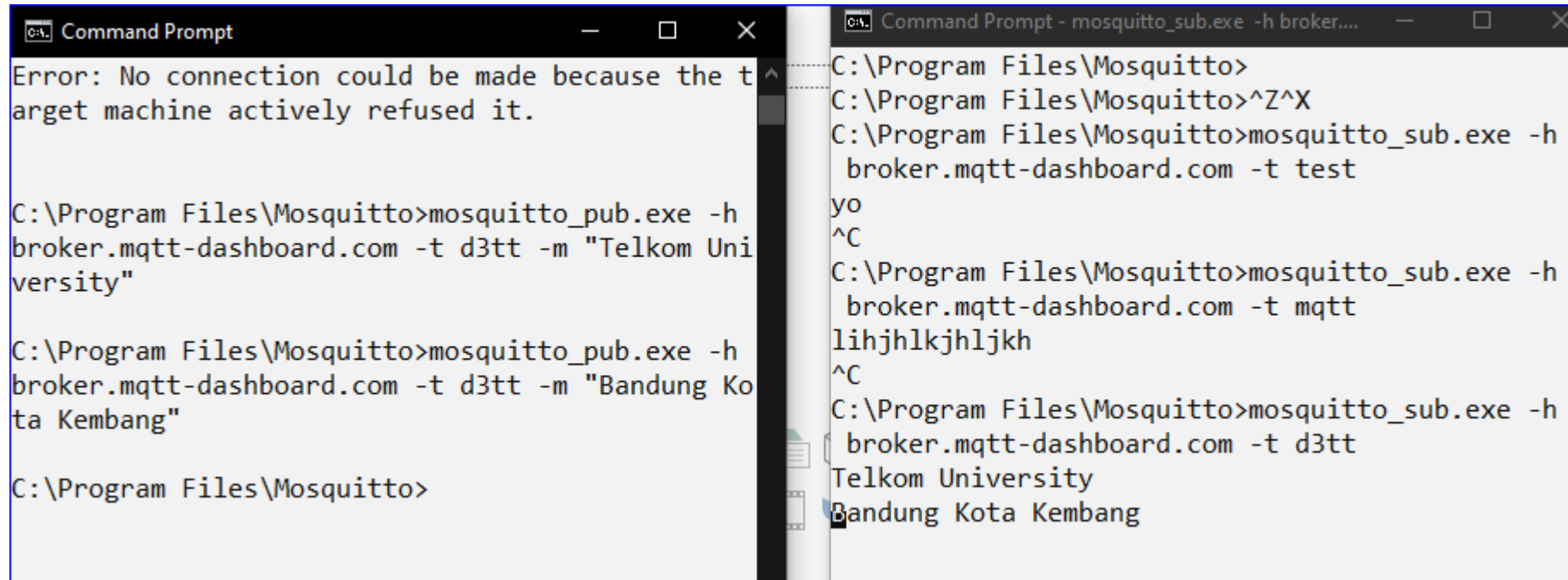
Online MQTT

Broker

- Alamat broker mqtt menggunakan *broker.mqtt-dashboard.com*
- Buat suatu topik yang unik sehingga orang lain tidak mengirimkan informasi yang sama pada subscriber.

```
C:\Program Files\Mosquitto>mosquitto_sub.exe -h  
broker.mqtt-dashboard.com -t test  
yo  
^C  
C:\Program Files\Mosquitto>mosquitto_sub.exe -h  
broker.mqtt-dashboard.com -t mqtt  
lihjhlkjhljkh  
^C
```

Contoh Online MQTT



```
Command Prompt
Error: No connection could be made because the target machine actively refused it.

C:\Program Files\Mosquitto>mosquitto_pub.exe -h broker.mqtt-dashboard.com -t d3tt -m "Telkom University"

C:\Program Files\Mosquitto>mosquitto_pub.exe -h broker.mqtt-dashboard.com -t d3tt -m "Bandung Kota Kembang"

C:\Program Files\Mosquitto>

Command Prompt - mosquitto_sub.exe -h broker...
C:\Program Files\Mosquitto>
C:\Program Files\Mosquitto>^Z^X
C:\Program Files\Mosquitto>mosquitto_sub.exe -h broker.mqtt-dashboard.com -t test
yo
^C
C:\Program Files\Mosquitto>mosquitto_sub.exe -h broker.mqtt-dashboard.com -t mqtt
lihjhlkjhljkh
^C
C:\Program Files\Mosquitto>mosquitto_sub.exe -h broker.mqtt-dashboard.com -t d3tt
Telkom University
Bandung Kota Kembang
```

Platform IoT (Free)

- Ubidots : <https://ubidots.com/>
- Firebase :
- Geeknesia : <http://geeknesia.com/>
- Blynk
- Antares : <https://antares.id/>
- ThinkSpeak : <https://thingspeak.com/>