

```
mingzhun@mingzhun-VivoBook-ASUSLaptop-X531FL-S531FL: ~  
mingzhun@mingzhun-VivoBook-ASUSLaptop-X531FL-S531FL: ~ 80x24  
mingzhun@mingzhun-VivoBook-ASUSLaptop-X531FL-S531FL:~$ docker run hello-world  
  
Hello from Docker!  
This message shows that your installation appears to be working correctly.  
  
To generate this message, Docker took the following steps:  
1. The Docker client contacted the Docker daemon.  
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.  
   (amd64)  
3. The Docker daemon created a new container from that image which runs the  
   executable that produces the output you are currently reading.  
4. The Docker daemon streamed that output to the Docker client, which sent it  
   to your terminal.  
  
To try something more ambitious, you can run an Ubuntu container with:  
$ docker run -it ubuntu bash  
  
Share images, automate workflows, and more with a free Docker ID:  
https://hub.docker.com/  
  
For more examples and ideas, visit:  
https://docs.docker.com/get-started/  
  
mingzhun@mingzhun-VivoBook-ASUSLaptop-X531FL-S531FL:~$
```

fig.1 Docker

```
root@mingzhun-VivoBook-ASUSLaptop-X531FL-S531FL: ~/catkin_ws_docker  
root@mingzhun-VivoBook-ASUSLaptop-X531FL-S531FL: ~/catkin_ws_docker 90x25  
[ INFO] [1695145439.503653406]: hello world 2761  
[ INFO] [1695145439.603649264]: hello world 2762  
[ INFO] [1695145439.703652923]: hello world 2763  
[ INFO] [1695145439.803649401]: hello world 2764  
[ INFO] [1695145439.903652520]: hello world 2765  
[ INFO] [1695145440.003648779]: hello world 2766  
[ INFO] [1695145440.103651558]: hello world 2767  
[ INFO] [1695145440.203649936]: hello world 2768  
[ INFO] [1695145440.303672896]: hello world 2769  
[ INFO] [1695145440.403653145]: hello world 2770  
[ INFO] [1695145440.503668183]: hello world 2771  
[ INFO] [1695145440.603671642]: hello world 2772  
[ INFO] [1695145440.703677961]: hello world 2773  
[ INFO] [1695145440.803656820]: hello world 2774  
[ INFO] [1695145440.903672829]: hello world 2775  
[ INFO] [1695145441.003832109]: hello world 2776  
[ INFO] [1695145441.103685147]: hello world 2777  
[ INFO] [1695145441.203679857]: hello world 2778  
[ INFO] [1695145441.303677276]: hello world 2779  
[ INFO] [1695145441.403684495]: hello world 2780  
[ INFO] [1695145441.503673734]: hello world 2781  
[ INFO] [1695145441.603673833]: hello world 2782  
[ INFO] [1695145441.703658163]: hello world 2783  
[ INFO] [1695145441.803678782]: hello world 2784
```

fig.2 publisher(talker)

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root@mingzhun-VivoBook-ASUSLaptop-X531FL-S531FL: ~/catkin_ws_docker
root@mingzhun-VivoBook-ASUSLaptop-X531FL-S531FL: ~/catkin_ws_docker 81x24
[ INFO] [1695145466.903776857]: I heard: [hello world 3035]
[ INFO] [1695145467.003827335]: I heard: [hello world 3036]
[ INFO] [1695145467.103789342]: I heard: [hello world 3037]
[ INFO] [1695145467.203837251]: I heard: [hello world 3038]
[ INFO] [1695145467.303998700]: I heard: [hello world 3039]
[ INFO] [1695145467.403804637]: I heard: [hello world 3040]
[ INFO] [1695145467.503987685]: I heard: [hello world 3041]
[ INFO] [1695145467.604014754]: I heard: [hello world 3042]
[ INFO] [1695145467.703984921]: I heard: [hello world 3043]
[ INFO] [1695145467.803998659]: I heard: [hello world 3044]
[ INFO] [1695145467.904065538]: I heard: [hello world 3045]
[ INFO] [1695145468.004028565]: I heard: [hello world 3046]
[ INFO] [1695145468.103841823]: I heard: [hello world 3047]
[ INFO] [1695145468.204017212]: I heard: [hello world 3048]
[ INFO] [1695145468.304078170]: I heard: [hello world 3049]
[ INFO] [1695145468.403839527]: I heard: [hello world 3050]
[ INFO] [1695145468.503831475]: I heard: [hello world 3051]
[ INFO] [1695145468.604035935]: I heard: [hello world 3052]
[ INFO] [1695145468.704088033]: I heard: [hello world 3053]
[ INFO] [1695145468.804093951]: I heard: [hello world 3054]
[ INFO] [1695145468.903937608]: I heard: [hello world 3055]
[ INFO] [1695145469.004048087]: I heard: [hello world 3056]
[ INFO] [1695145469.103821394]: I heard: [hello world 3057]
```

fig.3 subscriber(listener)