iCAP

INSTALLATION GUIDE

Cloud service from Innodisk

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1. Intoduction

Innodisk cloud administration platform (iCAP) is a remote device management system for both private and public clouds, which primarily focuses on storage device management and monitoring. You will learn how to setup iCAP Server and install iCAP Client Service from this document.

1.1 Installation Overview

The installation of iCAP can be divide into two parts: Server and Client service.

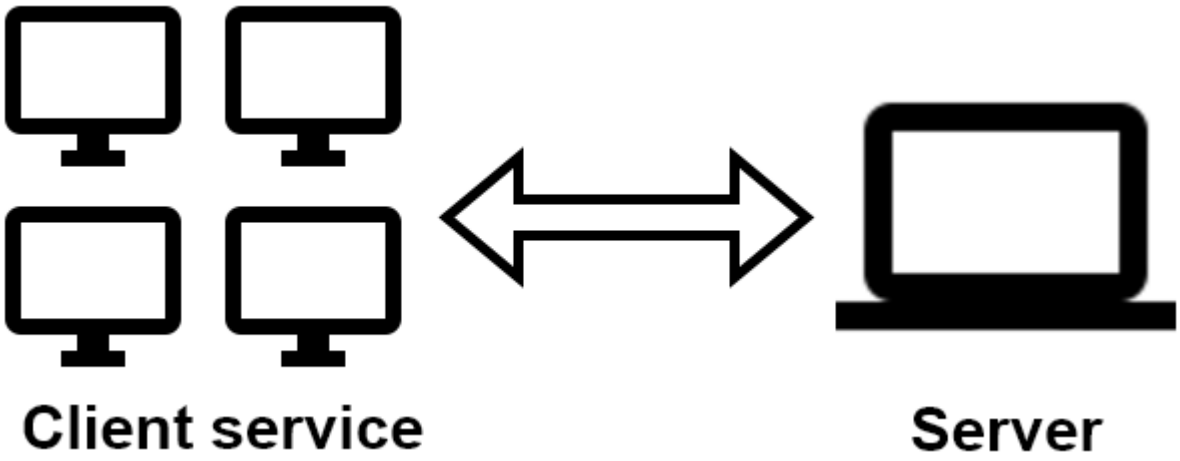

Figure 1. iCAP Architecture

You **MUST** be setup iCAP Server at the first, since is the core of the iCAP service. Here we give a brief introduce for iCAP Server installation:

1. Install the Docker server.
2. Download the iCAP Server images.
3. Run the installation script.
4. Verify the end-user license agreement(EULA) and waitting for the installation.

After that, the Client service will connect to the server which setup on the pervious step:

1. Download the iCAP Client service installer.
2. Install iCAP Client service.
3. Modify the server setting for the iCAP Client service which installed on before step.

1.2 Reference Material

Here we list some reference link can helps you to installation:

- We recommed using Ubuntu to build iCAP Server, you can download it from its offical site: https://www.ubuntu.com/

- We used the Docker to containize the iCAP Server since it can easy to deployment the server into anywhere, the offical site: https://www.docker.com/

2. Minimum Requirements

This section describe the minimum requirements of iCAP. Make sure your system is meet or higher than the following hardward requirements. If your system is lower than minimum requirements maybe affect the performance of iCAP.

2.1 iCAP Server Requirements

Hardware Minimum Requirement:

- Intel®Core™i5, 3.00GHz
- 8 GB RAM
- 20 GB root partition for the system
- 100 GB data storage partition for documents and indexing

Operating System

- Ubuntu 16.04+ 64-bit
- Microsoft Windows Server 2016 (1709)/Microsoft Windows Pro/Enterprise/Education 64-bits (1607 Anniversary Update, Build 14393 or later)
- Docker 17.03+

2.2 iCAP Client Service Requirements

Hardware Minimum Requirement

- Bundled with Innodisk Storage products

Operating System

- Windows Server 2016 64-bits
- Windows Server 2012/2012 R2 64-bits
- Windows Server 2008/2008 R2 64-bits
- Windows 10/8.1/7/XP kernel 32/64-bits
- Ubuntu 12.04+ 64-bits
- Debian 8 64-bits

2.3 Service Networking

The minimum requirement of networking is LocalAreaNetwork(LAN), since the iCAP Service is based on IoT/M2M networking architecture. We needs using some port for data collection and device monitoring, however, we does **not** transmit any packet back. That is, the internet connection is not requirement.

Here we list the iCAP Server using ports:

- 80 : For web service using.
- 1883 : For data and command transmission.

And the following list is the iCAP Client service binding ports:

- 2888 : For the client protal and the client service API using.
- 2889 : For remote device using.

3. Installing iCAP Server

In this section, we will describe the installation step which the users need to know. You can get these imges from our sales/PMs to deployment the iCAP Server into your server. You can choose the platform you needs whenever it can running the Docker service.

3.1 Installing iCAP Server on Linux

3.1.1 Installing Docker Engine on Linux

Since the iCAP Server is based on Docker service, we need to install the Docker engine on the host. If the Docker engine already installed on your host, you can skip this step. This command using for check the docker engine:

```
$ docker -v
```

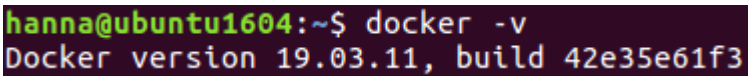

Figure 2. Docker version result

If your host was installed docker engine, the result should be similar with Figure 2, otherwise, you can install docker server with following command:

1. Update the apt package index:
   ```
   $ sudo apt-get update
   ```
2. Install packages to allow apt to use a repository over HTTPS:
   ```
   $ sudo apt-get install \
    apt-transport-https \
    ca-certificates \
    curl \
    gnupg-agent \
    software-properties-common
   ```
3. Add Docker’s official GPG key:

```
$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -
```

4. Use the following command to set up the **stable** repository.

```
$ sudo add-apt-repository \
"deb [arch=amd64] https://download.docker.com/linux/ubuntu \
$(lsb_release -cs) \
stable"
```

5. Update the package database with the Docker packages:

```
$ sudo apt-get update
```

6. Install Docker engine:

```
$ sudo apt-get install -y docker-ce
```

7. After installation, you can use the systemctl command to check docker engine was active:

```
$ sudo systemctl status docker
```

The result should be similar to the following, shown as Figure 3.

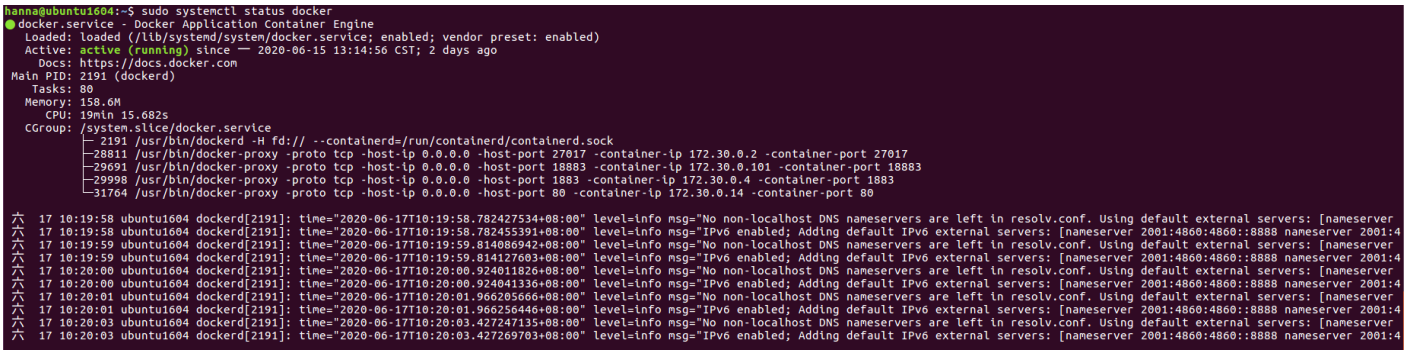

Figure 3. Docker status result

If you have any question for installation Docker engine, you can reference the documentation on the Docker offical website: https://docs.docker.com/engine/installation/linux/docker-ce/ubuntu/

3.1.2 Installing iCAP Server on Linux

After you got the iCAP Server imges compressed file, you needs to decompress this. This command using for decompress:

```
$ tar zxvf iCAP_Server_linux_V_x_x_x_.tar.gz
```

Decompression will take few minutes (depends on the host performance), after that, you will get the image files shown as following:

```
hanna@ubuntu1604:~/iCAP_Server_linux_V_1_5_0$ ls -l
total 10066848
-rwxr-xr-x 1 hanna hanna    7150280  六  18 15:46 docker_container_script
-rw-r--r-- 1 hanna hanna      15717  六  18 15:46 eula.md
-rw------- 1 hanna hanna  202743808  六  18 15:46 icap_admindb.tar
-rw------- 1 hanna hanna  817460736  六  18 15:43 icap_coreservice_dashboardagent.tar
-rw------- 1 hanna hanna  817383424  六  18 15:42 icap_coreservice_datahandler.tar
-rw------- 1 hanna hanna  817096192  六  18 15:43 icap_coreservice_dlm.tar
-rw------- 1 hanna hanna  817523712  六  18 15:42 icap_coreservice_dm.tar
-rw------- 1 hanna hanna  817191424  六  18 15:43 icap_coreservice_innoagemanager.tar
-rw------- 1 hanna hanna  817962496  六  18 15:43 icap_coreservice_notify.tar
-rw------- 1 hanna hanna  817186304  六  18 15:42 icap_coreservice_storanalyzer.tar
-rw------- 1 hanna hanna  423085056  六  18 15:46 icap_datadb.tar
-rw------- 1 hanna hanna  273868288  六  18 15:45 icap_dbchecker.tar
-rw------- 1 hanna hanna  162912256  六  18 15:46 icap_gateway.tar
-rw------- 1 hanna hanna   98327552  六  18 15:46 icap_redis.tar
-rwxr-xr-x 1 hanna hanna    7161384  六  18 15:46 iCAP_Server_Installer
-rwxr-xr-x 1 hanna hanna       1877  六  18 15:46 iCAP_Server_Uninstall.sh
-rw------- 1 hanna hanna  296691712  六  18 15:45 icap_webservice_authapi.tar
-rw------- 1 hanna hanna  290132992  六  18 15:45 icap_webservice_dashboardapi.tar
-rw------- 1 hanna hanna  291096576  六  18 15:45 icap_webservice_deviceapi.tar
-rw------- 1 hanna hanna 1192376832  六  18 15:46 icap_webservice_oobservice.tar
-rw------- 1 hanna hanna  140902912  六  18 15:45 icap_webservice_website.tar
-rw-r--r-- 1 hanna hanna     551312  六  18 15:46 Images.tar.gz
-rw-r--r-- 1 hanna hanna    6168576  六  18 15:43 innoAGEWebService_MQTT_Broker.tar
-rw-r--r-- 1 hanna hanna 1193352704  六  18 15:43 innoAGEWebService.tar
-rw-r--r-- 1 hanna hanna         54  六  18 15:46 start_docker_container.sh
```

Figure 4. Decompress file list

Figure 4 shows the decompress file results. Here we take a brief describe of these files:

- **docker_container_script** : The executable program for reboot.
- **eula.md** : The EULA of the iCAP Server.
- **icap_admindb.tar** : The iCAP administrator database image.
- **icap_coreservice_dashboardagent.tar** : The iCAP dashboard agent image.
- **icap_coreservice_datahandler.tar** : The iCAP data handler image.
- **icap_coreservice_dlm.tar** : The iCAP data life management image.
- **icap_coreservice_dm.tar** : The iCAP device management image.
- **icap_coreservice_innoagemanager.tar** : The innoAGE manager image.
- **icap_coreservice_notify.tar** : The iCAP notification service image.
- **icap_coreservice_storanalyzer.tar** : The iCAP storage analyzer image.
- **icap_datadb.tar** : The iCAP data database image.
- **icap_dbchecker.tar** : The DB checker image for the iCAP databases.
- **icap_gateway.tar** : The Service gateway image of iCAP Server.
- **icap_redis.tar** : The redis database image.
- **iCAP_Server_Installer** : The installer of the iCAP Server.
- **iCAP_Server_Uninstall.sh** : The iCAP Server uninstall script.
- **icap_webservice_authapi.tar** : The iCAP authentication API image.
- **icap_webservice_dashboardapi.tar** : The iCAP dashboard API image.
- **icap_webservice_deviceapi.tar** : The iCAP device API image.
- **icap_webservice_oobservice.tar** : The iCAP OOB service image.
- **icap_webservice_website.tar** : The iCAP website image.

- **Images.tar.gz** : The iCAP device images initial data.
- **innoAGEWebService_MQTT_Broker.tar** : The MQTT broker image for innoAGE web service.
- **innoAGEWebService.tar** : The innoAGE web service image.
- **start_docker_container.sh** : The script file for reboot.

While the docker engine was installed, all things is ready to installation of iCAP Server. To install the iCAP Server, just run the installation script which was decompress in previous step.

```
$ sudo ./iCAP_Server_Installer
```

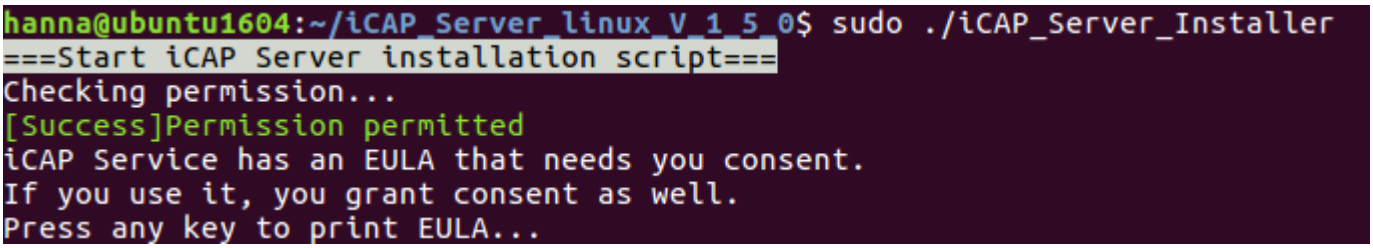

Figure 5. Installation script - check preminssion

At first, this script will check your premission since the docker command need it. And it will check the docker engine was exists or not. Next step, press enter to show the end user license agreement(EULA) shown as Figure 6.

```
# END USER LICENSE AGREEMENT
## Effective: August 30, 2017
PLEASE READ THIS END USER LICENSE AGREEMENT ("EULA") CAREFULLY. BY CLICKING "I AGREE" OR
TAKING ANY STEP TO DOWNLOAD, SET-UP, INSTALL OR USE ALL OR ANY PORTION OF THE FIRMWARE,
COMPUTER PROGRAMS, DEVICE DRIVERS, DATA, INFORMATION, SOFTWARE AND ASSOCIATED FILES
("SOFTWARE), YOU AND YOUR COMPANY ACCEPT ALL THE TERMS AND CONDITIONS OF THIS EULA. IF
YOU ACQUIRE THIS SOFTWARE FOR YOUR COMPANY'S USE, YOU REPRESENT AND WARRANT THAT YOU ARE
AN AUTHORIZED REPRESENTATIVE WHO HAS THE AUTHORITY TO LEGALLY BIND YOUR COMPANY TO THIS
EULA.
IF YOU DO NOT AGREE, DO NOT CLICK "I AGREE" AND DO NOT DOWNLOAD, SET-UP, INSTALL OR USE
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Software following the posting of revised terms means that You accept and agree to any
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2. modify, adapt or create derivative works of the Software;
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4. use Software that is licensed for a specific Server, whether physical or virtual, on
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Software or any related intellectual property rights are granted or implied. The
structure, organization and code of the Software are the valuable trade secrets and
(d)Page Down,(u)Page UP,(q)Quit
```

Figure 6. Installation script - EULA

You can press ”d” to page down, ”u” to page up, and ”q” to quit the EULA.

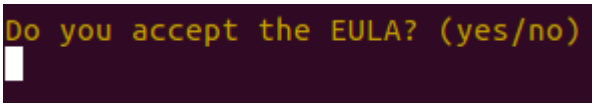


Figure 7. Installation script - accept EULA

Type ”yes” if you agree this EULA (shown as Figure 7), an press enter to contiune the installation. The installation script will loading the image to local docker image repositroy from the files decompress at first step.

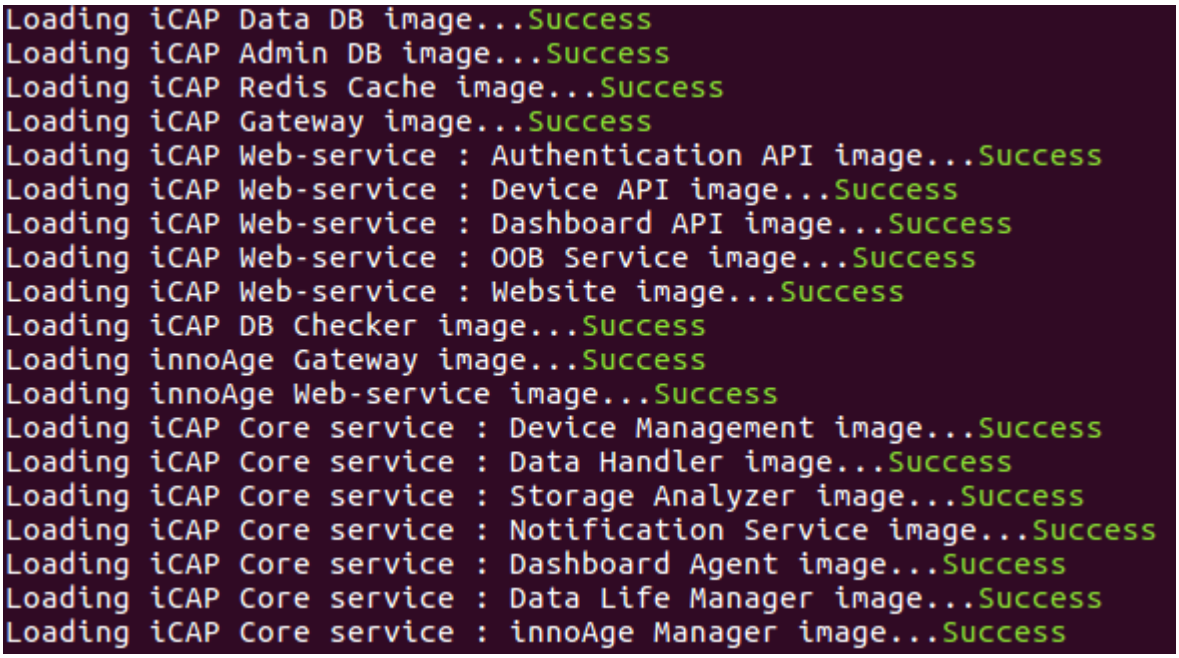


Figure 8. Installation script - load image

After loading image files process done, the script will check the iCAP Server is already installed. If exists, it will ask you to make sure to reinstall iCAP Server.

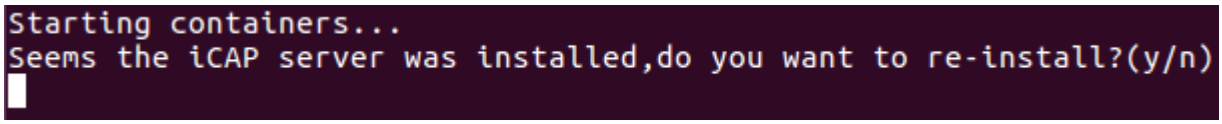


Figure 9. Installation script - reinstall question

If your answer is yes, type ”y” and press enter, the script will reinstall iCAP Server.

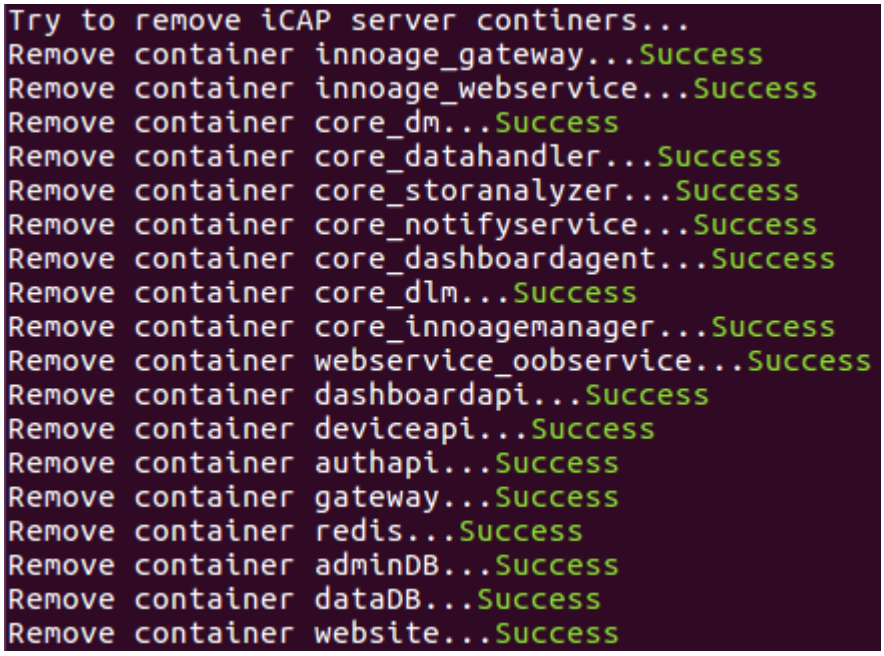


Figure 10. Installation script - remove containers

After that, the script will mount the images into docker containers automatically, which was load from previous step.

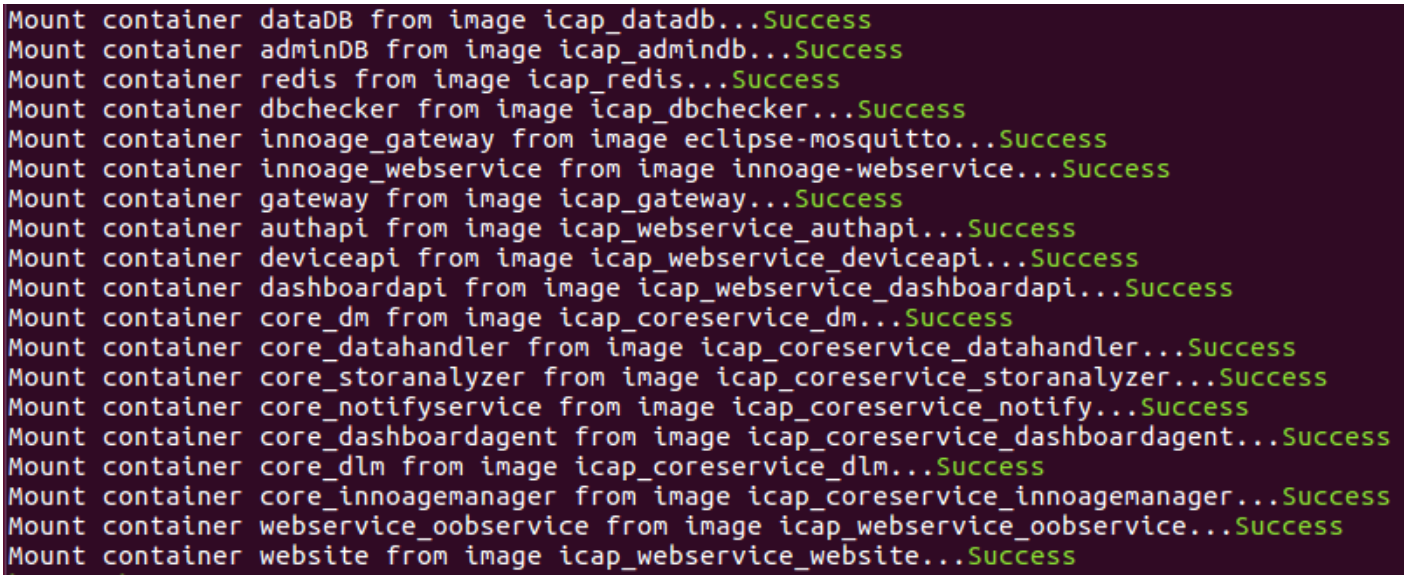
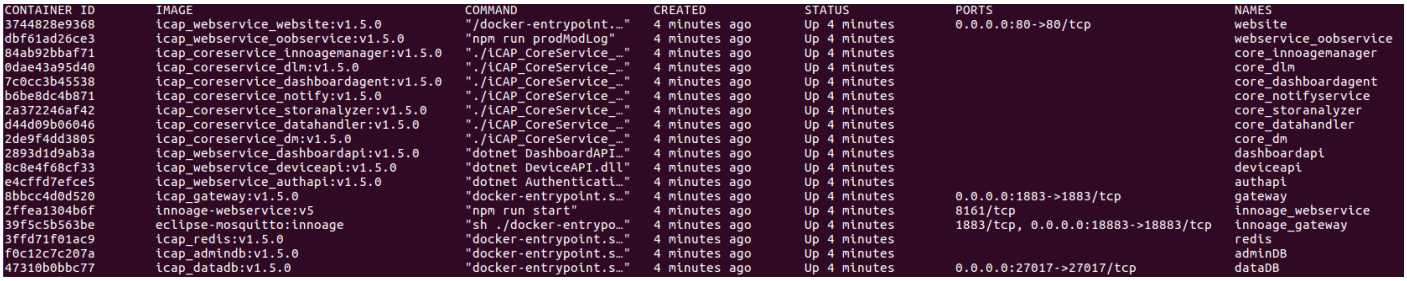


Figure 11. Installation script - mount containers

If there does not contain with any error, the iCAP Server will work find now. You can check your iCAP Server status from following commnad:

```
$ sudo docker ps -a
```

And the result will similar with Figure 12.



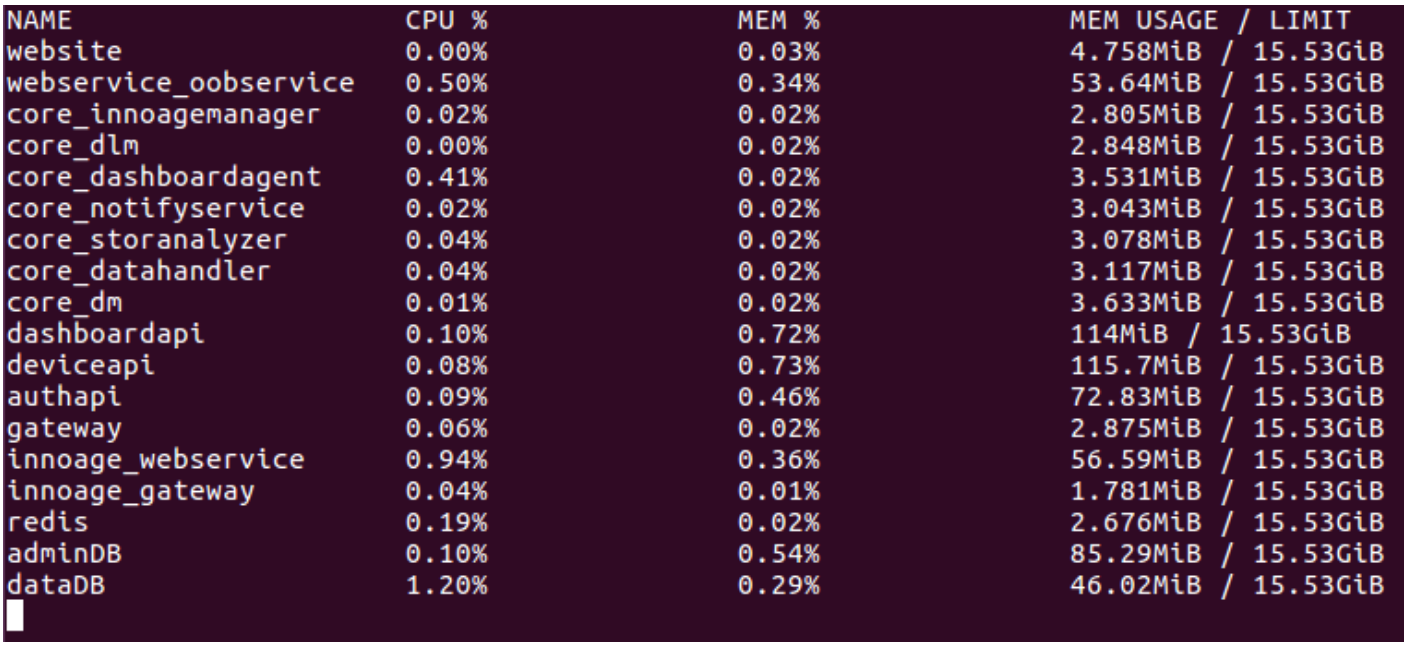
CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
3744828e9368	icap_webservice_website:v1.5.0	"/docker-entrypoint.…"	4 minutes ago	Up 4 minutes	0.0.0.0:80->80/tcp	website
dbf61ad26ce3	icap_webservice_oobservice:v1.5.0	"npm run prodModLog"	4 minutes ago	Up 4 minutes		webservice_oobservice
84ab92bbaf71	icap_coreservice_innoagemanager:v1.5.0	"./iCAP_CoreService_…"	4 minutes ago	Up 4 minutes		core_innoagemanager
0dae43a95d40	icap_coreservice_dlm:v1.5.0	"./iCAP_CoreService_…"	4 minutes ago	Up 4 minutes		core_dlm
7c0cc3b45538	icap_coreservice_dashboardagent:v1.5.0	"./iCAP_CoreService_…"	4 minutes ago	Up 4 minutes		core_dashboardagent
b6be8dc4b871	icap_coreservice_notify:v1.5.0	"./iCAP_CoreService_…"	4 minutes ago	Up 4 minutes		core_notifyservice
2a372246af42	icap_coreservice_storanalyzer:v1.5.0	"./iCAP_CoreService_…"	4 minutes ago	Up 4 minutes		core_storanalyzer
d44d09b06046	icap_coreservice_datahandler:v1.5.0	"./iCAP_CoreService_…"	4 minutes ago	Up 4 minutes		core_datahandler
2de9f4dd3805	icap_coreservice_dm:v1.5.0	"./iCAP_CoreService_…"	4 minutes ago	Up 4 minutes		core_dm
2893d1d9ab3a	icap_webservice_dashboardapi:v1.5.0	"dotnet DashboardAPI…"	4 minutes ago	Up 4 minutes		dashboardapi
8c8e4f68cf33	icap_webservice_deviceapi:v1.5.0	"dotnet DeviceAPI.dll"	4 minutes ago	Up 4 minutes		deviceapi
e4cffd7efce5	icap_webservice_authapi:v1.5.0	"dotnet Authenticati…"	4 minutes ago	Up 4 minutes		authapi
8bbcc4d0d520	icap_gateway:v1.5.0	"docker-entrypoint.s…"	4 minutes ago	Up 4 minutes	0.0.0.0:1883->1883/tcp	gateway
2ffea1304b6f	innoage-webservice:v5	"npm run start"	4 minutes ago	Up 4 minutes	8161/tcp	innoage_webservice
39f5c5b563be	eclipse-mosquitto:innoage	"sh ./docker-entrypo…"	4 minutes ago	Up 4 minutes	1883/tcp, 0.0.0.0:18883->18883/tcp	innoage_gateway
3ffd71f01ac9	icap_redis:v1.5.0	"docker-entrypoint.s…"	4 minutes ago	Up 4 minutes		redis
f0c12c7c207a	icap_admindb:v1.5.0	"docker-entrypoint.s…"	4 minutes ago	Up 4 minutes		adminDB
47310b0bbc77	icap_datadb:v1.5.0	"docker-entrypoint.s…"	4 minutes ago	Up 4 minutes	0.0.0.0:27017->27017/tcp	dataDB

Figure 12. Check containers

If you wants to check the iCAP Server loading, you can use this command to observe containers loading:

```
$ sudo docker stats --all --format "table {{.Name}}\t{{.CPUPerc}}\t{{.MemPerc}}\t{{.MemUsage}}"
```

And the shell will shows the container name, cpu loading, memory loading and memory usage, and reflash in every seconds.



NAME	CPU %	MEM %	MEM USAGE / LIMIT
website	0.00%	0.03%	4.758MiB / 15.53GiB
webservice_oobservice	0.50%	0.34%	53.64MiB / 15.53GiB
core_innoagemanager	0.02%	0.02%	2.805MiB / 15.53GiB
core_dlm	0.00%	0.02%	2.848MiB / 15.53GiB
core_dashboardagent	0.41%	0.02%	3.531MiB / 15.53GiB
core_notifyservice	0.02%	0.02%	3.043MiB / 15.53GiB
core_storanalyzer	0.04%	0.02%	3.078MiB / 15.53GiB
core_datahandler	0.04%	0.02%	3.117MiB / 15.53GiB
core_dm	0.01%	0.02%	3.633MiB / 15.53GiB
dashboardapi	0.10%	0.72%	114MiB / 15.53GiB
deviceapi	0.08%	0.73%	115.7MiB / 15.53GiB
authapi	0.09%	0.46%	72.83MiB / 15.53GiB
gateway	0.06%	0.02%	2.875MiB / 15.53GiB
innoage_webservice	0.94%	0.36%	56.59MiB / 15.53GiB
innoage_gateway	0.04%	0.01%	1.781MiB / 15.53GiB
redis	0.19%	0.02%	2.676MiB / 15.53GiB
adminDB	0.10%	0.54%	85.29MiB / 15.53GiB
dataDB	1.20%	0.29%	46.02MiB / 15.53GiB

Figure 13. Containers loading

After the containers are working normally, you can visit http://your_host_name through any browser. About how to get your iCAP Server IP address, you can reference to Appendix A.

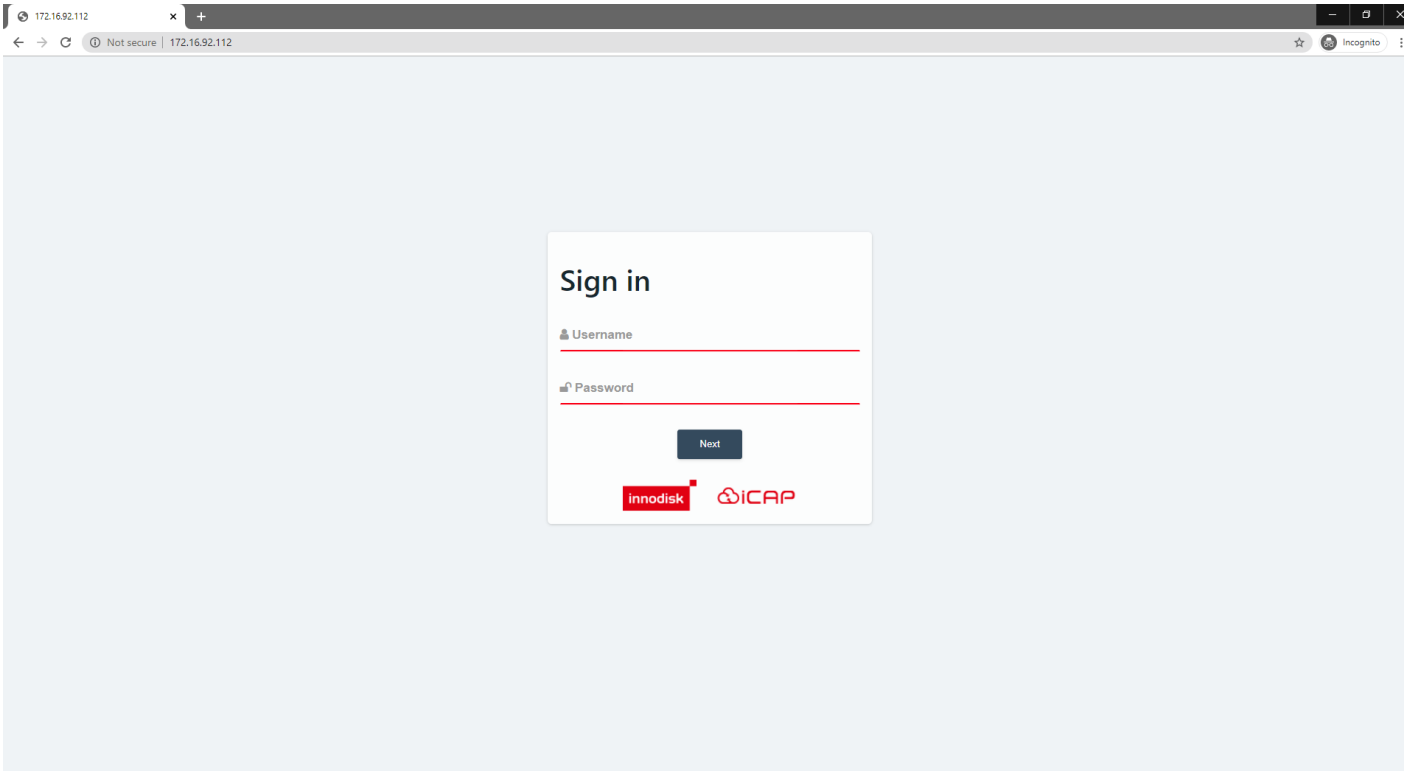


Figure 14. Login page

When you see the login page, the iCAP Server already working correct. The default account of the iCAP Server are shown as follows:

Account	Password	Permission
admin	admin	administrator
guest	guest	guest

Table 1. Default account

You can use any account to login the iCAP Server, the website will redirect to the dashboard when the login process is done.

3.1.3 Uninstall iCAP Server on Linux

If you want to remove the iCAP Server from your server, you can use the uninstall script to remove it. The following step will help you to uninstall iCAP Server.

It will remove all the data which iCAP Server used. Please use carefully.

To remove the iCAP Server, you can run the uninstall script which was decompress in section 3.1.2

```
$ sudo ./iCAP_Server_Uninstall.sh
```

The uninstall script will show some warning message to check you wants to remove iCAP Server.

```
Start to uninstall iCAP Server
It will remove all the iCAP Server dependencies data, including database
Please make sure you want to remove all the data.
Do you want to remove iCAP Server?(y/n)
```

Figure 15. Uninstall script - warning message

Type ”y” to remove the iCAP Server. If the remove process is running in normal, the results will shown as Figure 16.

```
Remove all containers...
Remove iCAP network...
Remove iCAP Databases...
Remove iCAP success.
```

Figure 16. Uninstall script - uninstall result

3.2 Installing iCAP Server on Windows

3.2.1 Installing Docker Desktop on Windows

Before running Docker service on windows, you need to enable HyperV first. If you are using Win10, enter **Control Panel** -> **Programs** -> **Turn Windows features on or off** then check **Containers** and **HyperV**.

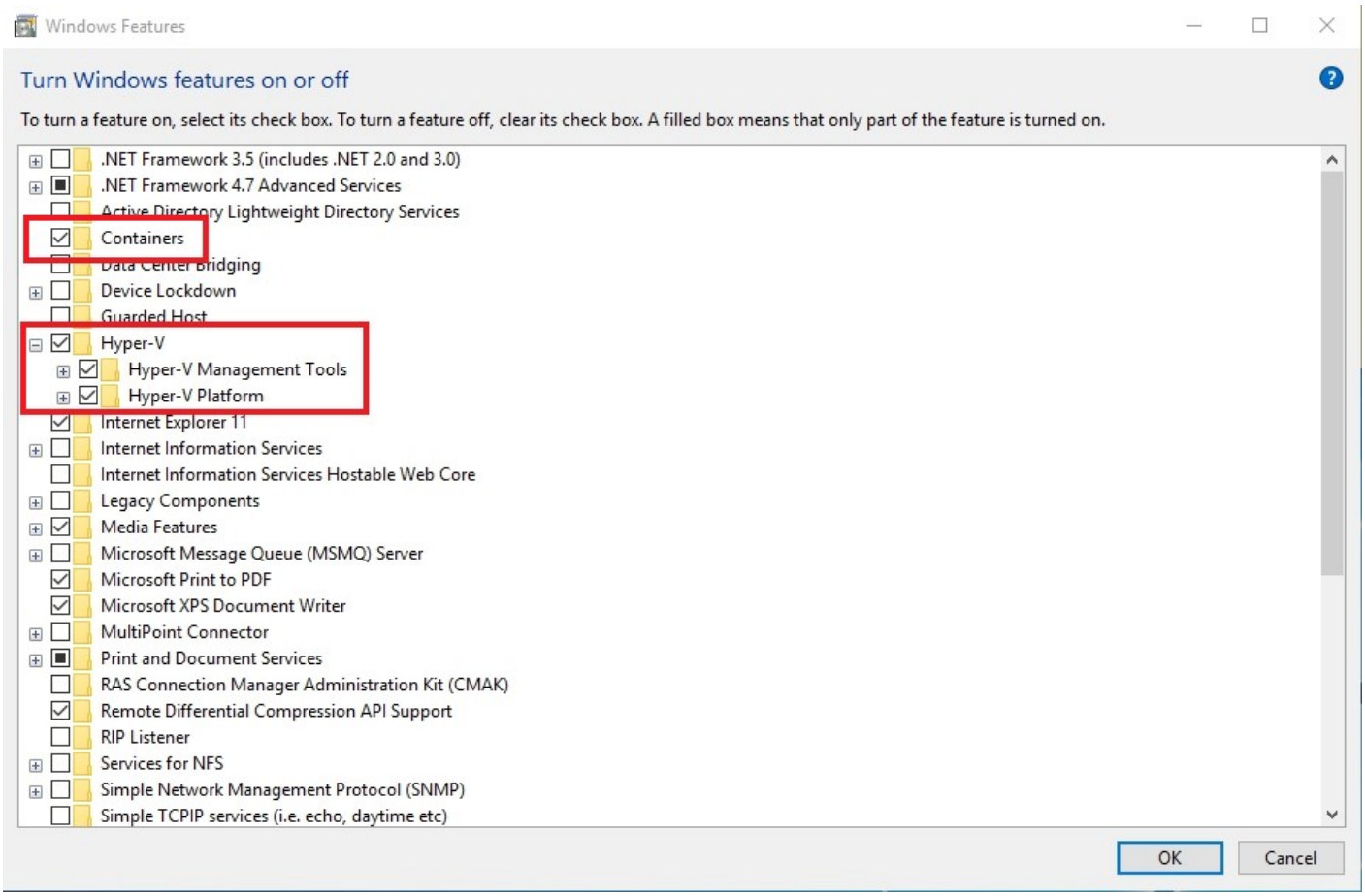


Figure 17. Windows features check box

After **Containers** and **HyperV** are ready, you can visit the Docker official website(https://www.docker.com/products/docker-desktop) to download **Docker Desktop**. After the download is complete, please go to the path of the downloaded file and Double-click **Docker for Windows Installer** to run the installer.

When the installation finishes, Docker starts automatically. The whale in the notification area indicates that Docker is running, and accessible from a terminal.

Figure 18. Whale icon

Docker is available as long as the Docker Desktop for Windows app is running(shown as Figure 19). Settings are available on the UI, accessible from the Docker whale in the taskbar(shown as Figure 20).

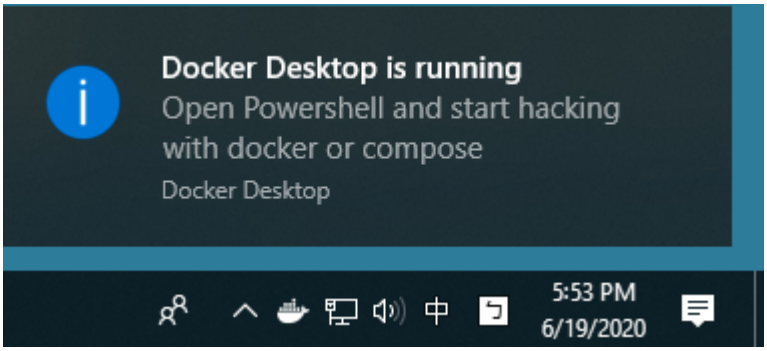


Figure 19. Docker Desktop is running

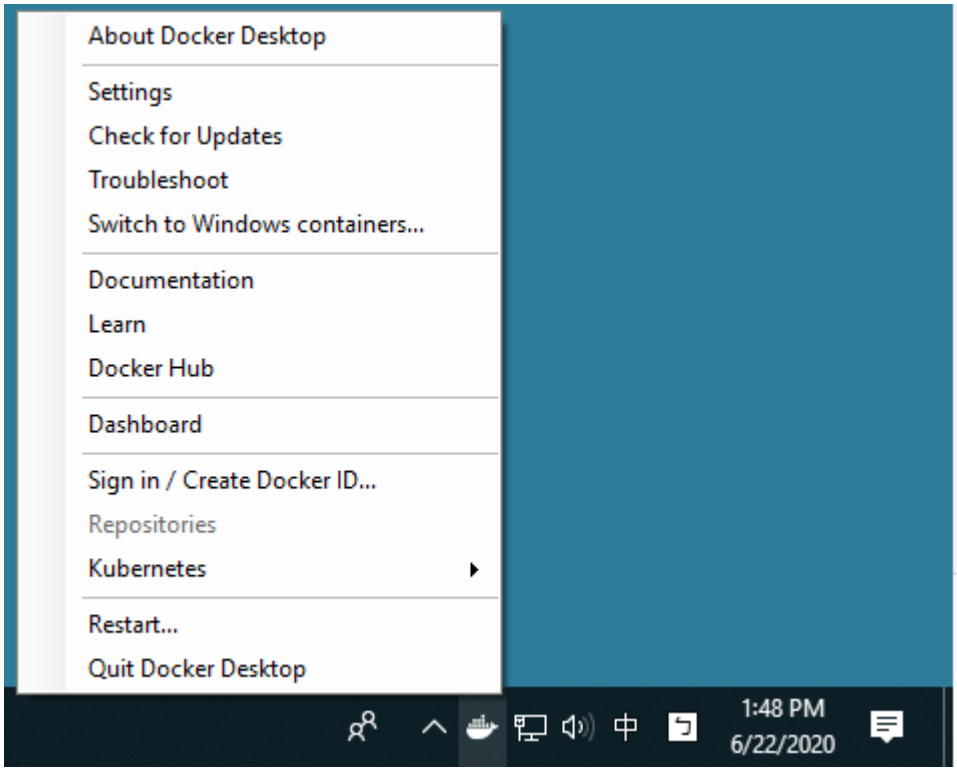


Figure 20. Docker whale in the taskbar

At last, you have to share C drive as Figure 21.

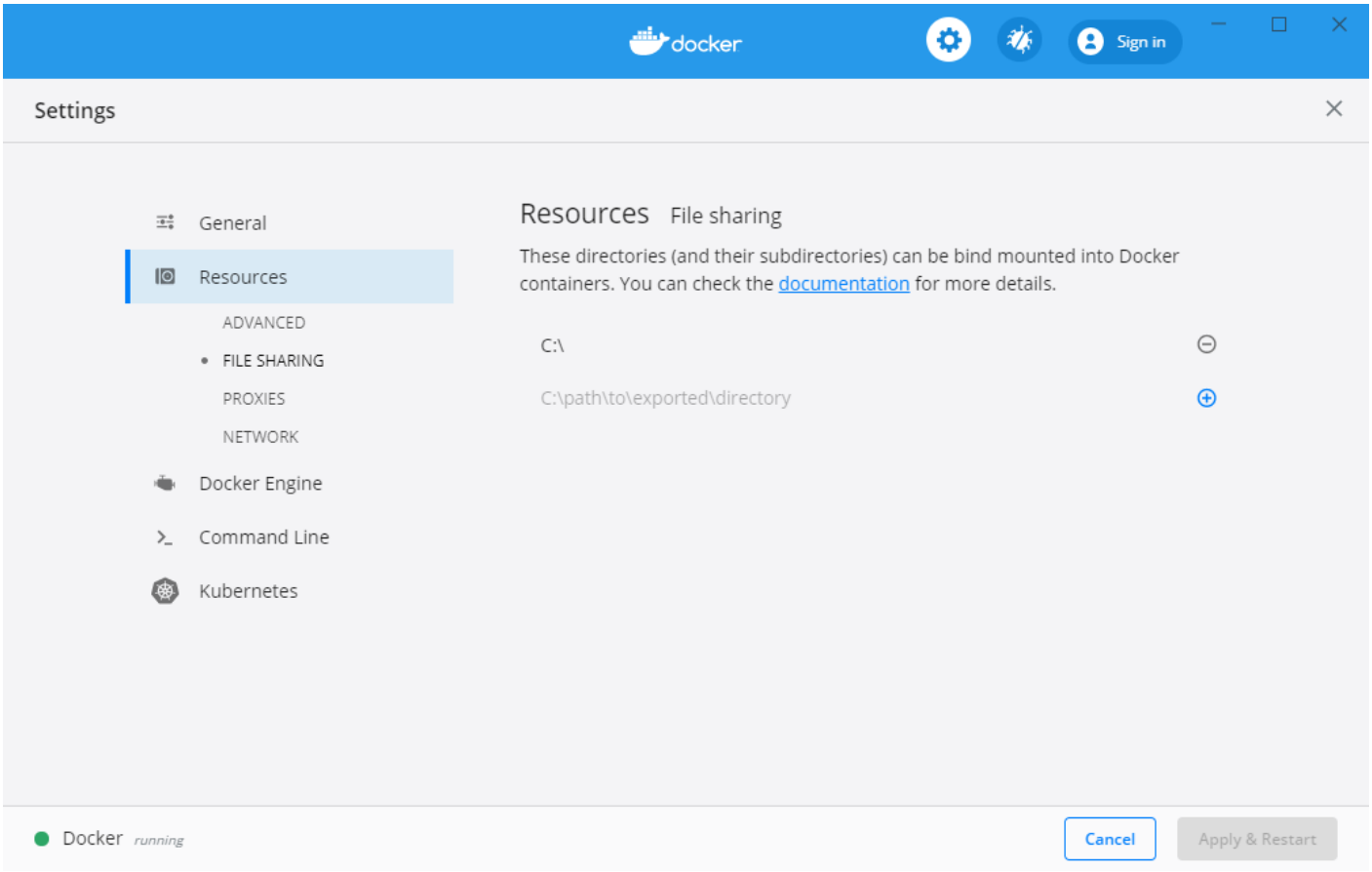
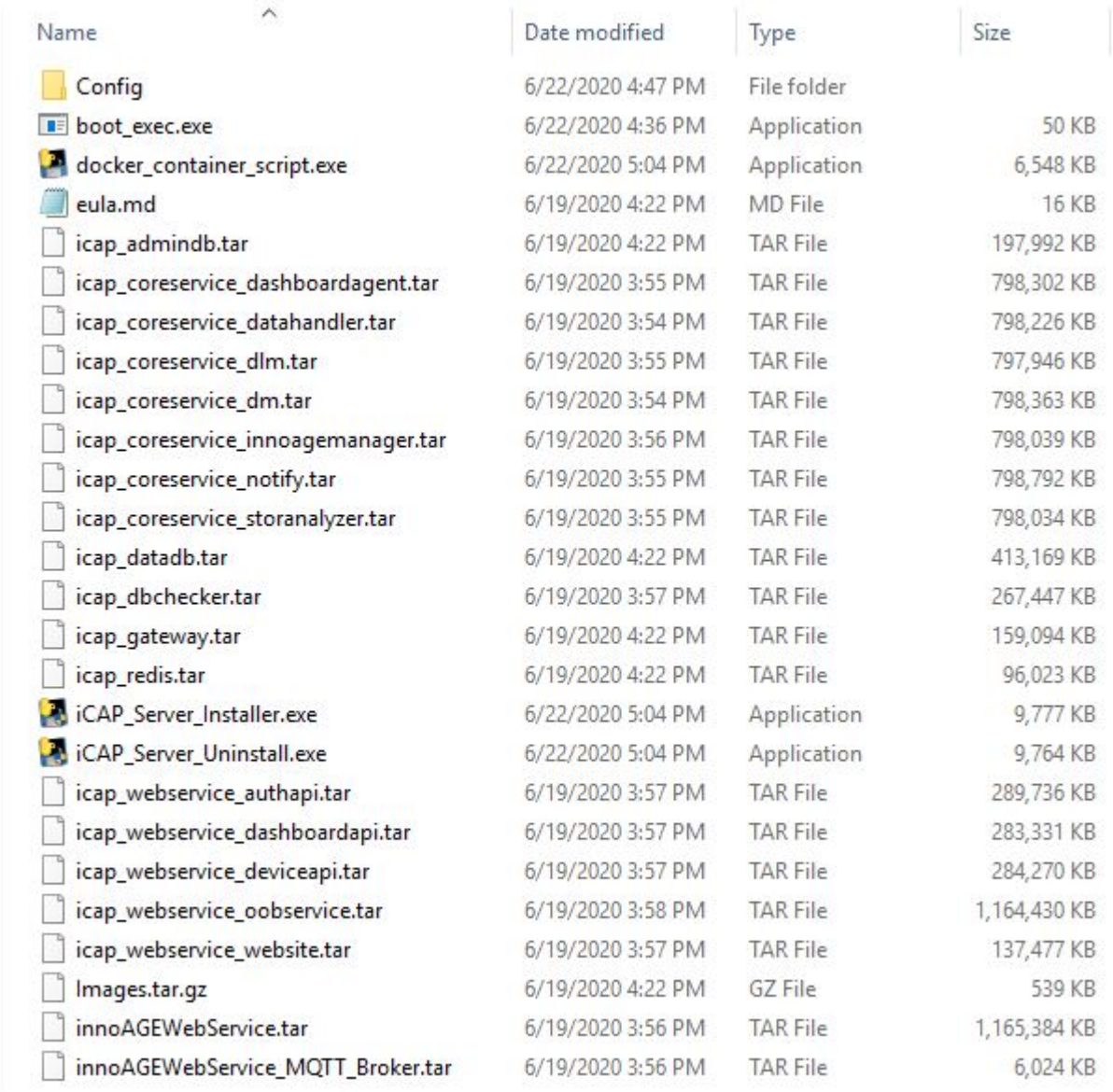


Figure 21. Share C drive in docker settings

3.2.2 Installing iCAP Server on Windows

After you got the iCAP Server imges compressed file, you needs to decompress it. Decompression will take few minutes(depends on the host performance), after that, you will get the image files shown as following:



Name	Date modified	Type	Size
Config	6/22/2020 4:47 PM	File folder	
boot_exec.exe	6/22/2020 4:36 PM	Application	50 KB
docker_container_script.exe	6/22/2020 5:04 PM	Application	6,548 KB
eula.md	6/19/2020 4:22 PM	MD File	16 KB
icap_admindb.tar	6/19/2020 4:22 PM	TAR File	197,992 KB
icap_coreservice_dashboardagent.tar	6/19/2020 3:55 PM	TAR File	798,302 KB
icap_coreservice_datahandler.tar	6/19/2020 3:54 PM	TAR File	798,226 KB
icap_coreservice_dlm.tar	6/19/2020 3:55 PM	TAR File	797,946 KB
icap_coreservice_dm.tar	6/19/2020 3:54 PM	TAR File	798,363 KB
icap_coreservice_innoagemanager.tar	6/19/2020 3:56 PM	TAR File	798,039 KB
icap_coreservice_notify.tar	6/19/2020 3:55 PM	TAR File	798,792 KB
icap_coreservice_storanalyzer.tar	6/19/2020 3:55 PM	TAR File	798,034 KB
icap_datadb.tar	6/19/2020 4:22 PM	TAR File	413,169 KB
icap_dbchecker.tar	6/19/2020 3:57 PM	TAR File	267,447 KB
icap_gateway.tar	6/19/2020 4:22 PM	TAR File	159,094 KB
icap_redis.tar	6/19/2020 4:22 PM	TAR File	96,023 KB
iCAP_Server_Installer.exe	6/22/2020 5:04 PM	Application	9,777 KB
iCAP_Server_Uninstall.exe	6/22/2020 5:04 PM	Application	9,764 KB
icap_webservice_authapi.tar	6/19/2020 3:57 PM	TAR File	289,736 KB
icap_webservice_dashboardapi.tar	6/19/2020 3:57 PM	TAR File	283,331 KB
icap_webservice_deviceapi.tar	6/19/2020 3:57 PM	TAR File	284,270 KB
icap_webservice_oobservice.tar	6/19/2020 3:58 PM	TAR File	1,164,430 KB
icap_webservice_website.tar	6/19/2020 3:57 PM	TAR File	137,477 KB
Images.tar.gz	6/19/2020 4:22 PM	GZ File	539 KB
innoAGEWebService.tar	6/19/2020 3:56 PM	TAR File	1,165,384 KB
innoAGEWebService_MQTT_Broker.tar	6/19/2020 3:56 PM	TAR File	6,024 KB

Figure 22. Windows decompress file list

Begin to install, click **iCAP_Server_Installer.exe**.The further steps refer to section 3.1.2. **Note: If unable to connect to the server, please check out your server system firewall setting.**

If server reboot, iCAP will restart automatically. A window will pop up like Figure 23. After all containers restart successfully, the window will close by itself. Then the iCAP can work normally.

Figure 23. Pop-up window when system reboot

3.2.3 Uninstall iCAP Server on Windows

Click **iCAP_Server_Uninstall.exe** to uninstall. It will shown like Figure 24.

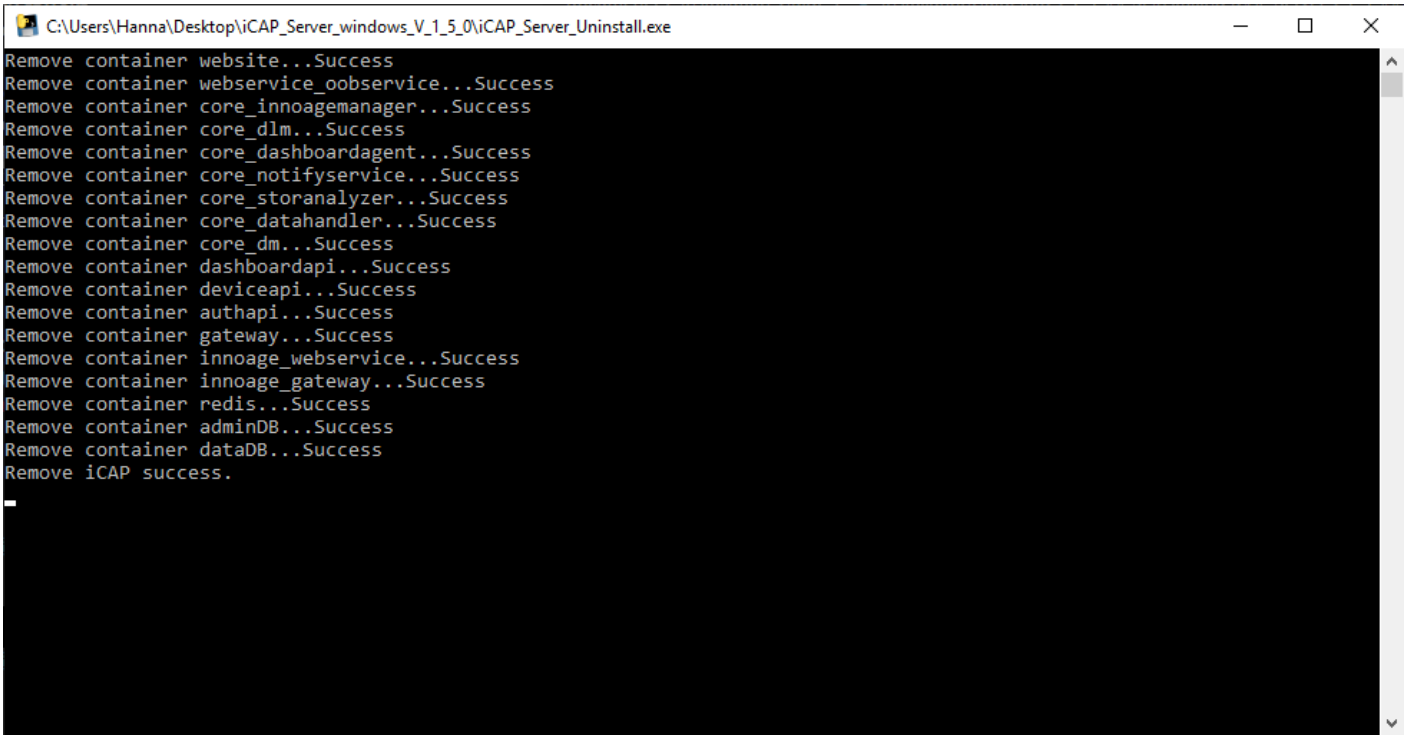


Figure 24. Uninstall iCAP Server on Windows

4. Installing iCAP Client Service

This section will describe the installation step of the iCAP Client Service. Same as iCAP Server, you can get the installation files from our sales/PMs to install client service. The iCAP Client Service can be install in many platform, such as Microsoft Windows, Ubuntu, Debian, etc. In this document, we used the Windows 10 and Ubuntu 16.04LTS to describe the installation steps.

4.1 Installing iCAP Client Service on Linux

4.1.1 Installing iCAP Client Service on Linux

The following steps will help you to install iCAP Client Service on your device. To install the linux version of iCAP Client Service, you must have the permission of root.

1. Decompress the iCAP Client Service compressed file:

   ```
   $ sudo tar zxvf iCAP_ClientService_linux_V_x_x_x.tar.gz
   ```

   After the decompression, you will get a folder named **iCAP_ClientService_linux** and files shown as following:

   ```
   total 932
   -rwxr-xr-x 1 root root    258  六  23 11:23 Dependencies.sh
   -rw-r--r-- 1 root root  15757  六  23 11:23 eula.md
   -rw-r--r-- 1 root root    154  六  23 11:23 iCAP_Client.service
   -rwxr-xr-x 1 root root 910984  六  23 11:23 iCAP_ClientService_64
   -rwxr-xr-x 1 root root    769  六  23 11:23 Install.sh
   -rw-r--r-- 1 root root     80  六  23 11:23 ServiceSetting.json
   -rwxr-xr-x 1 root root    617  六  23 11:23 Uninstall.sh
   drwxr-xr-x 3 root root   4096  六  19 15:51 wwwroot
   ```

   Figure 25. Decompressed file list

   Here we take a brief description of these files:

   - **Dependencies.sh** : The scipt for installing iCAP Client Service dependent softwares. **You just need to run this script for the first time you installed.**
   - **eula.md** : The EULA file.
   - **iCAP_Client.service** : The service unit configuration.
   - **iCAP_ClientService_64** : The iCAP Client Service program.
   - **Install.sh** : The installation script of iCAP Client Service.
   - **ServiceSetting.json** : The iCAP Client Service setting file.
   - **Uninsatll.sh** : The uninstall script of iCAP Client Service.
   - **wwwroot** : The files of client web.

2. For the first install, you have to get some dependencies:

   ```
   $ sudo ./Dependencies.sh
   ```

   Please note that you don’t have to run this script if it’s not your first time to install iCAP Client on this device.

3. Run the installation script:

```
$ sudo ./Install.sh
```

And the result will shown as follows:

```
Start to install iCAP Client Service
  Create /var/iCAP_Client folder...
  Copy iCAP_ClientService into /usr/sbin
  Copy require files...
  Run iCAP_ClientService to a service
  Enable iCAP_ClientService
```

Figure 26. The installation script results

4. After the installation of iCAP Client Service, you can check the iCAP Client Service status as following command:

```
$ systemctl status iCAP_Client.service
```

If the service is running, you can see the result is like:

```
● iCAP_Client.service - iCAP Client Service
   Loaded: loaded (/etc/systemd/system/multi-user.target.wants/iCAP_Client.service; bad; vendor preset: enabled)
   Active: active (running) since 二 2020-06-23 14:39:07 CST; 4s ago
 Main PID: 23269 (iCAP_ClientServ)
    Tasks: 3
   Memory: 5.5M
      CPU: 1.185s
   CGroup: /system.slice/iCAP_Client.service
           └─23269 /usr/sbin/iCAP_ClientService
```

Figure 27. The status of iCAP Client service

4.1.2 Control iCAP Client Service on Linux

You can control your service by running commands:

```
$ systemctl stop iCAP_Client.service
$ systemctl start iCAP_Client.service
$ systemctl restart iCAP_Client.service
```

You can use following command to check the iCAP Client service logs:

```
$ cat /var/iCAP_Client/ServiceLog.log
```

4.1.3 Uninstall iCAP Client Service on Linux

The following steps will help you to uninstall iCAP Client Service on your devices.

1. Run the uninstall script:

```
$ sudo ./Uninstall.sh
```

2. The uninstall script will double-check for your command, if you wants to remove the iCAP Client Service, type ”y” and press enter. After that, the iCAP Client will be remove from your device.

```
Start to uninstall iCAP Client Service
It will remove the iCAP Client Service, sure?(y/n)
y
  Remove iCAP_ClientService
  Remove iCAP_ClientService...
```

Figure 28. Uninstall result

4.2 Installing iCAP Client Service on Windows

4.2.1 Installing iCAP Client Service on Windows

The following steps will help you to install iCAP Client Service on your devices.

1. Double-click the **iCAP_ClientService_win32_x.x.x.exe** installer.
2. Click the **Next** button to open End User License Agreement window.

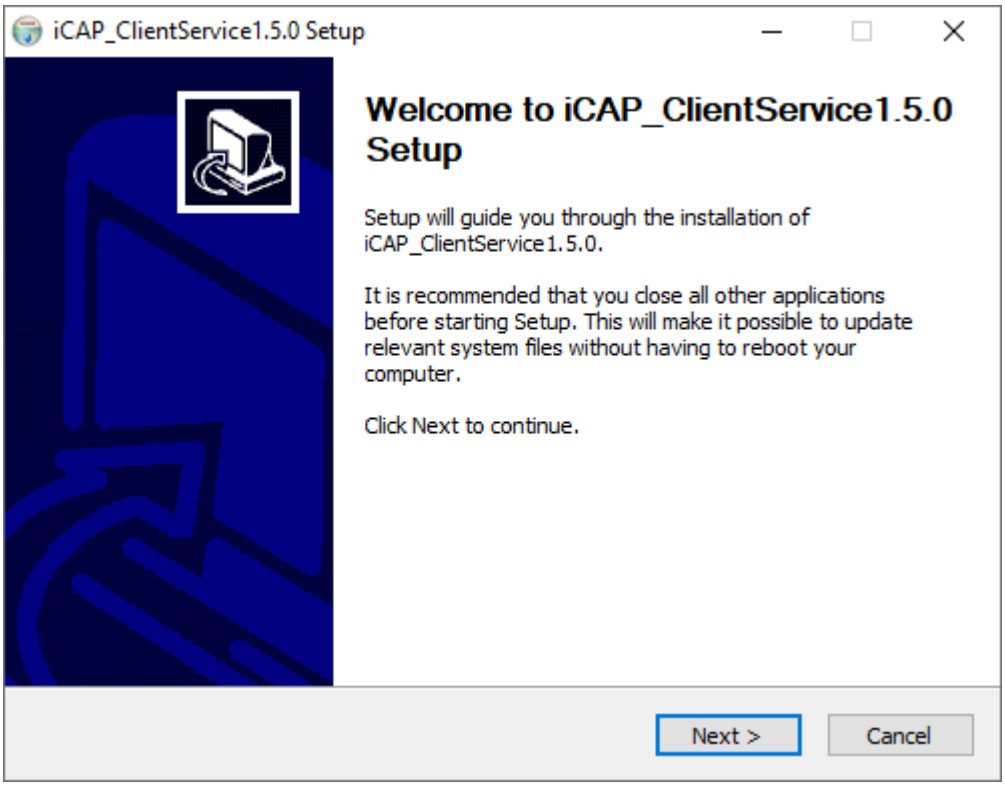


Figure 29. Installshield wizard welcome page

3. Click the **I Agree** button if you agree the EULA.

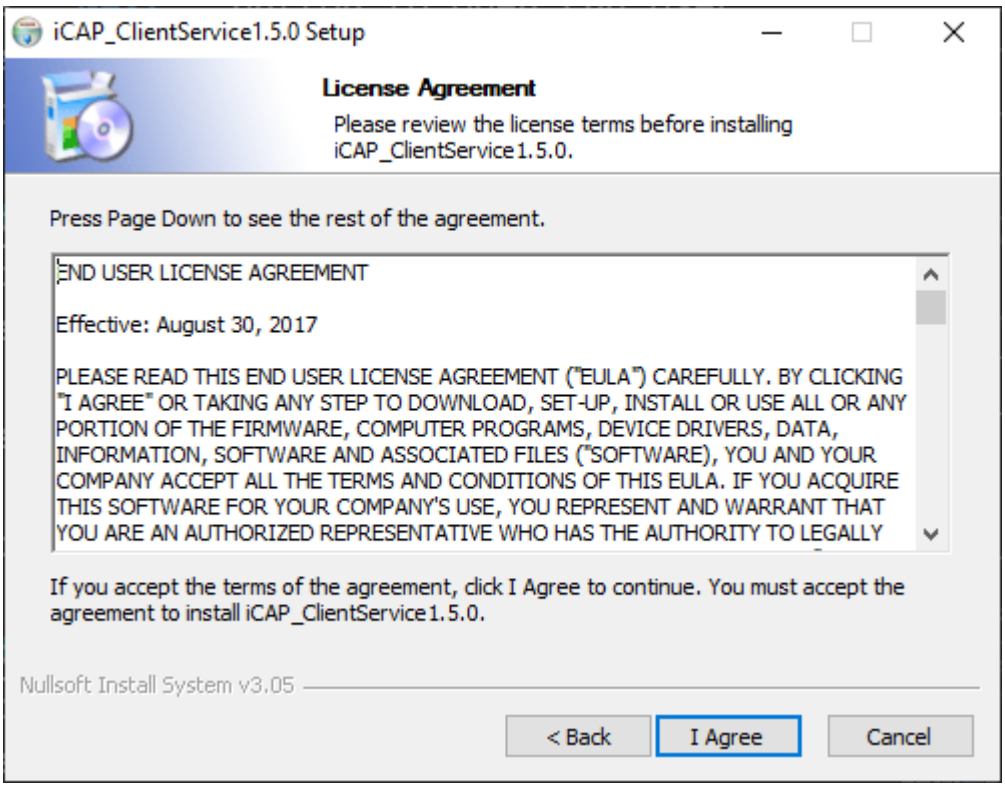


Figure 30. Installshield wizard license agreement page

4. Cancel the check box if you do not needed to create the shortcuts on desktop, and click the **Next** button to open Location window.

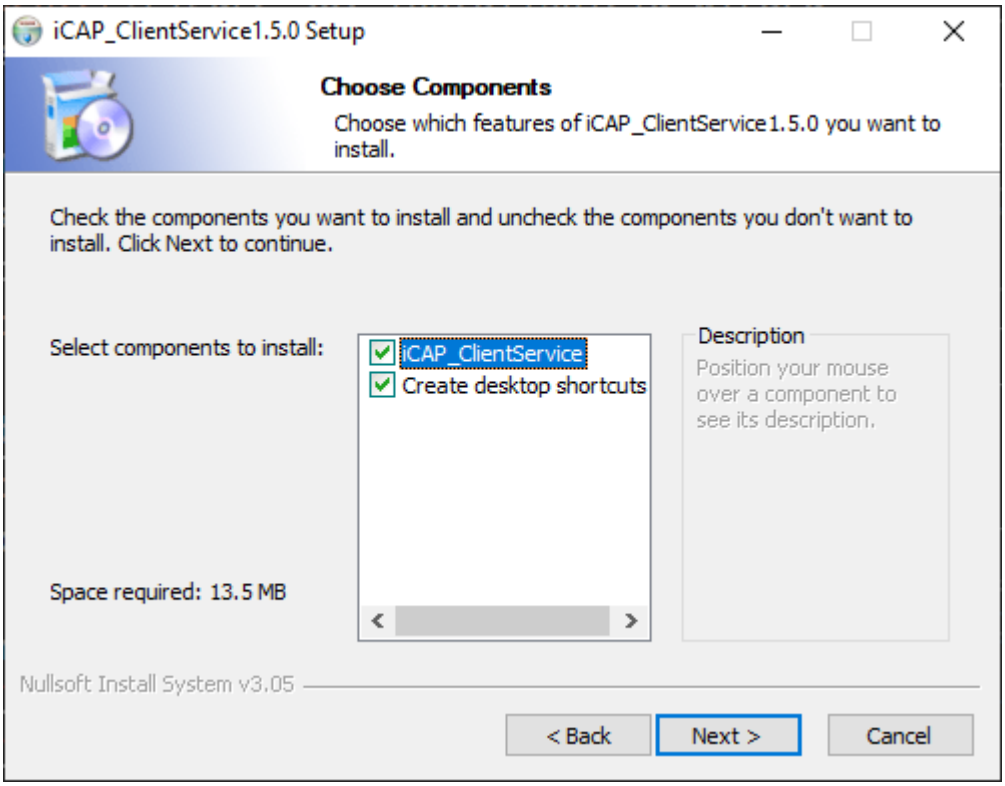


Figure 31. Installshield wizard components page

5. Choose the location you wants to install iCAP Client Service, and click the **Install** button to install iCAP Client Service.

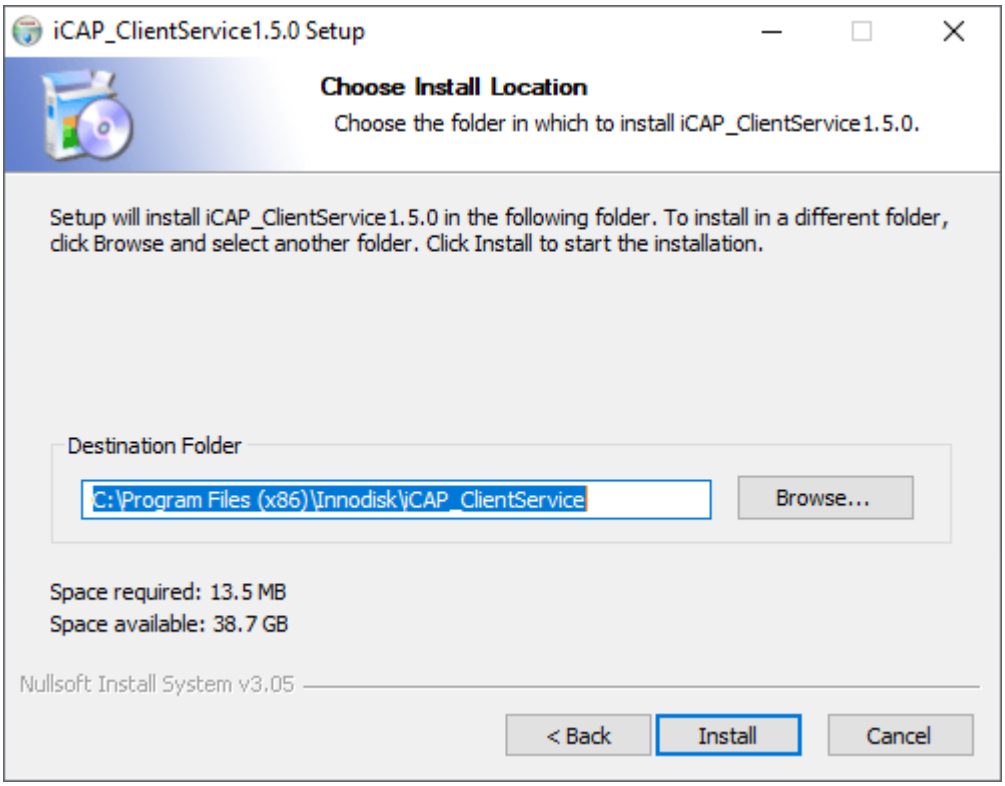


Figure 32. Installshield wizard location selection page

6. When the installation complete, click the **Close** button to exit setup program.

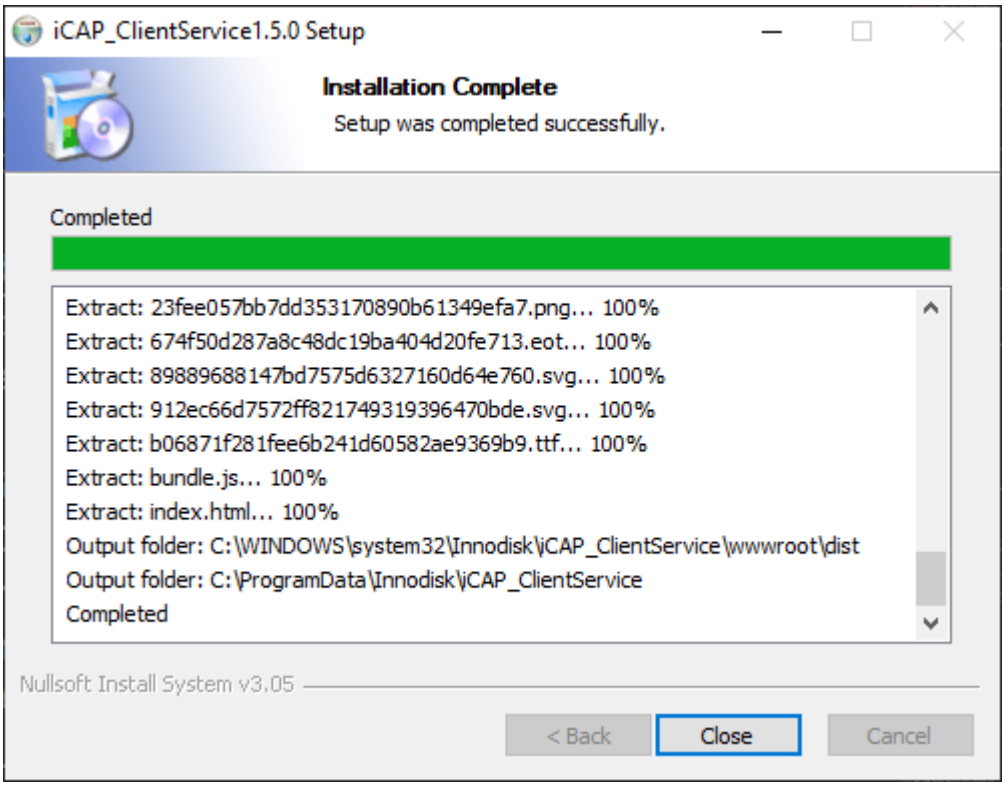


Figure 33. Installshield wizard process page

4.2.2 Stopping iCAP Client Service

The iCAP Client Service will collect your device information and transmit into the iCAP Server which installation on you server. You can stop the iCAP Client Service from the Windows Service Dialog, shown as following:

1. Open the "**Control Panel**"->"**System and Security**"->"**Administrative Tools**"->"**Services**"
2. Find out the **iCAP Client Service**, and double click to open setting window.

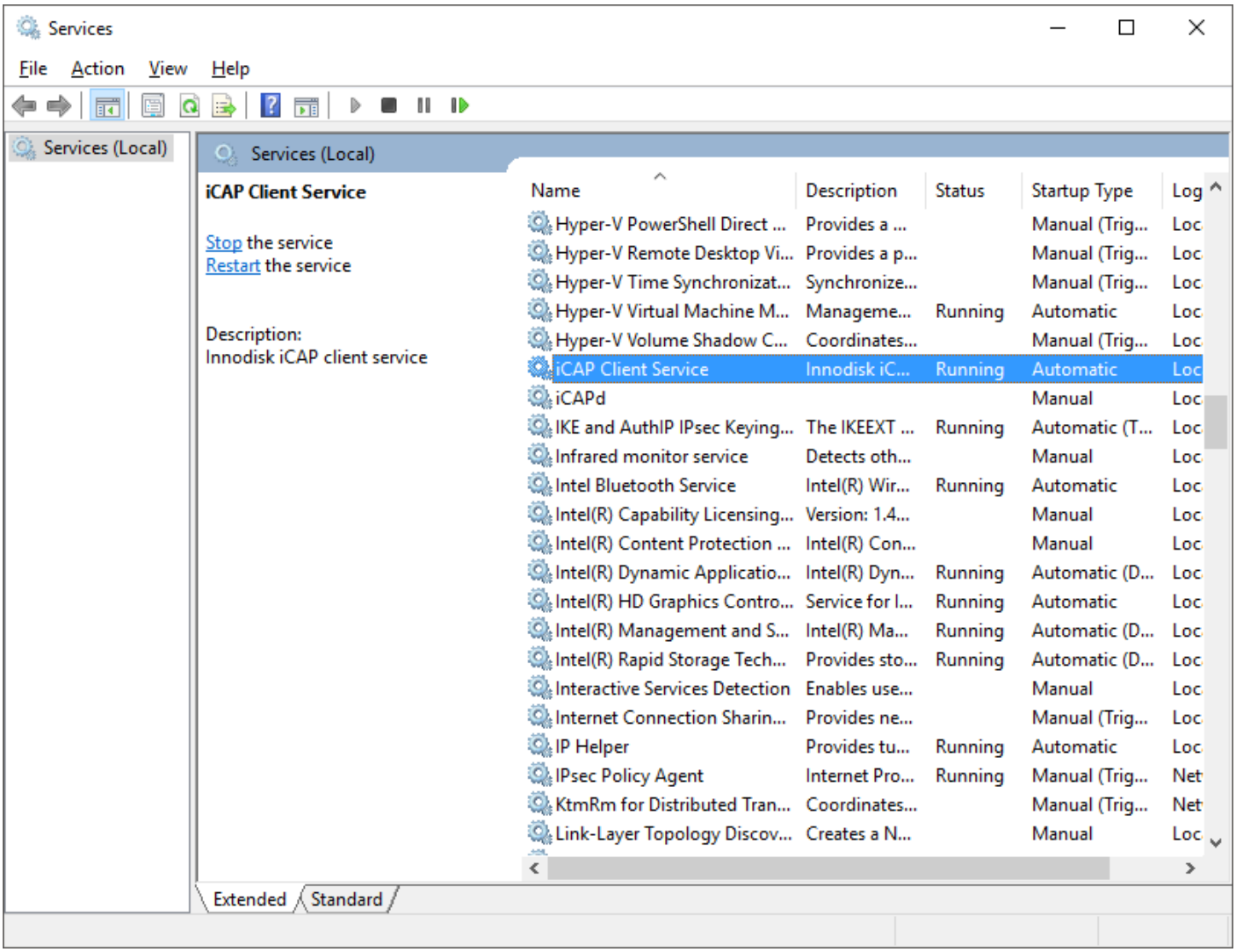


Figure 34. The Windows service dialog

3. Than you can click the **Stop** button to stop the iCAP Client Service.

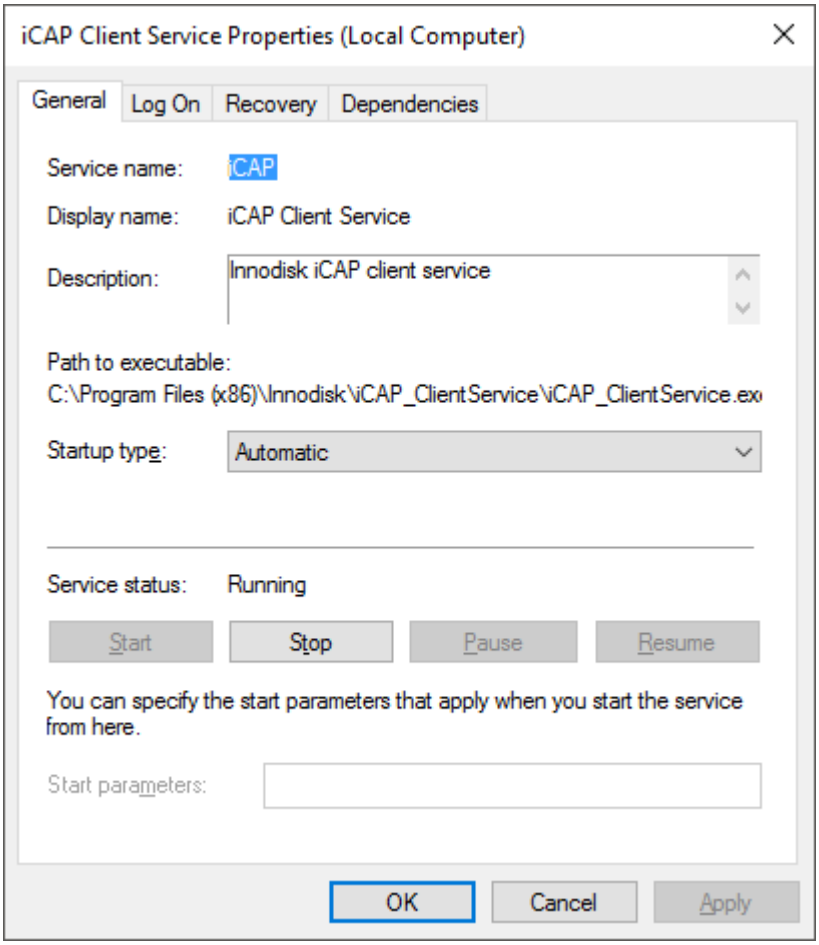


Figure 35. The iCAP Client serivce properties dialog

4.2.3 Uninstall iCAP Client Service on Windows

The following steps will help you to uninstall iCAP Client Service on your devices.

1. Running the ”Uninstall.exe” program.
2. Click the **Uninstall** button to uninstall iCAP Client Service.

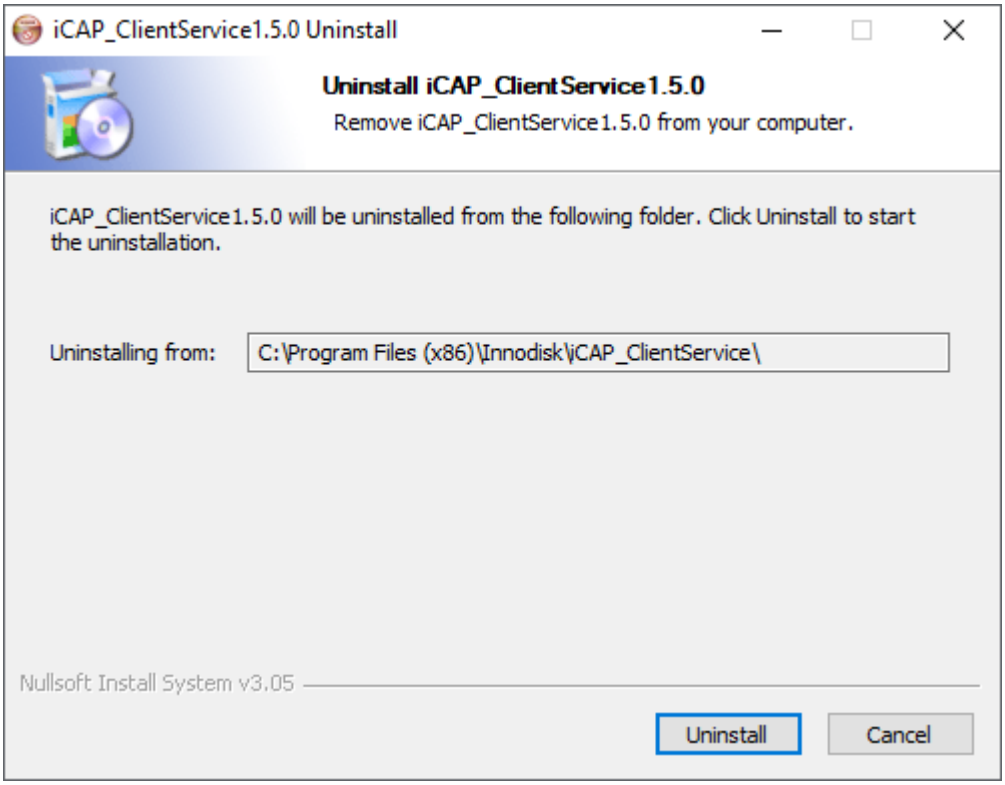


Figure 36. The uninstall description page

3. When the uninstallation complete, click the **Close** button to exit uninstall program.

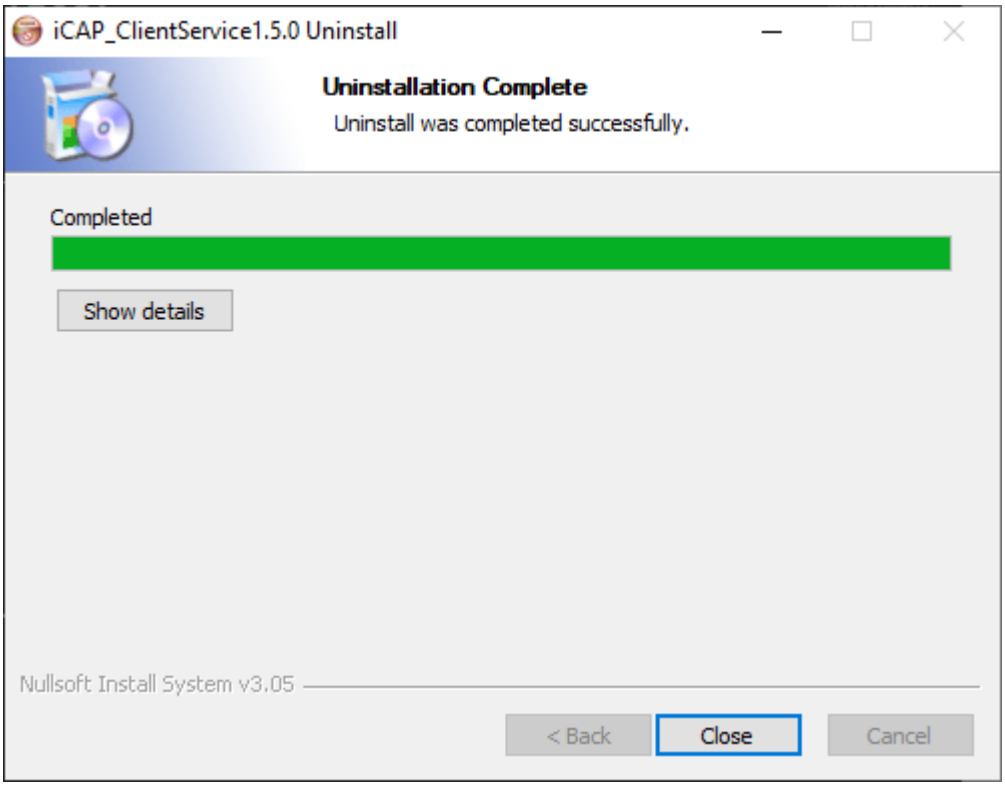


Figure 37. Uninstall progress page

4.3 Setting up iCAP Client Service

To setup the iCAP Client service, you can connect to the client protal via http://localhost:2888, or open up from the shortcuts shown as figure 38:

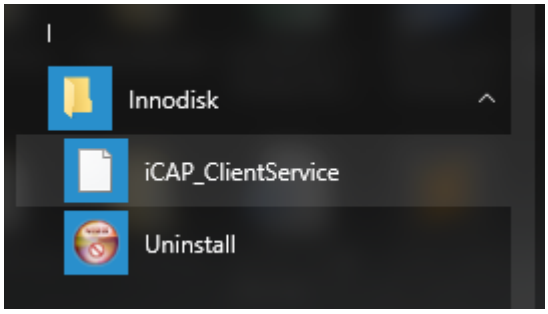


Figure 38. iCAP Client protal shortcuts

Figure 39 is shown the client portal dashboard, to describe the client service captured status of this device.

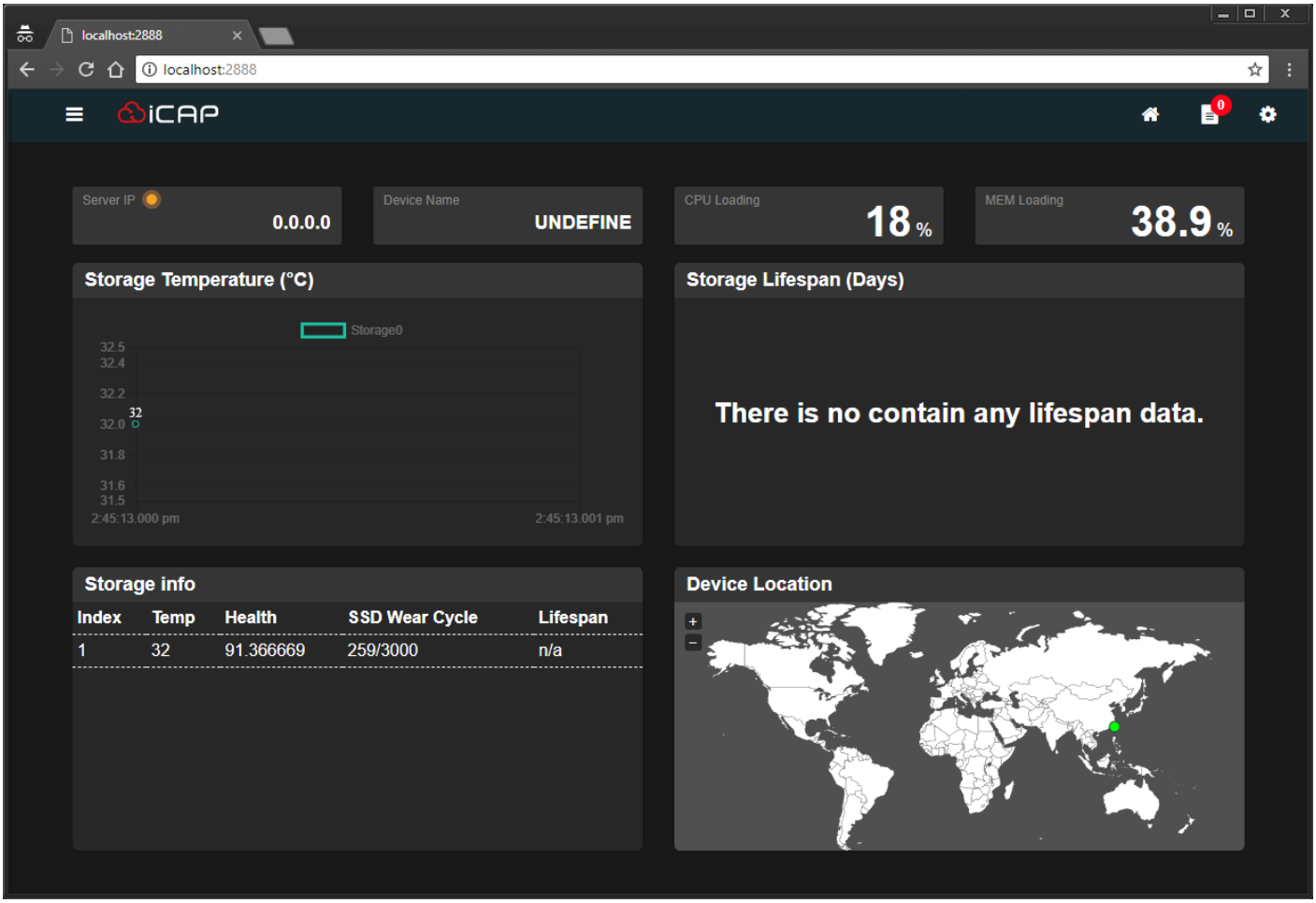


Figure 39. iCAP Client protal dashboard

In the left-top column of the dashboard shown as the server IP and connection status. The following table is shown the light color of the status definition:

Color	Description
Red	The client service is not working.
Orange	The client service is working, but connection to the iCAP Server fail.
Green	The client service is working, and connection to the iCAP Server successfully.

Table 2. The light color of the status definition

And following steps are shown how to set up the connecting server IP address:

1. Click the menu button which on the left-top of the page, and the menu will pop-out from the left side.

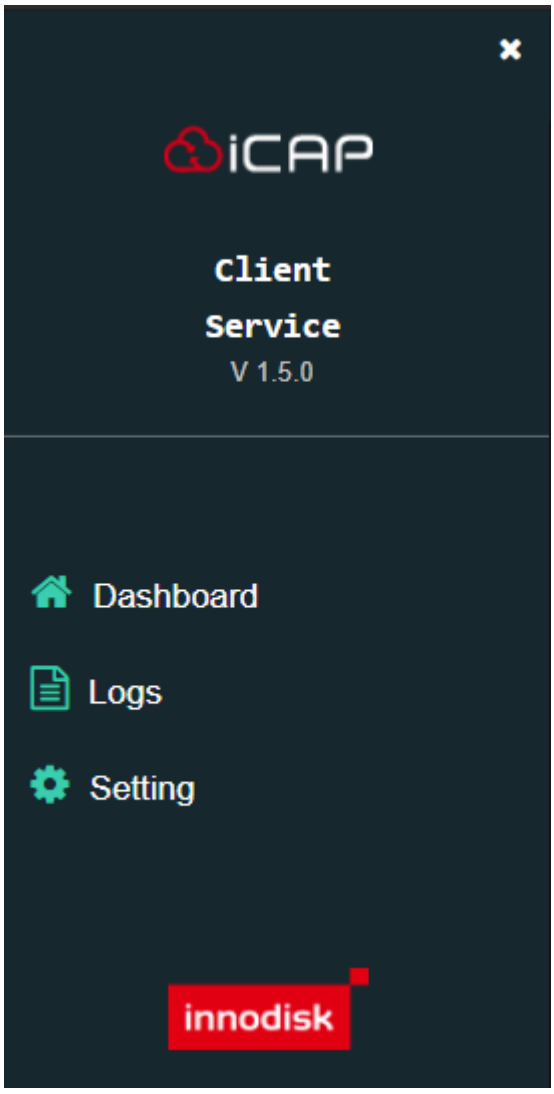


Figure 40. iCAP Client protal menu

2. Click the **Setting** button switch into the setting page, and key-in the server IP into the form.

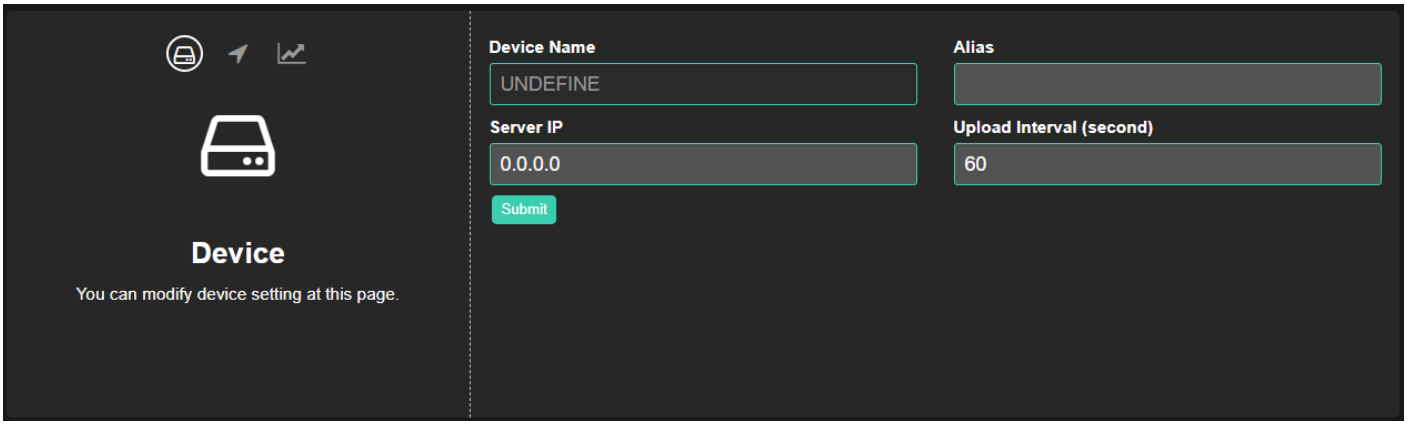


Figure 41. iCAP Client protal device setting page

3. After key-in the server IP, click the **Submit** button to write the setting into the iCAP Client service.
4. While the setting was store into the client database, the client service will reconnect with new setting parameters, while the process is done, the Figure 42 will show on the up of the submit button.

Figure 42. Setting success pop-out message

5. When the setting process was successful, you can click the top iCAP logo switch into the dashboard to check the client service connection status.

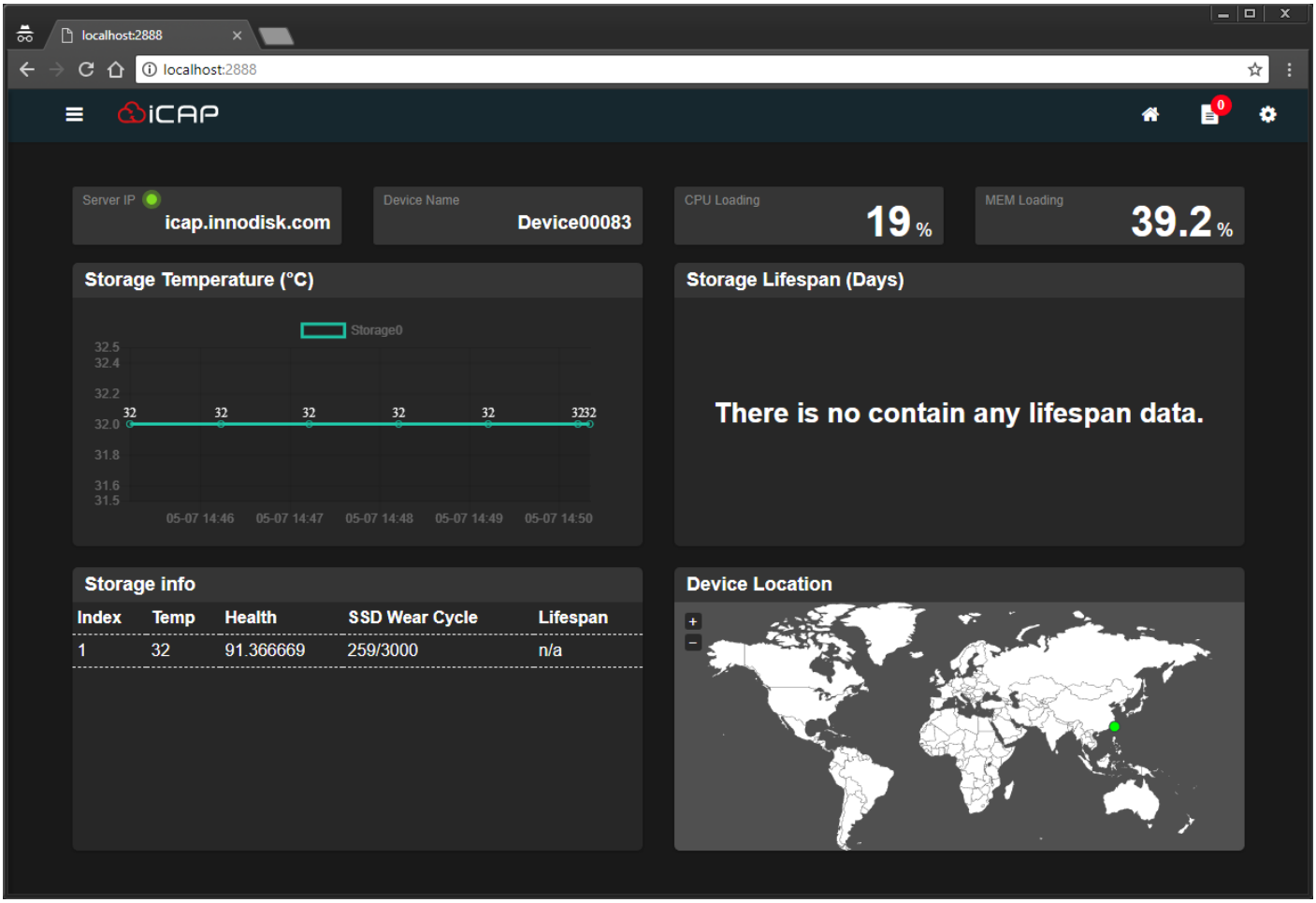


Figure 43. Setting done and connection successfully

Appendices

A. Get Server IP address

This section describe how to get the iCAP Server IP address. You can use these command to get the server network cards name:

```
$ ifconfig | grep "inet addr"
```

```
inet addr:172.30.0.1  Bcast:172.30.255.255  Mask:255.255.0.0
inet addr:172.17.0.1  Bcast:172.17.255.255  Mask:255.255.0.0
inet addr:172.16.36.80  Bcast:172.16.36.255  Mask:255.255.255.0
inet addr:127.0.0.1  Mask:255.0.0.0
```

Figure 44. ifconfig result

As shown as Figure 44, there have many IP address list on the result. Since we used the Docker internal network to the inter-container communication, the Docker internal network will used the IP address from 172.17.0.0 to 172.32.0.0, with the netmask 255.255.0.0(Class B netwrok). And the IP address 127.0.0.1 is the

localhost. That is, the IP address of the server is 172.16.36.80 from Figure 44. You can reference the brief content to find your server IP address.

For more detail of the **ifconfig** command, you can reference this site: https://linux.die.net/man/8/ifconfig.

For more information of the Docker networking, you can reference: https://docs.docker.com/engine/userguide/networking/.