

Entersoft Machine Learning

Entersoft Business Suite®

Server Deployment

Identity

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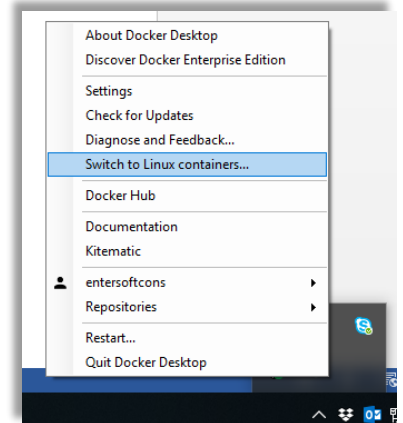
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1. Download & Install Docker Container

Visit [Docker](#) to download the program, install it using the **default parameters** and then restart the PC. By default **LINUX** container is activated. In case, you accidentally activated WINDOWS container, switch to LINUX.

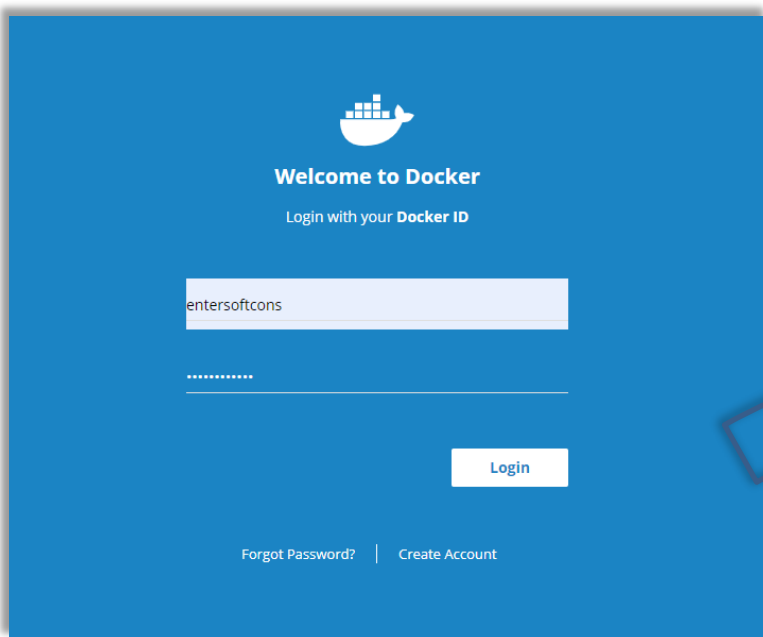
Switch container

On the status bar, right click the docker icon and select '**Switch to Linux containers**'



To proceed with downloading, use the following credentials to log in:

Docker Log In Credentials



Docker ID

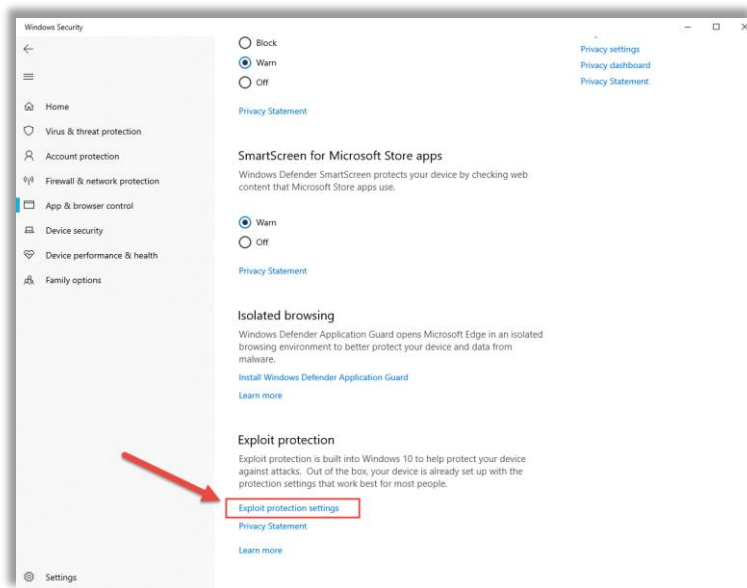
entersoftcons

Password

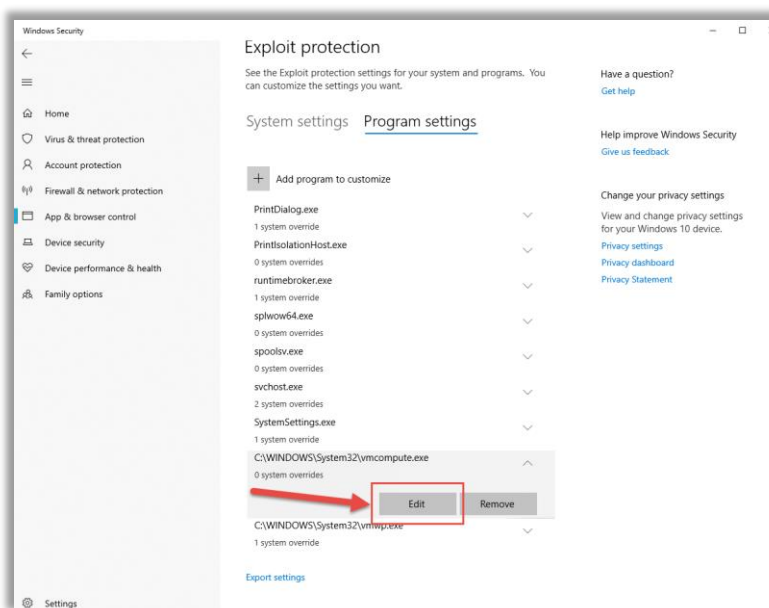
Overcome Windows 10 Version 1809 incompatibility

Unfortunately, Docker is incompatible with Windows 10 version 1809. To overcome this problem, please follow the steps below:

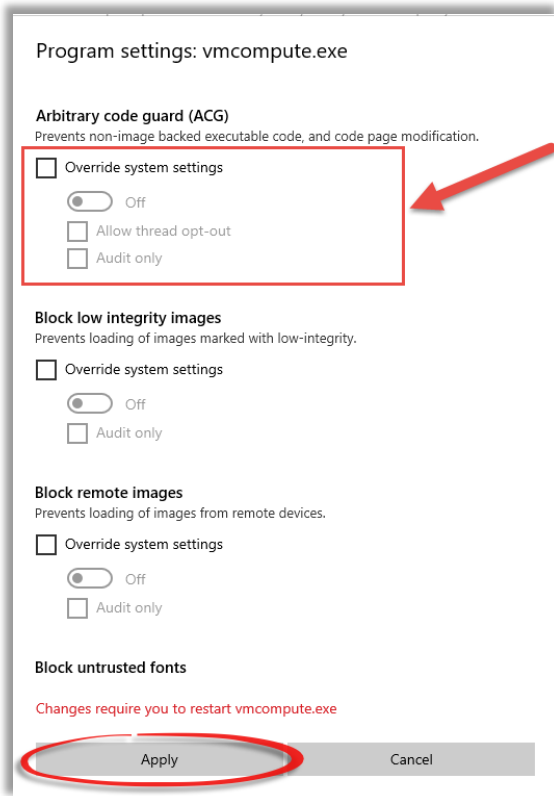
- 1) Open "Windows Security"
- 2) Open "App & browser control"
- 3) Click "Exploit protection settings" at the bottom



- 4) Switch to "Program settings" tab
- 5) Locate "C:\WINDOWS\System32\vmcompute.exe" in the list and expand it.
- 6) Click "Edit"



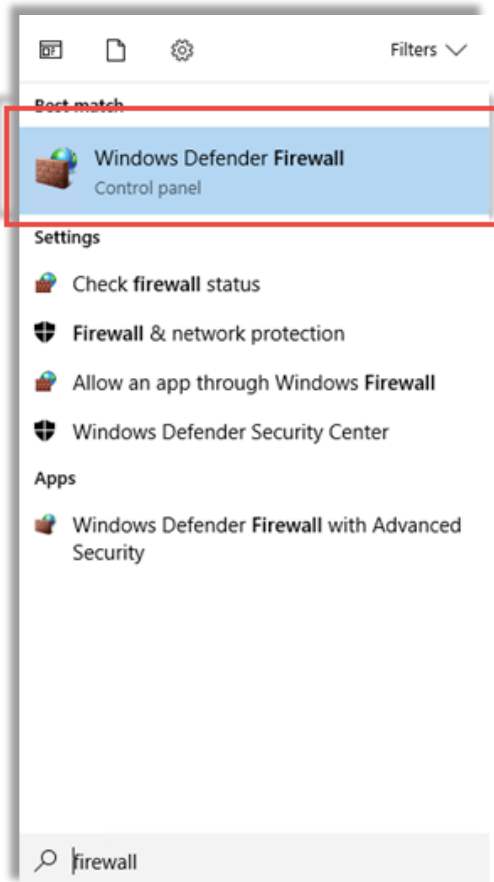
- 7) Go to "Arbitrary code guard (ACG)" and uncheck "Override system settings".
- 8) Click "Apply"



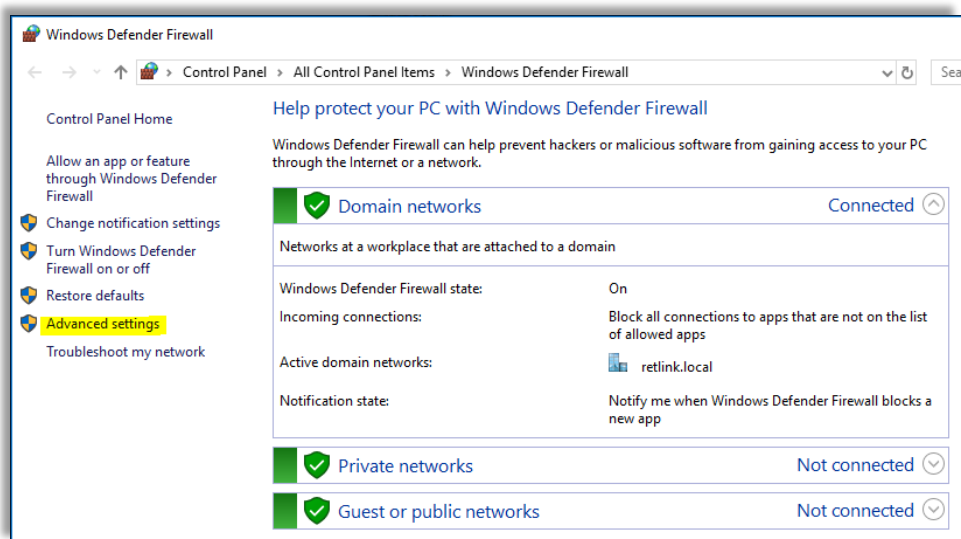
- 9) Restart PC

Overcome firewall limitations

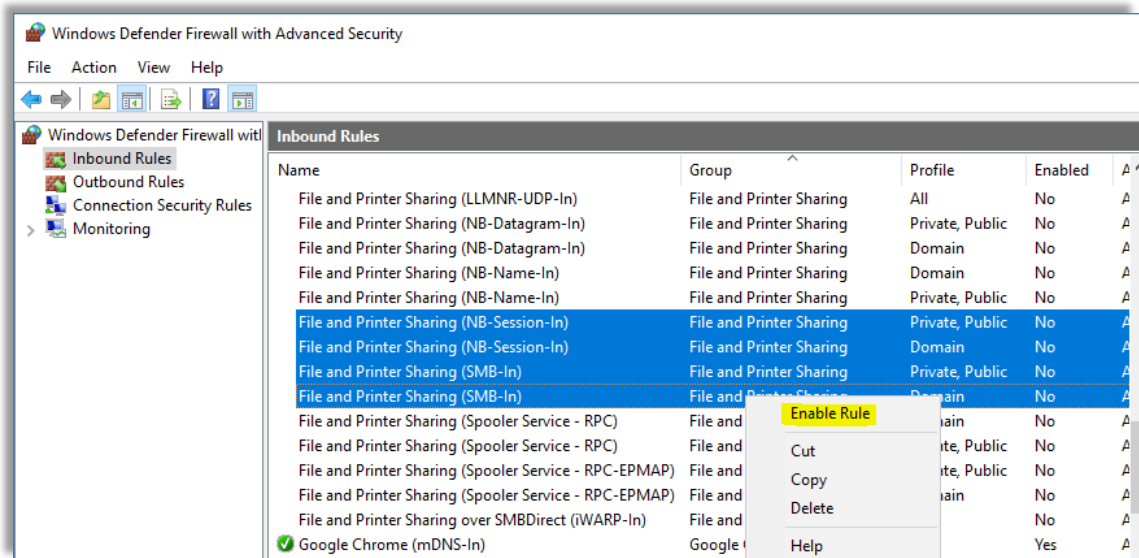
- 1) Search for 'Windows Defender Firewall'



- 2) Go to 'Advanced settings'

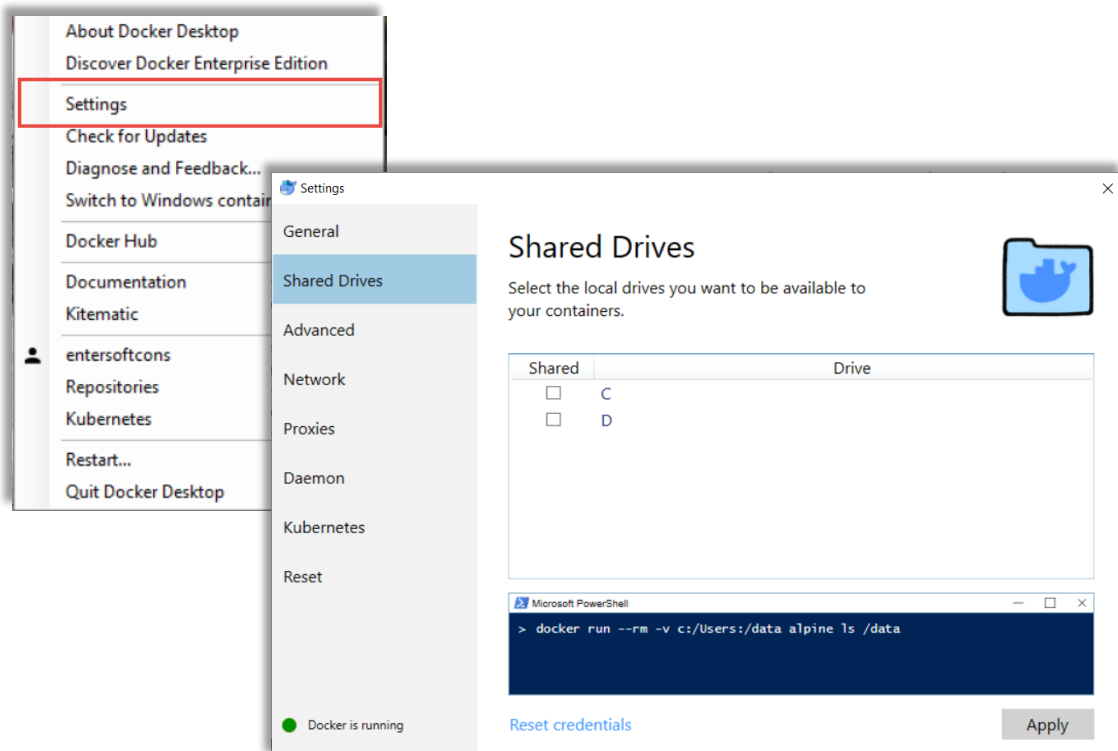


- 3) Select 'Inbound Rules' on the upper left menu. Select the 'File and Printer Sharing' rules depicted below, right-click and select enable. These rules will be enabled and the inbound traffic will be allowed through tcp-139 and tcp-445 ports of the server.



Overcome Sign-in problems when changing PC user credentials

- 1) If ES ML Server is up and running then it should be stopped (see [Stop ES ML Server](#)). Afterwards, open Docker > Settings > Shared drives, uncheck the drives and click apply.



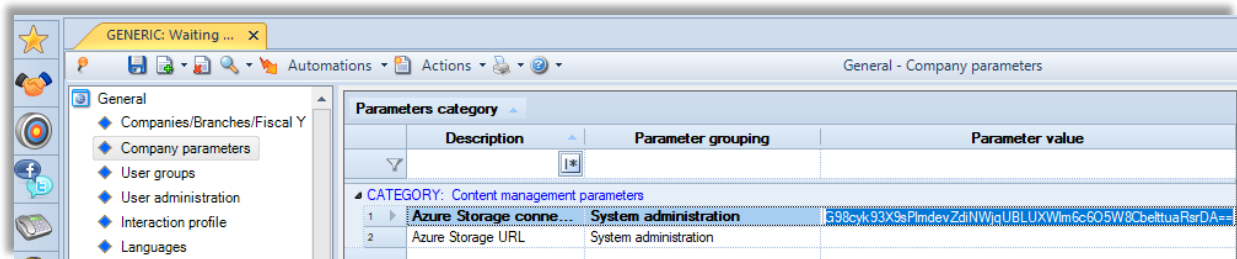
- 2) Start ES ML Server (see [Start ES ML Server](#)) and then share the drive used by ES ML Server.
- 3) Log in using your new credentials.

2. Start ES ML Server

- 1) Declare Azure Storage connection string. Log in to EBS and go to Tools and Configuration \ Customization \ General \ Company parameters \ **Category: Content management parameters – Azure Storage connection string.**

Set the following:

DefaultEndpointsProtocol=https;AccountName= *YourAzureAccountName*;AccountKey= *YourAzureAccountKey*



- 2) Create a file with two lines. The file extension must be .env
The first line will refer to the Azure storage account name and the second one to the key of this account.
- 3) Go to the directory where the file that holds the Azure storage credentials is saved.
- 4) Without selecting the file press **shift + right click** and select '**Open PowerShell window here**'

- 5) Execute command **docker login**
- 6) Insert credentials (see: [Download & Install Docker](#))
- 7) Execute command **docker pull entersoftsa/esmlserver:latest** to download latest image of ES ML Server

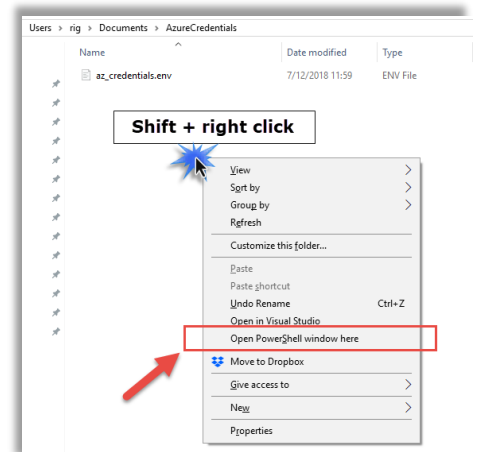
- 8)
 - a) In case of Azure storage execute the following command

docker run -d --env-file EnvFile -p PortNumber:80 --restart unless-stopped entersoftsa/esmlserver:latest

where **EnvFile** : name of the .env file (eg. az_credentials.env)

and **PortNumber** : port number (eg. 5800)

As a result the command is: **docker run -d --env-file az_credentials.env -p 5800:80 --restart unless-stopped entersoftsa/esmlserver:latest**



b) In case of on-premise File Server

- i. Create a folder in which the ML Data (csv and sav) files will be stored. This folder should include 2 subfolders named `'esmldata'` and `'esmlmodels'`.
- ii. Execute the following command

```
docker run -d -v FileServerPath:/fileserver_shared_dir -p PortNumber:80 --log-opt max-size=10m --log-opt max-file=5 --restart unless-stopped entersoftsa/esmlserver:latest
```

where **FileServerPath** = file path of source file (CSV file) (e.g. AppBin\MachineLearning\MLDataFiles)
and **PortNumber** = Port number (e.g. 5050)

In this context, the command must be written as follows:

```
docker run -d -v AppBin\MachineLearning\MLDataFiles:/fileserver_shared_dir -p 5050:80 -  
-log-opt max-size=10m --log-opt max-file=5 --restart unless-stopped  
entersoftsa/esmlserver:latest
```

9) Execute **docker logout**

3. Declare Machine Learning parameters

- 1) Log in to EBS and go to Tools and Configuration \ Customization \ General \ Company parameters \ **Category: Machine Learning - Customization**
- 2) Set the URL values of each service using your **Server IP** and the **PortNumber** you have previously defined in the 7th step while starting ES ML Server (see : [Start ES ML Server](#))

Entersoft ML Server Classification

Forecast URL: http:// **Server IP: PortNumber** /classification/forecasting

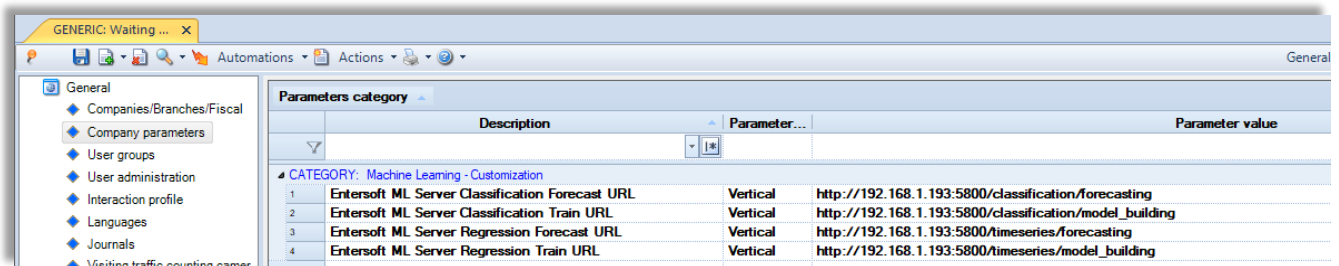
Train URL: http:// **Server IP: PortNumber** /classification/model_building

Entersoft ML Server Regression

Forecast URL: http:// **Server IP: PortNumber** /timeseries/forecasting

Train URL: http:// **Server IP: PortNumber** /timeseries/model_building

- 3) To save the related machine learning files to a server file and NOT on Azure storage, you have to set the **Entersoft ML Upload Data Mode** parameter to **File Server** and fill out the **Entersoft ML File Server Path** parameter with the file path.



Parameters category			
	Description	Parameter...	Parameter value
CATEGORY: Machine Learning - Customization			
1	Entersoft ML Server Classification Forecast URL	Vertical	http://192.168.1.193:5800/classification/forecasting
2	Entersoft ML Server Classification Train URL	Vertical	http://192.168.1.193:5800/classification/model_building
3	Entersoft ML Server Regression Forecast URL	Vertical	http://192.168.1.193:5800/timeseries/forecasting
4	Entersoft ML Server Regression Train URL	Vertical	http://192.168.1.193:5800/timeseries/model_building

4. Stop ES ML Server

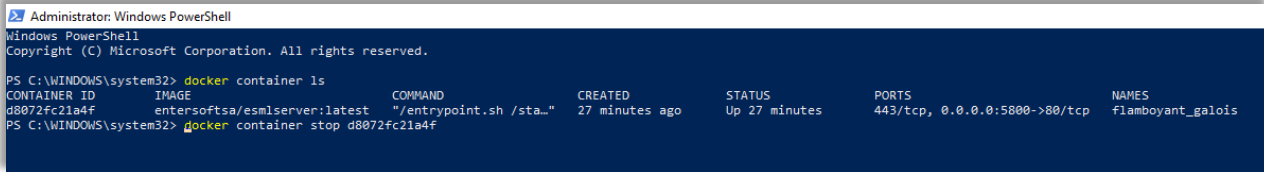
- 1) Open Command Prompt
- 2) Execute command **docker container ls**
- 3) Copy the Container ID of the ES ML Server

The ES ML Server is identified by the **entersoftsa/esmlserver:latest** image.

- 4) Execute command **docker container stop ContainerID**,

where **ContainerID** : copied container ID

eg. **docker container stop d8072fc21a4f**



```
Administrator: Windows PowerShell
Windows PowerShell
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PS C:\WINDOWS\system32> docker container ls
CONTAINER ID        IMAGE               COMMAND                  CREATED        STATUS        PORTS                    NAMES
d8072fc21a4f       entersoftsa/esmlserver:latest  "/entrypoint.sh /sta..."  27 minutes ago  Up 27 minutes  443/tcp, 0.0.0.0:5000->80/tcp  flamboyant_galois
PS C:\WINDOWS\system32> docker container stop d8072fc21a4f
```