

Tryton By Example

-
Getting started

-
Administration

Github - <https://github.com/clixwise/tryton-by-example>



















Version of presentation : [6.0](#)

Version of Tryton : 6.0

Verified for execution on : Windows 10 & Powershell 7

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- >  Party
- >  Company
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- >  Timesheet
- >  Attendance
- >  Production
- >  Project
- >  Commission
-  Dashboard
- >  Administration

Foreword

This presentation aims to expedite the process of learning the basics of the TRYTON ERP. It rests on a personal initiative. The content does not replace official TRYTON documentation in any manner.

First-time end-users who want to explore this package should benefit the most. System administration aims at running a demonstration environment without further consideration for performance, security, etc. Production-grade system setup and usage will probably differ from exposed techniques that are meant to keep the explanations as concise as possible.

The material relates to TRYTON 6.0 on Windows 10 Home. There is no warranty that the same results will or can be achieved using a different setup. In particular, the author cannot take responsibility for loss or corruption of data that would result from handling processes based on given information.

Are described an *installation procedure* as well as some *use cases* by example. There are explanatory documents as well as accompanying database samples and ancillary scripts.

The author acknowledges documentation that he had the opportunity to analyse for the purpose of creating the present material. Special credit and thanks to @ced, @pokoli, @dave, @edbo who provide support on the <https://discuss.tryton.org/> forum.

Feedback is appreciated. Please post on <https://github.com/clixwise/tryton-by-example>

Structure of material

Topics
Tryton 6.0 - Doc 00.01 - Installation & administration
Tryton 6.0 - Doc 05.01 - Basic functionality
Tryton 6.0 - Doc 10.01 - Purchase
Tryton 6.0 - Doc 15.01 - Sale
Tryton 6.0 - Doc 80.01 - Ancillaries

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- Database snapshots
- Utilities
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- Tryton 6.0 - Doc 05.01 - Basic functionality.pptx
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- Tryton 6.0 - Doc 10.01 - Purchase.pptx
- Tryton 6.0 - Doc 10.01 - Purchase.xlsx
- Tryton 6.0 - Doc 15.01 - Sale.pdf
- Tryton 6.0 - Doc 15.01 - Sale.pptx
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- Tryton 6.0 - Doc 80.01 - Ancillaries.pdf
- Tryton 6.0 - Doc 80.01 - Ancillaries.pptx

> Database snapshots

Name

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- Tryton 6.0 - Doc 05.01.tryt01-db-backup.tar
- Tryton 6.0 - Doc 10.01.tryt01-db-backup.tar
- Tryton 6.0 - Doc 15.01.tryt01-db-backup.tar

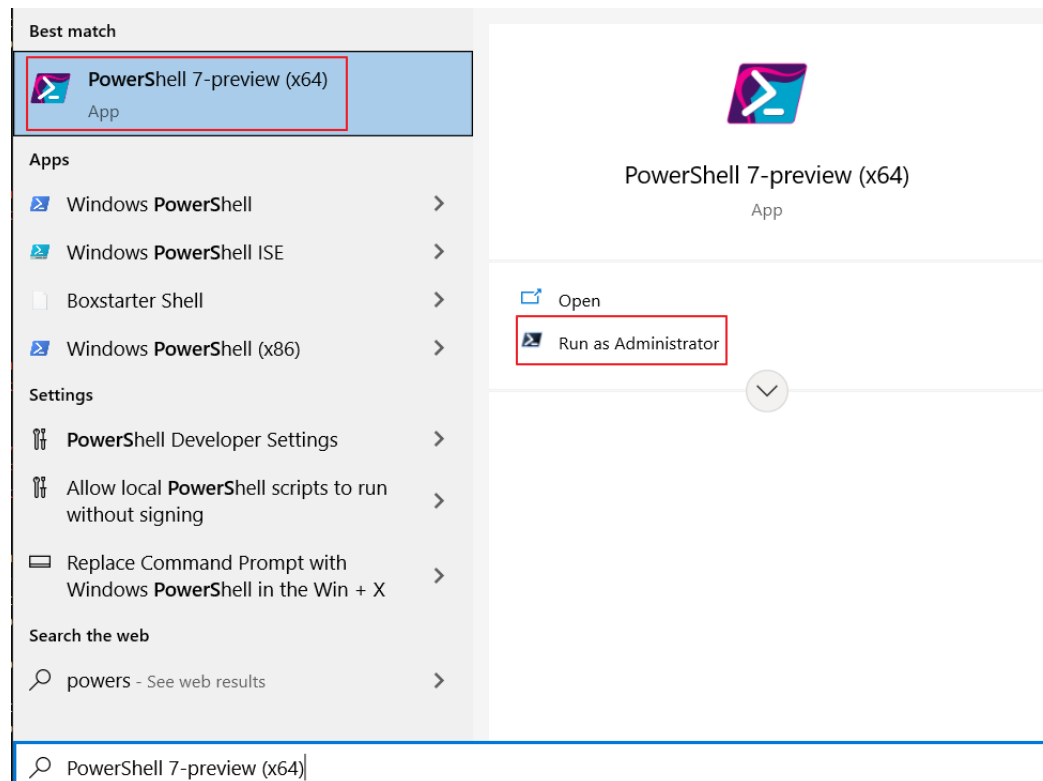
> Utilities

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- query.dbms_01.sql
- query.dbms_02.sql
- query.res_user.sql
- Tryton 6.0 - Doc 00.01 - Installation & administration.database.post01.backup.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.database.post01.restore.binary.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.database.post01.restore.character.createNot.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.database.post01.restore.character.createYes.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.database.tryt11.backup.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.database.tryt11.query.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.database.tryt11.restore.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.docker.post01.create.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.docker.post01.delete.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.docker.post01.start.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.docker.post01.status.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.docker.post01.stop.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.docker.status.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.create.permanent.docker.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.create.permanent.windows.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.create.volatile.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.delete.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.start.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.status.ps1
- Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.stop.ps1
- Tryton 6.0 - Doc 05.01 - Basic functionality.import.tryt11.countries.ps1
- Tryton 6.0 - Doc 05.01 - Basic functionality.import.tryt11.currencies.ps1

Scripts

- Powershell scripts « *.ps1 » are provided in the folder « Utilities » to support routine operations
- Powershell can be accessed as shown below
- Each script needs some tuning e.g. with respect to the database name, etc.
- Powershell scripts are executed as follows :
 - In their folder e.g. : ./"Tryton 6.0 - Doc 01.01 - Installation & administration.docker.status"
 - In File Explorer : « Run with Powershell »



Database snapshots

We have taken a snapshot at the end of each presentation section (Basic Functionality, Purchase, etc.)

File name	
Tryton 6.0 - Doc 00.01.tryt01-db-backup.tar	Database state at end of « 00.01 »
Tryton 6.0 - Doc 05.01.tryt01-db-backup.tar	Database state at end of « 05.01 »
Tryton 6.0 - Doc 10.01.tryt01-db-backup.tar	Database state at end of « 10.01 »
Tryton 6.0 - Doc 15.01.tryt01-db-backup.tar	Database state at end of « 15.01 »

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- Consider other sections if unfamiliar with Docker or Postgres

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SUMMARY

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References

Links of interest



Docker Installation

Installation

Context

Windows 10 & Powershell 7

Remark

We do not use WSL2

Download

See <https://docs.docker.com/get-docker/>

Control

Run « docker run hello-world »

```
Windows PowerShell
PS C:\tryt.01\tuto.01> docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
b8dfde127a29: Pull complete
Digest: sha256:89b647c604b2a436fc3aa56ab1ec515c26b085ac0c15b0d105bc475be15738fb
Status: Downloaded newer image for hello-world:latest

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/

PS C:\tryt.01\tuto.01> docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED              STATUS              PORTS              NAMES
9a8c09f14dec   hello-world    "/hello"                About a minute ago   Exited (0) About a minute ago              festive_villani
PS C:\tryt.01\tuto.01> docker stop festive_villani
festive_villani
PS C:\tryt.01\tuto.01> docker rm festive_villani
festive_villani
PS C:\tryt.01\tuto.01> docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED              STATUS              PORTS              NAMES
PS C:\tryt.01\tuto.01>
```

Motivation

- The aim for this presentation is to explore the

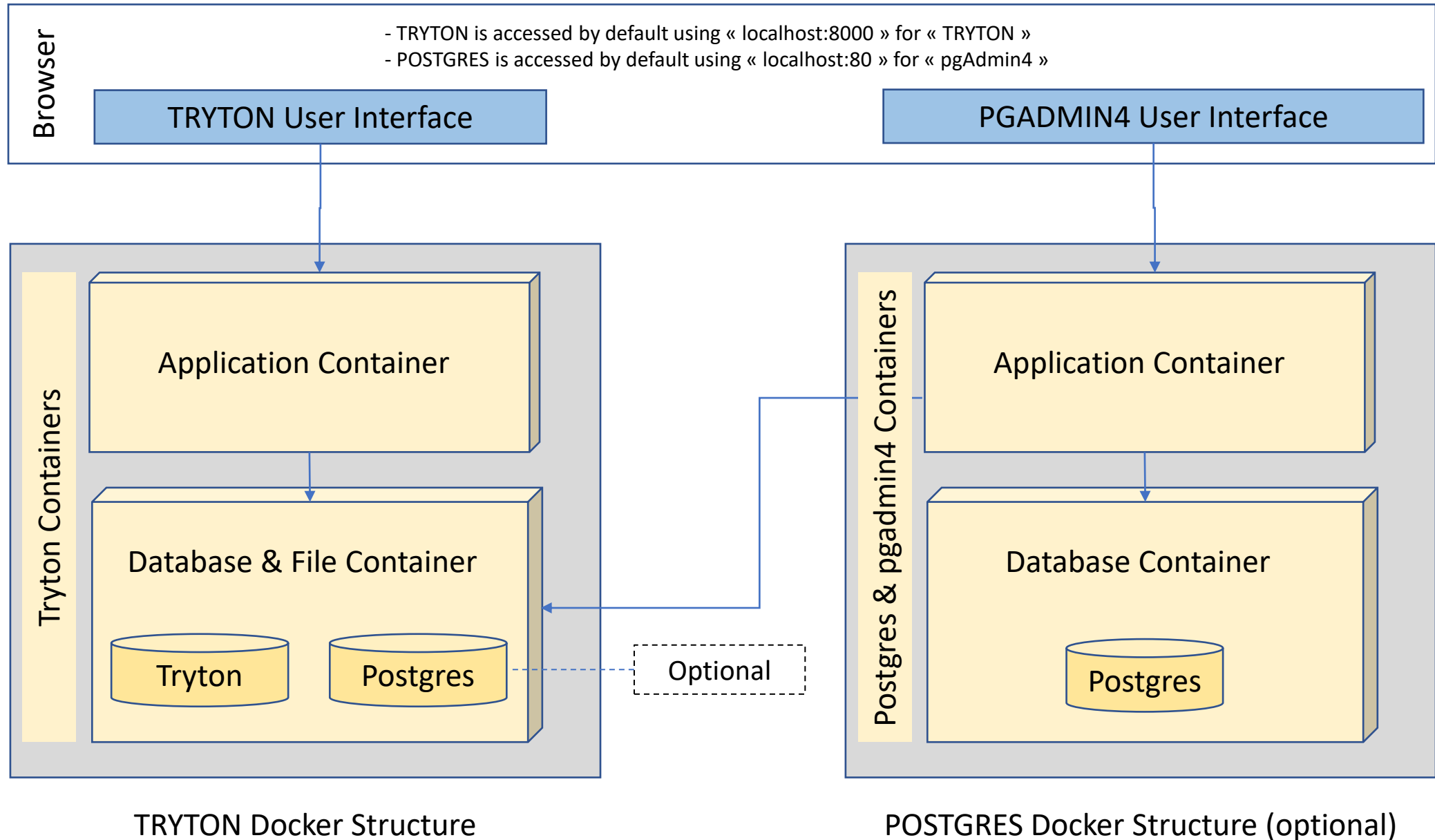
Container Installation

Motivation

We install two series of Docker containers :

- Series 1 is about the TRYTON ERP system : its server application, its database and file systems
- Series 2 is about managing POSTGRES databases and interfacing them using « pgAdmin4 »
- Series 1 is compulsory since it helps you practice the TYTON system
- Series 2 is optional as it only helps understanding how TRYTON uses the underlying database

Structure



Docker Image

- Docker Containers are installed from Docker Images
- Docker Images are « pulled » from a Docker Hub
- This presentation pertains to TRYTON 6.0
- So make sure to « pull » the correct image version by using : « docker pull tryton/tryton:6.0 »
- If you do « docker pull tryton/tryton », you pull the « latest » image version (tag)
- Verify using « docker image ls »

```
PS C:\Users\mrmar\docker.tryton.6.0> docker pull tryton/tryton:6.0
6.0: Pulling from tryton/tryton
f7ec5a41d630: Already exists
3e9c95f22a30: Pull complete
0dde2e82bead: Pull complete
af51f3e524f6: Pull complete
92e498c64da8: Pull complete
87d10cda06b2: Pull complete
4ccc30c1867a: Pull complete
22ae100fbf9d: Pull complete
Digest: sha256:be7c3815facfd538bc929085148adf39fb04b4894a1c0b57e73c4
Status: Downloaded newer image for tryton/tryton:6.0
docker.io/tryton/tryton:6.0
```

```
PS C:\Users\mrmar\docker.tryton.6.0> docker image ls
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
tryton/tryton	6.0	9e17644cc375	4 days ago	448MB
my-nginx	latest	8a875bd3beb1	6 days ago	22.6MB
dpage/pgadmin4	latest	048c641d6e64	2 weeks ago	244MB
tryton/tryton	latest	77f3902ebc4c	3 weeks ago	460MB

Commands

<https://docs.docker.com/reference/>

Check installation	
<code>docker run hello-world</code>	Check installation is operational
Container commands	
<code>docker ps -a</code>	List containers
<code>docker stop a_container_name</code>	Stop a container
<code>docker start a_container_name</code>	Start a container
<code>docker rm a_container_name</code>	Remove a stopped container
<code>docker logs a_container_name</code>	Output the logs produced by the container
<code>docker container prune</code>	Remove stopped containers

```
PS C:\Users\mrmar> docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
8fa35e9a01ee   dpage/pgadmin4 "/entrypoint.sh"        9 days ago    Up 3 days    0.0.0.0:80->80/tcp, 443/tcp         dev-pgadmin
802400de87ff   postgres      "docker-entrypoint.s..." 9 days ago    Up 3 days    0.0.0.0:5432->5432/tcp             dev-postgres
09de820c6944   tryton/tryton  "/entrypoint.sh uwsg..." 12 days ago    Up 3 days    127.0.0.1:8000->8000/tcp           tryton
d0b1b1578223   postgres      "docker-entrypoint.s..." 12 days ago    Up 3 days    0.0.0.0:5433->5432/tcp             tryton-postgres
```


Commands

Volume commands	
<code>docker volume create a_volume_name</code>	Create a volume
<code>docker volume ls</code>	List the volumes
<code>docker volume rm a_volume_name</code>	Remove a volume
<code>docker volume prune</code>	Remove all unreferenced volumes. « Unreferenced » = not referenced by container
<code>docker volume rm</code>	Remove all unused volumes. « Unused » = not used by container
<code>docker volume inspect a_volume_name</code>	Inspect a volume

Volume commands	
<code>docker network create a_network_name</code>	Create a network
<code>docker network ls</code>	List the networks
<code>docker network rm a_network_name</code>	Remove a network
<code>docker network prune</code>	Remove all unreferenced networks. « Unreferenced » = not referenced by container
<code>docker network rm</code>	Remove all unused networks. « Unused » = not used by container
<code>docker network inspect a_network_name</code>	Inspect a network

Commands

Other commands	
docker system prune	Remove all unused containers, networks, images (both dangling and unreferenced), and optionally, volumes.

```
PS C:\Users\mrmar> docker volume ls
DRIVER      VOLUME NAME
local       9d31bdf883f8072214686e8fdb261a
local       893c5a68307141a60653bbacf5ede7
local       9518b6e333b5dbbbb4321327b70047
local       tryton-data
local       tryton-database
```

```
PS C:\Users\mrmar> docker network ls
NETWORK ID    NAME        DRIVER    SCOPE
33778f0cf5fa  bridge     bridge    local
ceeb96fab0b4  host       host      local
b52953b3bf65  none       null      local
af20b36cba67  tryton     bridge    local
```

Docker Containers and their Host Environment

Installing TRYTON ERP Containers

The TRYTON « Database & File Container » can be installed in one of two ways with respect to database and files permanence :

- In a « permanent » setup. It means that the database and any « attachment » files are maintained in the host environment i.e. in the Windows file system and not in the container itself. They will thus remain available when the corresponding Docker container is removed, accidentally or not.
- In a « semi-permanent » setup. It means that, if we delete the Docker container, the TRYTON database will disappear together with any « attachment » files storing information alongside the database.

Installing POSTGRES Containers

The same remark applies with respect to whether the database is stored in the container or in a mounted volume.

Convention about password names

Everywhere a password is needed we give it the value « Password »

Tryton - « Permanent » Data

Principle

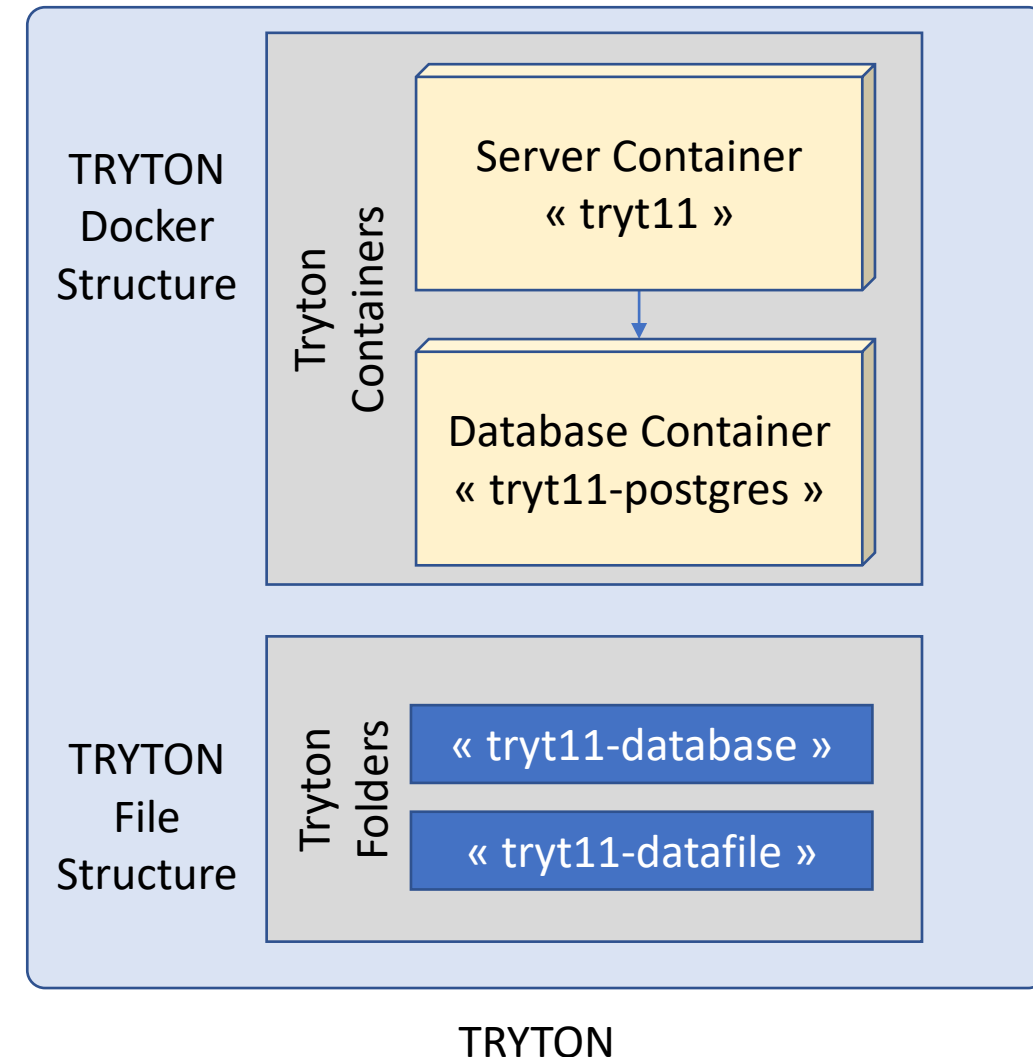
Install :

1. A container « **tryt11-postgres** » from docker image « postgres » ;
« **-p 5434:** » can be changed (default : 5432)
2. A container « **tryt11** » from docker image « tryton/tryton » ;
« **-p 8001:** » can be changed (default : 8000)
3. Two volumes : « **tryt11-database** » & « **tryt11-datafile** »
4. One network : « **tryt11-network** »

A nameless container is used to initialize the TRYTON database.

The location where the volumes for the TRYTON database and the TRYTON files (binary attachments) are stored :

- Subfolder « **tryt11-database** » with respect to the directory (Get-Location) where the Powershell script executes
- Subfolder « **tryt11-datafile** » with respect to the directory (Get-Location) where the Powershell script executes



Refer to :

<https://stackoverflow.com/questions/18496940/how-to-deal-with-persistent-storage-e-g-databases-in-docker>
<https://docs.docker.com/storage/volumes/>

Scripts

Docker Powershell Commands - Run as ./"..."	
Tryton 6.0 - Doc 00.01 - Installation & administration.docker.status	Query status
Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.create.permanent.docker (*)	Create « tryt11 » containers Permanent data when containers removed Permanent data inside docker volume (faster)
Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.create.permanent.windows (*)	Create « tryt11 » containers Permanent data when containers removed Permanent data inside windows volume (slower)
Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.create.volatile	Create « tryt11 » containers Volatile data when containers removed
Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.start	Start « tryt11 » containers
Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.stop	Stop « tryt11 » containers
Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.status	Query status of « tryt11 » containers
Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.delete	Delete « tryt11 » containers

« Docker » database and file permanency is recommended for two reasons :

- Database handling by the application system is faster when stored on a Docker volume
- Accessing files on a Windows volume from inside a Docker container requires a cross-environment user authorisation setup

./"Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.create.permanent.docker"

```
docker pull tryton/tryton:6.0
```

```
docker network create tryt11-network
```

```
docker volume create tryt11-database
```

```
docker volume create tryt11-datafile
```

```
$POSTGRES_PASSWORD="Password"
```

tryt11 database container

```
docker run --name tryt11-postgres --env PGDATA=/var/lib/postgresql/data/pgdata --env POSTGRES_DB=tryt11 --env  
POSTGRES_PASSWORD=${POSTGRES_PASSWORD} --mount source=tryt11-database,target=/var/lib/postgresql/data --network tryt11-network  
-p 5443:5432 --detach postgres  
Start-Sleep -Seconds 30 # Replace by detecting database is 'up'  
# docker exec -tiu postgres tryt11-postgres psql -c '\|+'
```

tryt11 transient container to initialize the tryt11 database in its container

```
docker run --env DB_HOSTNAME=tryt11-postgres --env DB_PASSWORD=${POSTGRES_PASSWORD} --network tryt11-network --interactive --tty  
--rm tryton/tryton trytond-admin -d tryt11 --all
```

tryt11 server containers : tryt11 & optionally tryt11-cron for scheduled actions

```
docker run --name tryt11 --env DB_HOSTNAME=tryt11-postgres --env DB_PASSWORD=${POSTGRES_PASSWORD} --mount source=tryt11-  
datafile,target=/var/lib/trytond/db --network tryt11-network -p 8011:8000 --detach tryton/tryton
```

Refer to :

[<https://discuss.tryton.org/t/how-to-run-tryton-using-docker/3200>] with special credits to David Harper

./"Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.create.permanent.windows"

docker pull tryton/tryton:6.0

docker network create **tryt11-network**

\$POSTGRES_PASSWORD="Password"

Tryton database container – Create

\$TRYTON_VOL_DB = (Get-Location).tostring().replace("\", "/").replace("C:/", "c//") + "/" + "tryt11-database"

docker volume create **tryt11-database** - for future use

docker run --name **tryt11-postgres** --env PGDATA=/var/lib/postgresql/data/pgdata --env POSTGRES_DB=**tryt11** --env

POSTGRES_PASSWORD=\${POSTGRES_PASSWORD} --volume \${TRYTON_VOL_DB}:/var/lib/postgresql/data --network **tryt11-network** -p **5443**:5432

--detach postgres

Start-Sleep -Seconds 20 # required to wait for postgres to properly connect

docker exec -tiu postgres **tryt11-postgres** psql -c '\+

dir

Tryton transient container to initialize the tryton database in its container

docker run --env DB_HOSTNAME=**tryt11-postgres** --env DB_PASSWORD=\${POSTGRES_PASSWORD} --network **tryt11-network** --interactive --tty --

rm tryton/tryton:6.0 trytond-admin -d **tryt11** --all

docker exec -tiu postgres **tryt11-postgres** psql -c '\+

Tryton server container

\$TRYTON_VOL_FI = (Get-Location).tostring().replace("\", "/").replace("C:/", "c//") + "/" + "tryt11-datafile"

docker volume create **tryt11-datafile** - for future use

docker run --name **tryt11** --env DB_HOSTNAME=**tryt11-postgres** --env DB_PASSWORD=\${POSTGRES_PASSWORD} --volume

\${TRYTON_VOL_FI}:/var/lib/tryton/db --network **tryt11-network** --publish **127.0.0.1:8011**:8000 --detach tryton/tryton:6.0

dir

Obtain Gateway address for usage in pgadmin4 - creating server

docker inspect **tryt11-postgres** -f "{{json .NetworkSettings.Networks }}" # "Gateway":"172.18.0.1","IPAddress":"172.18.0.2"

Tryton - « Volatile » Data

./"Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.create.volatile"

Obtain version 6.0 of Tryton

docker pull tryton/tryton:6.0

Tryton database container + database initialization volatile container

docker run --name **tryt11-postgres** -e POSTGRES_PASSWORD=**Password** -e POSTGRES_DB=**tryt11 -p 5443:5432** -d postgres # Start a PostgreSQL instance

docker run --link **tryt11-postgres**:postgres -e DB_PASSWORD=**Password** -it tryton/tryton:6.0 trytond-admin -d **tryt11** --all # Define database tables

Tryton server containers : tryton & optionally tryton-cron for scheduled actions

docker run --name **tryt11 -p 8011:8000** --link **tryt11-postgres**:postgres -e DB_PASSWORD=**Password** -d tryton/tryton:6.0 # Start a Tryton instance

docker run --name **tryt11-cron** --link **tryt11-postgres**:postgres -e DB_PASSWORD=**Password** -d tryton/tryton:6.0 **trytond-cron** -d **tryt11** # Start a cron instance

Obtain Gateway address for usage in pgadmin4 - creating server

docker inspect **tryt11-postgres** -f "{{json .NetworkSettings.Networks }}" # "Gateway":"172.18.0.1","IPAddress":"172.18.0.2"

In blue, container and database variable names that can be chosen

In red, connection points whose external « p:xyz » can be adapted

Note about « docker inspect tryt11-postgres » :

the « Gateway":"172.17.0.1" or the "IPAddress":"172.17.0.2" will be used in « pgAdmin4 » to set up the server

Note about « pgAdmin4 » login (see later) values defined in the script :

- User : « x@gmail.com

- Password : « Password »

```

PS C:\Users\mrmar\docker.tryton.6.0> docker pull tryton/tryton:6.0
6.0: Pulling from tryton/tryton
Digest: sha256:be7c3815facfd538bc929085148adf39fb04b4894a1c0b57e73c4f5dc5dab6ea
Status: Image is up to date for tryton/tryton:6.0
docker.io/tryton/tryton:6.0
PS C:\Users\mrmar\docker.tryton.6.0> docker run --name tryt11-postgres -e POSTGRES_PASSWORD=Password -e POSTGRES_DB=tryt11 -p 5443:5432 -d postgres
30eedf401b967fe9316369df1ad8ba34e17aa9ada8cb08013e1a392ac3b3def2
PS C:\Users\mrmar\docker.tryton.6.0> docker run --link tryt11-postgres:postgres -e DB_PASSWORD=Password --rm -it tryton/tryton:6.0 trytond-admin -d try
"admin" email for "tryt11": x@g.c
"admin" password for "tryt11":
"admin" password confirmation:
PS C:\Users\mrmar\docker.tryton.6.0> docker run --name tryt11 -p 8011:8000 --link tryt11-postgres:postgres -e DB_PASSWORD=Password -d tryton/tryton:6.0
4129f9e3cba8e0ee0b4ae98bb1bcd17feb657943fa30ab71f3bb39067b25f36a
PS C:\Users\mrmar\docker.tryton.6.0> docker inspect tryt11-postgres -f "{{json .NetworkSettings.Networks }}"
{"bridge":{"IPAMConfig":null,"Links":null,"Aliases":null,"NetworkID":"e687284abe301936a529d5be904e98128e93b1461cd8b2e6c956e6cba40d25f6","EndpointID":"5
9bd","Gateway":"172.17.0.1","IPAddress":"172.17.0.2","IPPrefixLen":16,"IPv6Gateway":"","GlobalIPv6Address":"","GlobalIPv6PrefixLen":0,"MacAddress":"02:
PS C:\Users\mrmar\docker.tryton.6.0> docker exec -tiu postgres tryt11-postgres psql -c '\l+'

```

List of databases

Name	Owner	Encoding	Collate	Ctype	Access privileges	Size	Tablespace	Description
postgres	postgres	UTF8	en_US.utf8	en_US.utf8		7877 kB	pg_default	default administrative connection database
template0	postgres	UTF8	en_US.utf8	en_US.utf8	=c/postgres	7729 kB	pg_default	unmodifiable empty database
template1	postgres	UTF8	en_US.utf8	en_US.utf8	postgres=CTc/postgres	7729 kB	pg_default	default template for new databases
tryt11	postgres	UTF8	en_US.utf8	en_US.utf8	postgres=CTc/postgres	14 MB	pg_default	

(4 rows)

```

PS C:\Users\mrmar\docker.tryton.6.0> docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
4129f9e3cba8   tryton/tryton:6.0  "/entrypoint.sh uwsg..." 44 seconds ago Up 42 seconds 0.0.0.0:8011->8000/tcp          tryt11
30eedf401b96   postgres       "docker-entrypoint.s..." 2 minutes ago  Up 2 minutes  0.0.0.0:5443->5432/tcp          tryt11-postgres

```

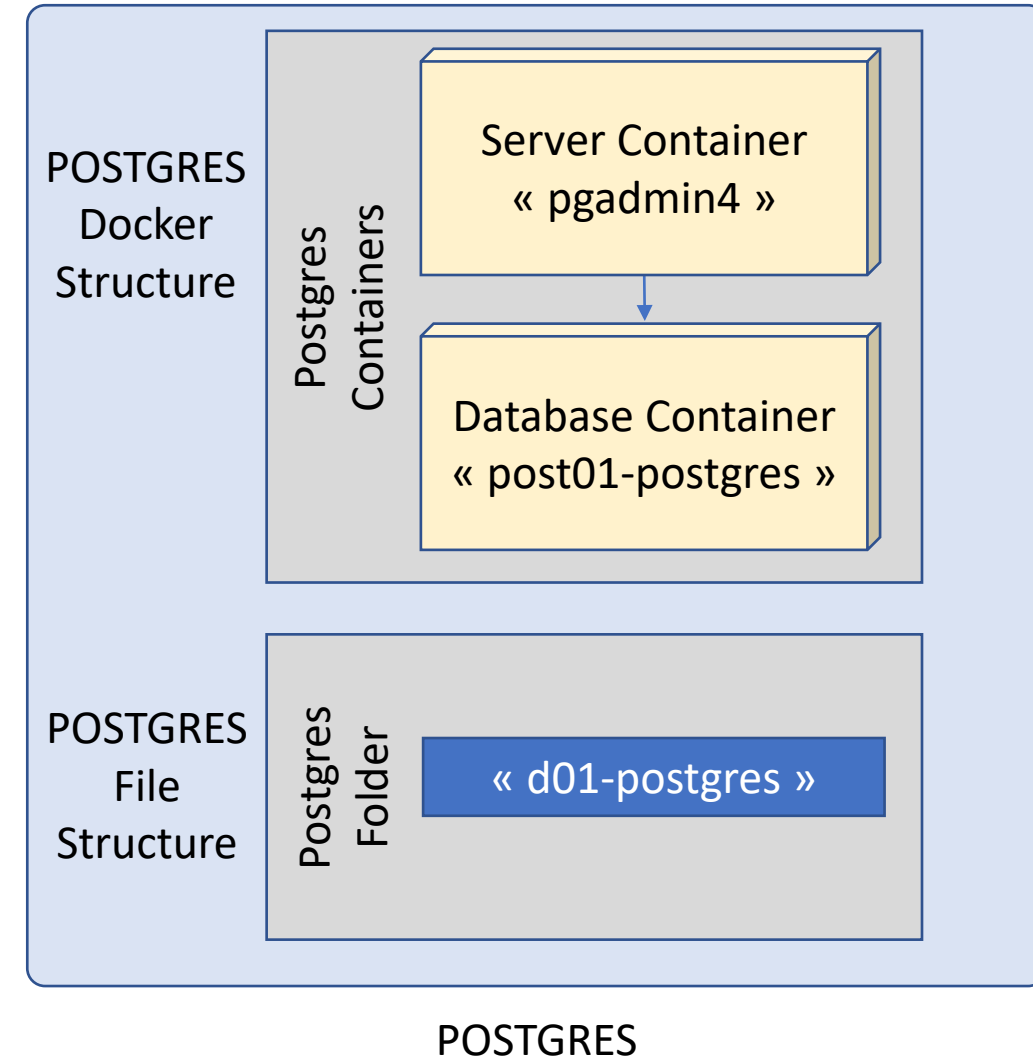
Postgres - « Permanent » Data

Principle

Install :

1. A container « **post01-postgres** » from docker image « postgres » ;
« **-p 5433:** » can be changed (default : 5432)
2. A container « **post01-pgadmin** » from docker image « dpage/pgadmin4 » ;
« **-p 81:** » can be changed (default : 80)

The POSTGRES database is stored in subfolder « **post01-postgres** » with respect to the directory \${HOME} == USER



See : [https://dev.to/shree_j/how-to-install-and-run-psql-using-docker-41j2]

Scripts

Database Powershell Command - Run as ./"..."	
Tryton 6.0 - Doc 00.01 - Installation & administration.docker.post01.create	Create Postgres & Pgadmin Containers
Tryton 6.0 - Doc 00.01 - Installation & administration.docker.post01.delete	Delete Postgres & Pgadmin Containers & Database
Tryton 6.0 - Doc 00.01 - Installation & administration.docker.post01.start	Start Postgres & Pgadmin Containers
Tryton 6.0 - Doc 00.01 - Installation & administration.docker.post01.stop	Stop Postgres & Pgadmin Containers
Tryton 6.0 - Doc 00.01 - Installation & administration.docker.post01.status	Query status of Postgres & Pgadmin Containers

./"Tryton 6.0 - Doc 00.01 - Installation & administration.docker.post01.create"

Install :

- A container « **post01-postgres** » from image « postgres » ; « **-p 5433:** » can be changed
- A container « **post01-pgadmin** » from image « dpage/pgadmin4 » ; « **-p 81:** » can be changed

```
# postgres
docker pull postgres
docker run -d --name post01-postgres -e POSTGRES_PASSWORD=Password -v ${HOME}/postgres-data/:/var/lib/postgresql/data -p 5433:5432 postgres
# pgadmin4
docker pull dpage/pgadmin4
docker run -p 81:80 -e 'PGADMIN_DEFAULT_EMAIL=x@gmail.com' -e 'PGADMIN_DEFAULT_PASSWORD=Password' --name post01-pgadmin -d dpage/pgadmin4
# inspection
docker exec post01-postgres ls /var/lib/postgresql/data
docker exec -tiu postgres post01-postgres psql -c '\l+'
docker inspect post01-postgres -f "{{json .NetworkSettings.Networks }}"
docker inspect -f "{{range .NetworkSettings.Networks}}{{.IPAddress}}{{end}}" post01-postgres
docker inspect -f '{{.Name}} - {{.NetworkSettings.IPAddress }}' $(docker ps -aq)
```

Note about « docker inspect post01-postgres » :

the « Gateway":"172.17.0.1" or the "IPAddress":"172.17.0.2" (e.g.) will be used in « pgAdmin4 » to set up the server

Note about « pgAdmin4 » login (see later) values defined in the script :

- User : « x@gmail.com
- Password : « Password »

./"Tryton 6.0 - Doc 00.01 - Installation & administration.docker.post01.create"

```
PS C:\Users\mrmar\docker.tryton.6.0> ./"Tryton 6.0 - Doc 00.01 - Installation & administration.docker.post01.create"
-----
1. Create Postgres Container 'post01-postgres'
-----
Using default tag: latest
latest: Pulling from library/postgres
Digest: sha256:61d5d8ef6cb4e2035f053f26b6b455c201a809354084cc8426b6904b8dd35602
Status: Image is up to date for postgres:latest
docker.io/library/postgres:latest
23da037c8b30f17d721269cc35c46efef66c4af7c630a3afc204cad09b09c9e5
-----
2. Create Postgres Container 'post01-pgadmin'
-----
Using default tag: latest
latest: Pulling from dpape/pgadmin4
Digest: sha256:38617bc122e547dcfe3adaba52143f583343928b3700ada6feb9dcf6d13e0ca6
Status: Image is up to date for dpape/pgadmin4:latest
docker.io/dpape/pgadmin4:latest
bbc2e9704bc1bd69e7fb2f9dce2e74fab5fd3e696d29051ca28e4a9988b5ebc
-----
3. Inspect
-----
```

Name	Owner	Encoding	Collate	Ctype	Access privileges	Size	Tablespace	Description
postgres	postgres	UTF8	en_US.utf8	en_US.utf8		7877 kB	pg_default	default administrative con
template0	postgres	UTF8	en_US.utf8	en_US.utf8	=c/postgres	7729 kB	pg_default	unmodifiable empty database
template1	postgres	UTF8	en_US.utf8	en_US.utf8	=c/postgres	7729 kB	pg_default	default template for new da
					postgres=Ctc/postgres			
(3 rows)								

```
{"bridge":{"IPAMConfig":null,"Links":null,"Aliases":null,"NetworkID":"e687284abe301936a529d5be904e98128e93b1461cd8b2e6c956e6cba40d25f6",
432","Gateway":"172.17.0.1","IPAddress":"172.17.0.4","IPPrefixLen":16,"IPv6Gateway":"","GlobalIPv6Address":"","GlobalIPv6PrefixLen":0,"
```


Postgres in Host

The « post01-postgres » directory is created under my user name home directory and not inside a docker container.

📁 > Marc Rottiers > post01-postgres >		
Name	Date modified	Type
📁 base	08/05/2021 18:17	File folder
📁 global	08/05/2021 18:17	File folder
📁 pg_commit_ts	08/05/2021 18:17	File folder
📁 pg_dynshmem	08/05/2021 18:17	File folder
📁 pg_logical	08/05/2021 18:17	File folder
📁 pg_multixact	08/05/2021 18:17	File folder
📁 pg_notify	08/05/2021 18:17	File folder
📁 pg_replslot	08/05/2021 18:17	File folder
📁 pg_serial	08/05/2021 18:17	File folder
📁 pg_snapshots	08/05/2021 18:17	File folder
📁 pg_stat	08/05/2021 18:17	File folder
📁 pg_stat_tmp	08/05/2021 18:20	File folder
📁 pg_subtrans	08/05/2021 18:17	File folder
📁 pg_tblspc	08/05/2021 18:17	File folder
📁 pg_twophase	08/05/2021 18:17	File folder
📁 pg_wal	08/05/2021 18:17	File folder
📁 pg_xact	08/05/2021 18:17	File folder
📄 pg_hba.conf	08/05/2021 18:17	CONF File
📄 pg_ident.conf	08/05/2021 18:17	CONF File
📄 PG_VERSION	08/05/2021 18:17	File
📄 postgresql.auto.conf	08/05/2021 18:17	CONF File
📄 postgresql.conf	08/05/2021 18:17	CONF File
📄 postmaster.opts	08/05/2021 18:17	OPTS File
📄 postmaster.pid	08/05/2021 18:17	PID File

Container Management

Tryton Containers : Start - Stop - Status

./"Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.stop"

```
Set-ExecutionPolicy -ExecutionPolicy Bypass -Scope CurrentUser
#
Write-Host "-----"
Write-Host "1. Stop containers"
Write-Host "-----"
docker stop tryt11-postgres tryt11 tryt11-cron
docker ps -a
#
Write-Host "-----"
Write-Host "2. Done"
Write-Host "-----"
Pause
```

./"Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.start"

```
# tryt11
Set-ExecutionPolicy -ExecutionPolicy Bypass -Scope CurrentUser
#
Write-Host "-----"
Write-Host "1. Stop containers"
Write-Host "-----"
docker stop tryt11-postgres tryt11 tryt11-cron
#
Write-Host "-----"
Write-Host "2. Start containers"
Write-Host "-----"
docker start tryt11-postgres tryt11 tryt11-cron
#
Write-Host "-----"
Write-Host "3. Docker Status"
Write-Host "-----"
docker ps -a
Start-Sleep -Seconds 20 # Replace by detecting database is 'up'
docker exec -tiu postgres tryt11-postgres psql -c '\l+'
.
```

./"Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.status"

```
Set-ExecutionPolicy -ExecutionPolicy Bypass -Scope CurrentUser

# Step 1 : state
Write-Host "-----"
Write-Host "1. Status"
Write-Host "-----"
docker ps -a
docker volume ls
docker network ls
docker inspect tryt11-postgres -f "{{.Name}} - {{json .NetworkSettings.Networks}}"
Start-Sleep -Seconds 20 # Replace by detecting database is 'up'
docker exec -tiu postgres tryt11-postgres psql -c '\l+'

# Step 2 : done
Write-Host "-----"
Write-Host "2. Done"
Write-Host "-----"
```

Container Uninstallation

Motivation

- This section explains how to delete installed containers should they be reinstalled
- If the installation proceeds according to plan, the section can be skipped for later

Tryton

./"Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.delete"

```
Write-Host "-----"
Write-Host "1. Status"
Write-Host "-----"
docker ps -a
docker network ls
docker volume ls
dir
#
Write-Host "-----"
Write-Host "2. Delete all tryt11"
Write-Host "-----"
docker stop tryt11-postgres tryt11 tryt11-cron
docker rm tryt11-postgres tryt11 tryt11-cron
docker network rm tryt11-network
docker volume rm tryt11-database tryt11-datafile
Remove-Item -Recurse -Force tryt11-database
Remove-Item -Recurse -Force tryt11-datafile
#
Write-Host "-----"
Write-Host "3. Status"
Write-Host "-----"
docker ps -a
docker network ls
docker volume ls
dir
#
Write-Host "-----"
Write-Host "4. Done"
Write-Host "-----"
```

Postgres

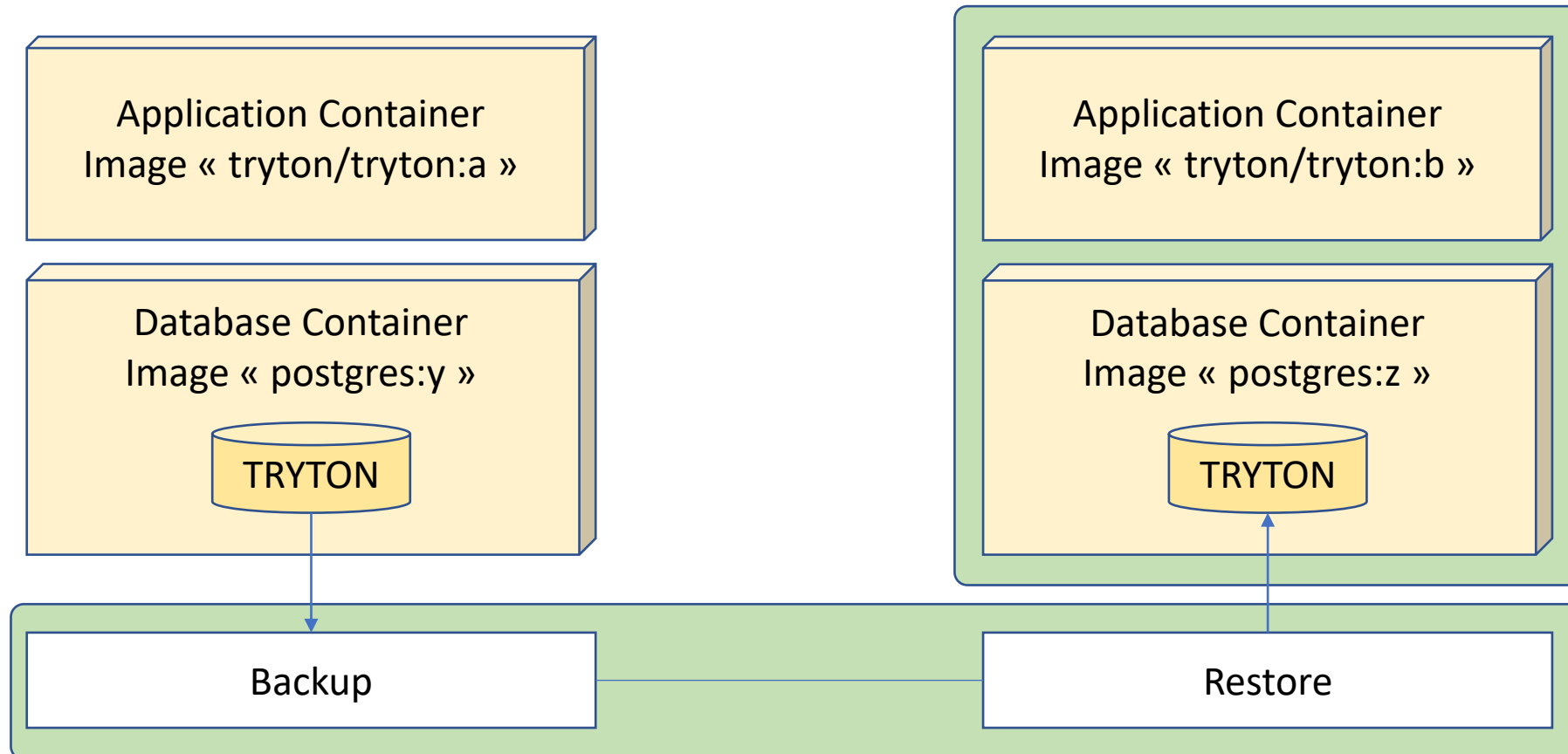
./"Tryton 6.0 - Doc 00.01 - Installation & administration.docker.post01.delete"

```
Write-Host "-----"
Write-Host "1. Status"
Write-Host "-----"
docker ps -a
docker network ls
docker volume ls
dir
#
Write-Host "-----"
Write-Host "2. Delete all post01-postgres & post01-pgadmin"
Write-Host "-----"
docker stop post01-postgres post01-pgadmin
docker rm post01-postgres post01-pgadmin
Remove-Item -Recurse -Force ${HOME}/post01-postgres # HOME == USER
#
Write-Host "-----"
Write-Host "3. Status"
Write-Host "-----"
docker ps -a
docker network ls
docker volume ls
dir
#
Write-Host "-----"
Write-Host "4. Done"
Write-Host "-----"
```

Container multi-versioning

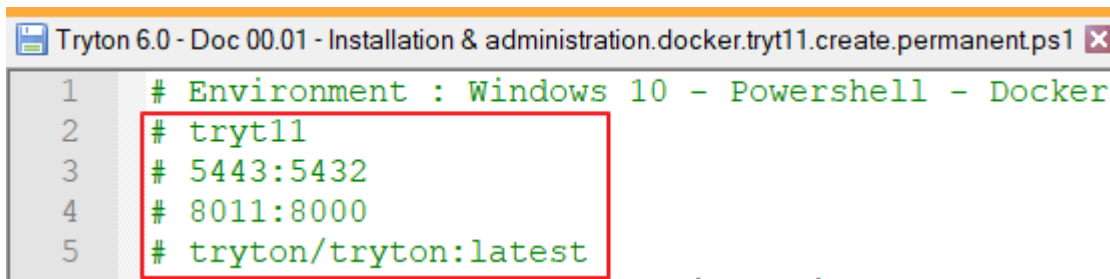
Motivation

- Installing containers originating from different TRYTON image versions allow integration for bug correction
- Generally, the data base format does not change between major TRYTON versions.
- From the new « TRYTON;POSTGRES » image(s) create a « b;z » version of the existing « a;y » environment
- Backup and restore the database : see sections hereafter
- Because each environnement exposes its own TCP IP ports, they can also seamlessly coexist



Installing containers built from « tryton/tryton » images with different « tags »

- Docker shines thanks to its capability to isolate containers from one another, especially when such containers are generated from an « image » == « application » having different « tags » == « versions ». F.i. :
- Image for version « 5.0 » or « 6.0 » : « tryton/tryton:5.0 » or « tryton/tryton:6:0 »
- Image for version « latest » : « tryton/tryton:latest » or simply « tryton/tryton »
- In order to generate containers according to the « image+tag » they are derived from, adapt the parameters identified in the choosen « create » utility script. Just perform a « replace all » of :
 - « tryt11 » : Container, database « names »
 - « 5443 » : the database port on the host system side & « 8011 » : the tryton port on the host system side
 - For simplicity, if the name is « 11 », we added « 11 » to default ports « 5432 » and « 8000 »
 - « tryton/tryton:latest » : change if necessary
- Finally adapt some environment variables and volume locations according to taste



```
Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.create.permanent.ps1
1 # Environment : Windows 10 - Powershell - Docker
2 # tryt11
3 # 5443:5432
4 # 8011:8000
5 # tryton/tryton:latest
```

System Reboot

After Reboot

Each time the PC is rebooted, we need to execute the following commands in Powershell

`docker ps -a` # Control the status

```
PS C:\Users\mrmar\docker.tryton.6.0> docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
bbcf2e9704bc	dpage/pgadmin4	"/entrypoint.sh"	10 minutes ago	Exited (0) About a minute ago		post01-pgadmin
23da037c8b30	postgres	"docker-entrypoint.s..."	10 minutes ago	Exited (0) About a minute ago		post01-postgres
8a8df058d5d0	tryton/tryton:6.0	"/entrypoint.sh tryt..."	3 hours ago	Exited (137) 58 seconds ago		tryt11-cron
65b4a6fc580a	tryton/tryton:6.0	"/entrypoint.sh uwsg..."	3 hours ago	Exited (30) About a minute ago		tryt11
23d18e90f17e	postgres	"docker-entrypoint.s..."	3 hours ago	Exited (0) About a minute ago		tryt11-postgres

Start the containers

`docker start tryt11-postgres tryt11 tryt11-cron`

`docker start post01-postgres post01-pgadmin`

Above commands are unnecessary when the PC is set to "Sleep"

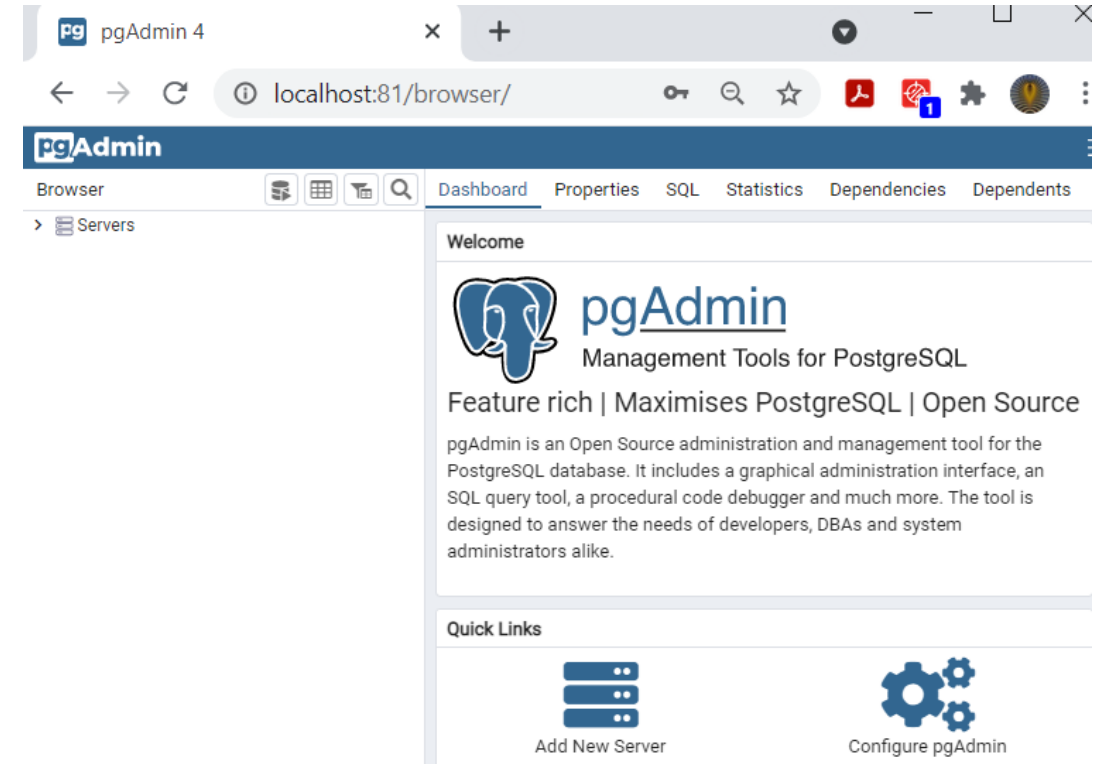
```
PS C:\Users\mrmar\docker.tryton.6.0> docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
bbcf2e9704bc	dpage/pgadmin4	"/entrypoint.sh"	5 minutes ago	Up 5 minutes	443/tcp, 0.0.0.0:81->80/tcp	post01-pgadmin
23da037c8b30	postgres	"docker-entrypoint.s..."	5 minutes ago	Up 5 minutes	0.0.0.0:5433->5432/tcp	post01-postgres
8a8df058d5d0	tryton/tryton:6.0	"/entrypoint.sh tryt..."	3 hours ago	Up 3 hours	8000/tcp	tryt11-cron
65b4a6fc580a	tryton/tryton:6.0	"/entrypoint.sh uwsg..."	3 hours ago	Up 3 hours	0.0.0.0:8011->8000/tcp	tryt11
23d18e90f17e	postgres	"docker-entrypoint.s..."	3 hours ago	Up 3 hours	0.0.0.0:5443->5432/tcp	tryt11-postgres

User Interface

PgAdmin4

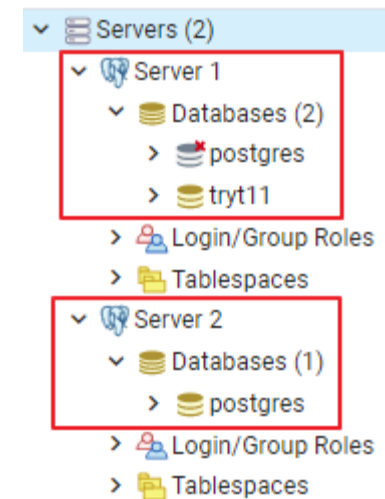
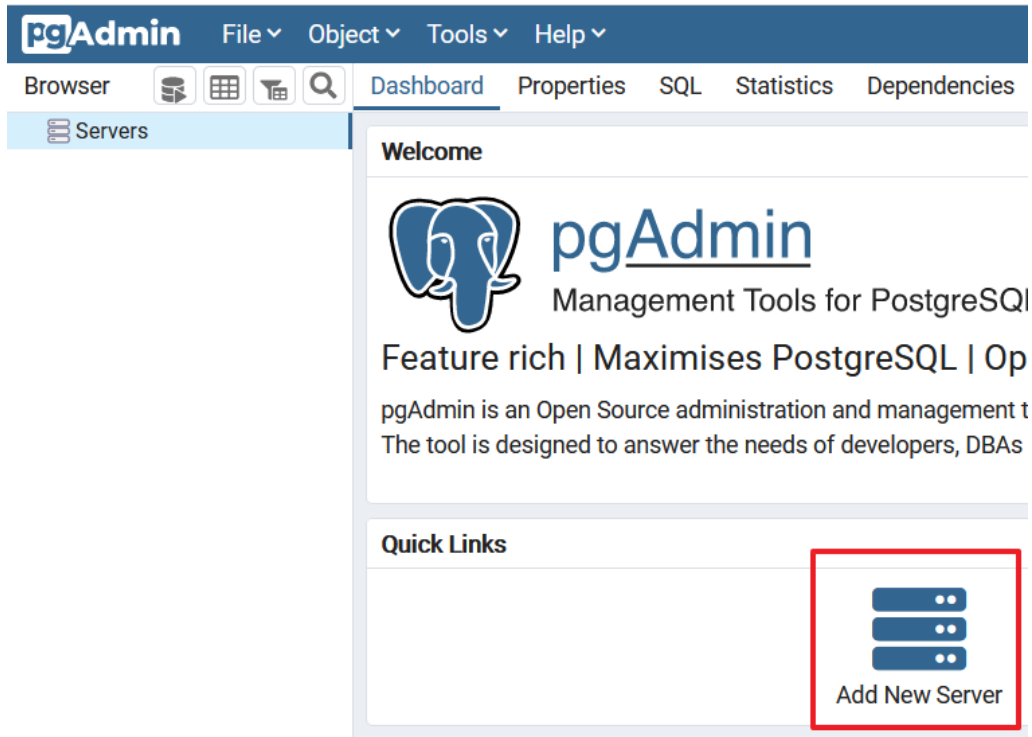
pgAdmin4



Note :

- User : « x@gmail.com » is the address used in the script
- Password : « Password » is the password defined in the script

Create servers to connect to the databases



We define hereafter the following server(s) :

- Server 1 : for access to the « Tryton » Database Container
- Server 2 : if we created the optional « Postgres » Database Container

Server 1 - Connect to « tryt11 » database in « tryt11-postgres » container

Create - Server

General Connection SSL SSH Tunnel Advanced

Name

Server 1

Server group

Servers

Background

X

Foreground

X

Connect now?

☒

Shared?

No

Comments

Either Host name, Address or Service must be specified.

i ?

Cancel

Reset

Save

Create - Server

General Connection SSL SSH Tunnel Advanced

Host name/address

172.17.0.1

Port

5443

Maintenance database

tryt11

Username

postgres

Password

.....

Save password?

☐

Role

Service

i ?

Cancel

Reset

Save

Servers (2)

Server 1

Databases (2)

postgres

tryt11

Casts

Catalogs

Event Triggers

Extensions

Foreign Data Wrappers

Languages

Publications

Schemas (1)

public

Collations

Domains

FTS Configurations

FTS Dictionaries

FTS Parsers

FTS Templates

Foreign Tables

Functions

Materialized Views

Procedures

Sequences

Tables (72)

ir_action

```
PS C:\Users\mrmar\docker.tryton.6.0> docker inspect tryt11-postgres -f "{{json .NetworkSettings.Networks }}"
{"bridge":{"IPAMConfig":null,"Links":null,"Aliases":null,"NetworkID":"e687284abe301936a529d5be904e98128e93b19bd","Gateway":"172.17.0.1","IPAddress":"172.17.0.2","IPPrefixLen":16,"IPv6Gateway":"","GlobalIPv6Address":null,"GlobalIPv6PrefixLen":0,"LinkLocalIPv6Address":"","LinkLocalIPv6PrefixLen":0,"MacAddress":"","PortMapping":null}}
```

Server 2 - Connect to « postgres » database in « post01-postgres » container

Create - Server

General Connection SSL SSH Tunnel Advanced

Name

Server 2

Server group

Servers

Background

X

Foreground

X

Connect now?

☒

Shared?

No

Comments

Either Host name, Address or Service must be specified.

i ?

Cancel

Reset

Save

Create - Server

General Connection SSL SSH Tunnel Advanced

Host name/address

172.17.0.1

Port

5433

Maintenance database

postgres

Username

postgres

Password

.....

Save password?

☐

Role

Service

i ?

Cancel

Reset

Save

- Servers (2)
 - Server 1
 - Server 2
 - Databases (1)
 - postgres
 - Casts
 - Catalogs
 - Event Triggers
 - Extensions
 - Foreign Data Wrappers
 - Languages
 - Publications
 - Schemas (1)
 - public
 - Collations
 - Domains
 - FTS Configurations
 - FTS Dictionaries
 - FTS Parsers
 - FTS Templates
 - Foreign Tables
 - Functions
 - Materialized Views
 - Procedures
 - 1.3 Sequences
 - Tables

```
PS C:\Users\mrmar\docker.tryton.6.0> docker inspect d01-postgres -f "{{json .NetworkSettings.Networks }}"
{"bridge":{"IPAMConfig":null,"Links":null,"Aliases":null,"NetworkID":"e687284abe301936a529d5be904e98128e93b2
820","Gateway":"172.17.0.1","IPAddress":"172.17.0.4","IPPrefixLen":16,"IPv6Gateway":"","GlobalIPv6Address":}
```

« Tryton » - Initial Database State

Only « ir » & « res » tables are installed

▼ Tables (72)

- > ir_action
- > ir_action-res_group
- > ir_action_act_window
- > ir_action_act_window_domain
- > ir_action_act_window_view
- > ir_action_keyword
- > ir_action_report
- > ir_action_url
- > ir_action_wizard
- > ir_attachment
- > ir_avatar
- > ir_avatar_cache
- > ir_cache
- > ir_calendar_day
- > ir_calendar_month
- > ir_configuration
- > ir_cron
- > ir_email
- > ir_email_address
- > ir_email_template
- > ir_email_template-ir_action_report
- > ir_export
- > ir_export-res_group
- > ir_export-write-res_group
- > ir_export_line
- > ir_lang
- > ir_message
- > ir_model
- > ir_model_access
- > ir_model_button
- > ir_model_button-button_reset
- > ir_model_button-res_group
- > ir_model_button_click
- > ir_model_button_rule
- > ir_model_data
- > ir_model_field
- > ir_model_field_access
- > ir_module
- > ir_module_config_wizard_item
- > ir_module_dependency
- > ir_note
- > ir_note_read
- > ir_queue
- > ir_rule
- > ir_rule_group
- > ir_rule_group-res_group
- > ir_sequence
- > ir_sequence_strict
- > ir_sequence_type
- > ir_sequence_type-res_group
- > ir_session
- > ir_session_wizard
- > ir_translation
- > ir_trigger
- > ir_trigger__history
- > ir_trigger_log
- > ir_ui_icon
- > ir_ui_menu
- > ir_ui_menu-res_group
- > ir_ui_menu_favorite
- > ir_ui_view
- > ir_ui_view_search
- > ir_ui_view_tree_state
- > ir_ui_view_tree_width
- > res_group
- > res_user
- > res_user-ir_action
- > res_user-res_group
- > res_user_application
- > res_user_device
- > res_user_login_attempt
- > res_user_warning

« Tryton » - Initial Database State

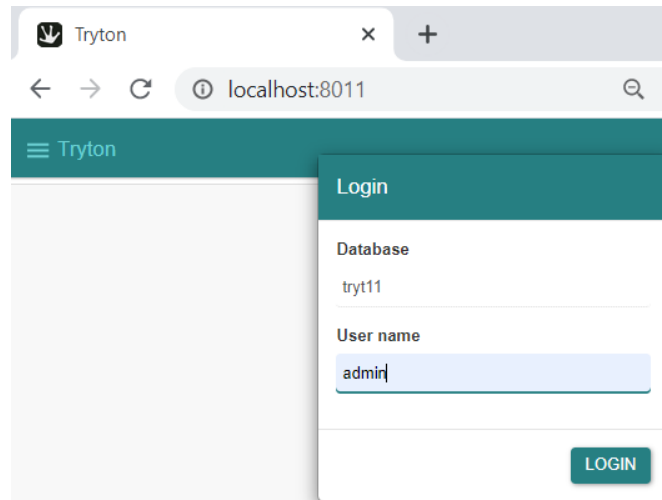
```
> res_user
```

Data Output		Explain	Messages	Notifications							
	id [PK] integer	name character varying	active boolean	login character varying	password character varying	create_date timestamp without time zone	create_uid integer	email character varying	language integer	menu integer	password_hash character varying
1	0	Root	false	root	[null]	2021-03-07 14:58:18.230466	0	[null]	[null]	2	[null]
2	1	Administrator	true	admin	[null]	2021-03-07 14:58:17.920657	0	@gmai...	[null]	2	\$2b\$12\$7RE0EAyOog8...

Tryton

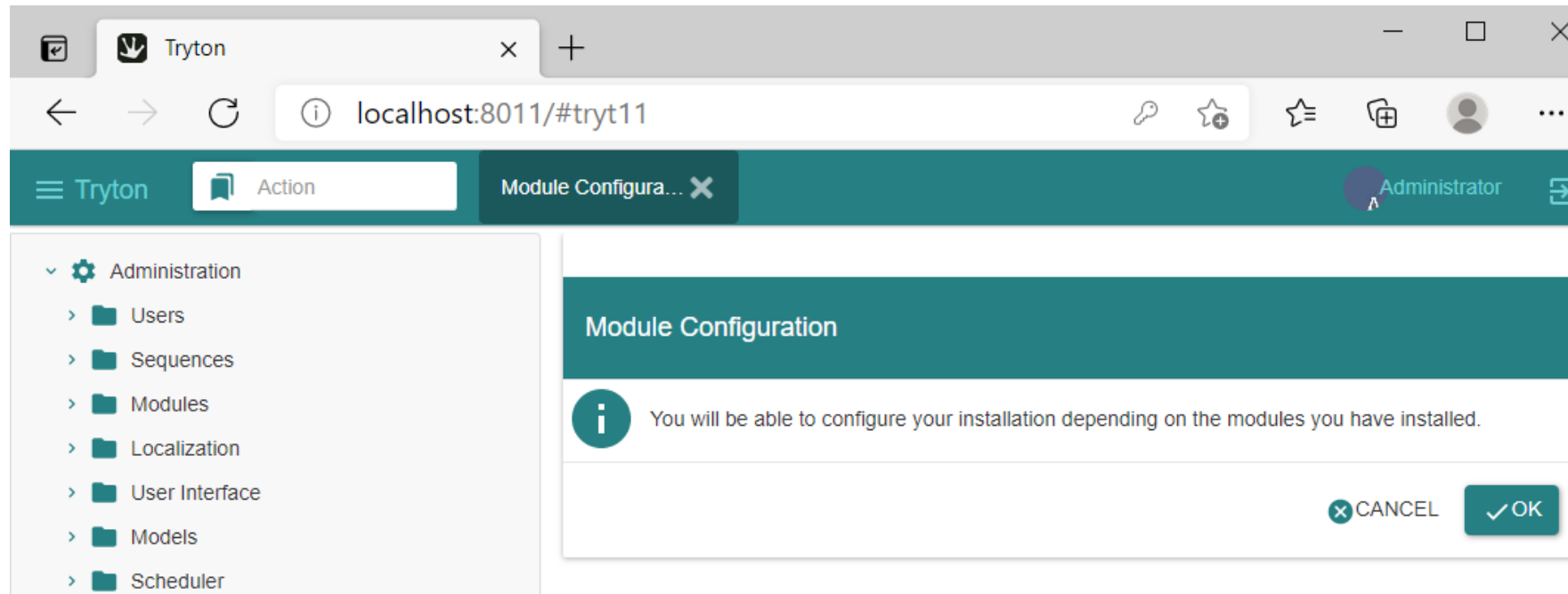
Login / Logout

Tryton Login



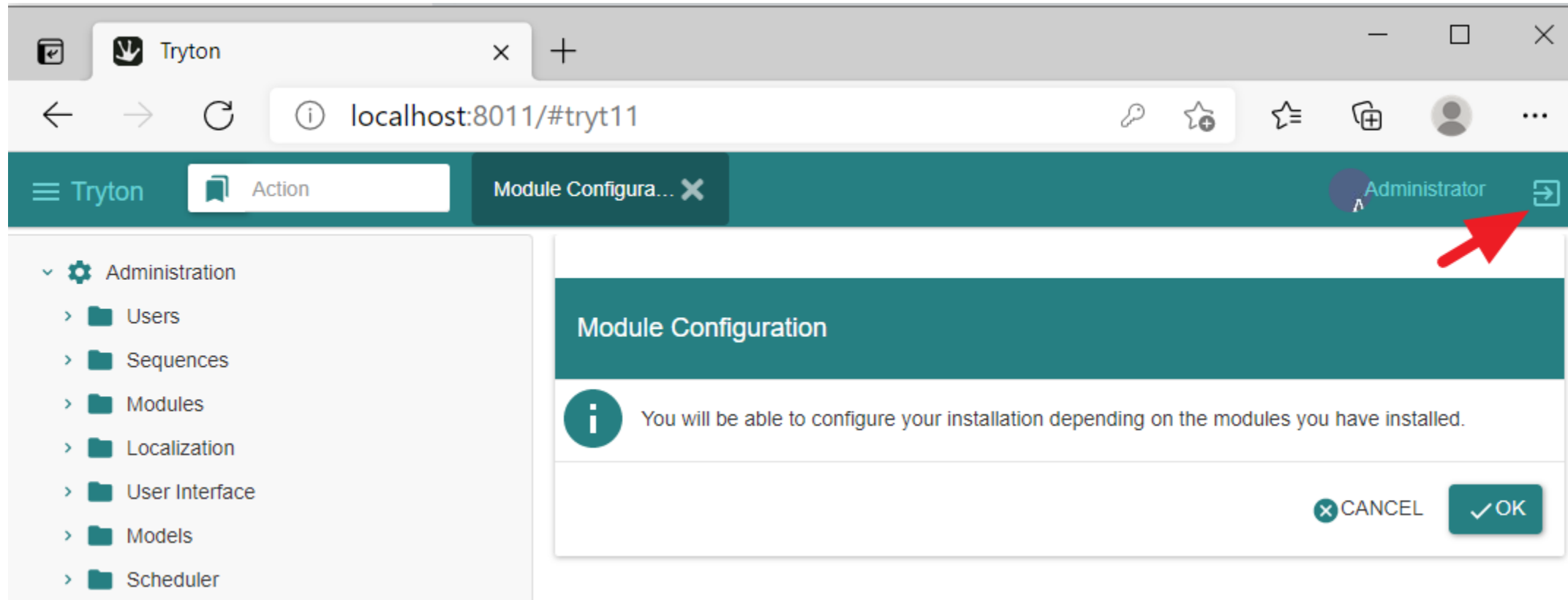
A screenshot of the Tryton web application's login dialog box. The dialog is titled "Login" and has a teal header. It contains two input fields: "Database" with the value "tryt11" and "User name" with the value "admin". A teal "LOGIN" button is at the bottom right.

In this introductory document, all operations are performed with user « admin » and password « Password » at login.



A screenshot of the Tryton main interface. The browser address bar shows "localhost:8011/#tryt11". The interface has a teal header with the Tryton logo, an "Action" button, and a "Module Configura..." button. The user is logged in as "Administrator". A sidebar on the left shows a tree view of the application structure: Administration, Users, Sequences, Modules, Localization, User Interface, Models, and Scheduler. The main content area displays a "Module Configuration" dialog box with an information icon and the text: "You will be able to configure your installation depending on the modules you have installed." At the bottom of the dialog are "CANCEL" and "OK" buttons.

Tryton Logout



It is compulsory to « logout » prior to performing database backup / restore operations (cache usage)

Database Operations

Tryton

./"Tryton 6.0 - Doc 00.01 - Installation & administration.database.tryt11.query"

container : tryt11-postgres

database : tryt11

Set-ExecutionPolicy -ExecutionPolicy Bypass -Scope CurrentUser

#

Write-Host "-----"

Write-Host "1. Select"

Write-Host "-----"

docker cp [query.dbms_01.sql](#) tryt11-postgres:/inpu.sql

#

Write-Host "-----"

Write-Host "2. Access"

Write-Host "-----"

docker exec -it tryt11-postgres psql -d tryt11 -U postgres -P pager=off -f inpu.sql -o outp.txt

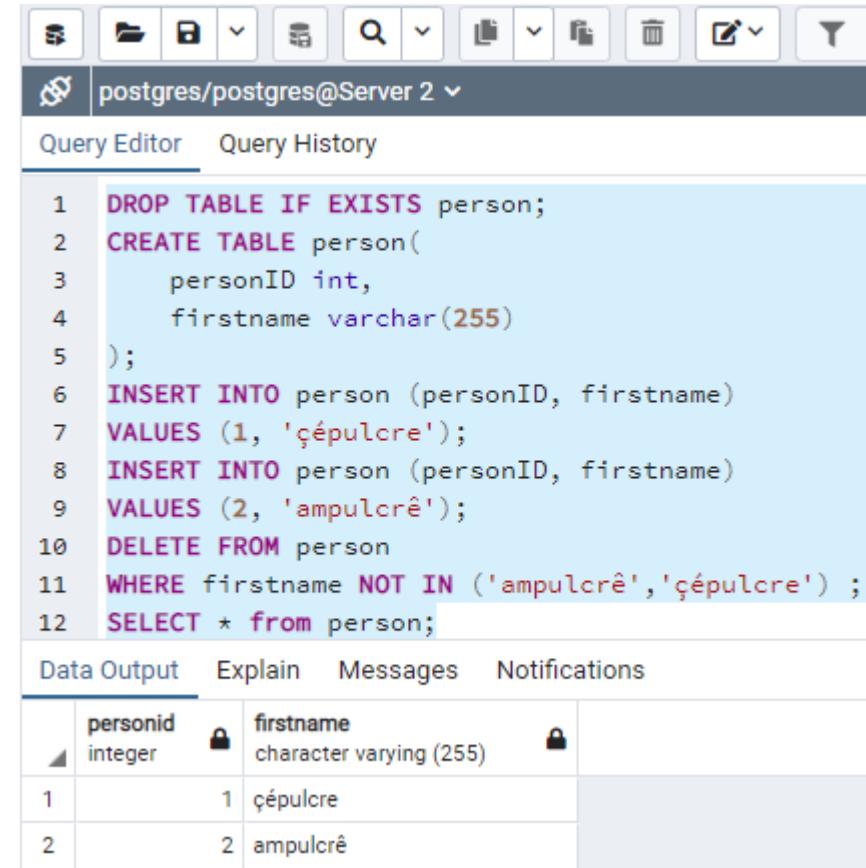
docker cp tryt11-postgres:/outp.txt [query.dbms_02.txt](#)

*.sql	
query.dbms_01.sql	list of tables with row count
query.dbms_02.sql	list of pk-fk table relationships
query.res_user.sql	list of 'res_user' table rows (example)

Postgres

Populate a sample UTF8 table to verify backup/restore correctness

```
DROP TABLE IF EXISTS person;
CREATE TABLE person(
    personID int,
    firstname varchar(255)
);
INSERT INTO person (personID, firstname)
VALUES (1, 'çépulcre');
INSERT INTO person (personID, firstname)
VALUES (2, 'ampulcrê');
DELETE FROM person
WHERE firstname NOT IN ('ampulcrê','çépulcre') ;
SELECT * from person;
```



The screenshot shows a PostgreSQL query editor interface. The top toolbar includes icons for file operations, search, and execution. The connection bar shows 'postgres/postgres@Server 2'. The 'Query Editor' tab is active, displaying 12 lines of SQL code. Below the editor, the 'Data Output' tab shows the result of the query, which consists of two rows of data from the 'person' table.

	personid integer	firstname character varying (255)
1	1	çépulcre
2	2	ampulcrê

Scripts

Scripts

TRYTON Database Powershell Commands - Run as <code>./"..."</code>	
Tryton 6.0 - Doc 00.01 - Installation & administration.database.tryt11.backup	Backup
Tryton 6.0 - Doc 00.01 - Installation & administration.database.tryt11.restore	Restore
Tryton 6.0 - Doc 00.01 - Installation & administration.database.tryt11.query	Query tables

POSTGRES Database Powershell Commands - Run as <code>./"..."</code>	
Tryton 6.0 - Doc 00.01 - Installation & administration.database.post01.backup	Backup (3 modes)
Tryton 6.0 - Doc 00.01 - Installation & administration.database.post01.restore.*	Restore
Tryton 6.0 - Doc 00.01 - Installation & administration.database.post01.query	Query tables

Database Backup

Motivation

- Explaining how to perform database dump and restore for a database managed inside a container
- Ensuring that these operations preserve UTF8 encoding

Documentation

List of options	http://manpages.ubuntu.com/manpages/trusty/man1/pg_dump.1.html
How to	http://postgresguide.com/utilities/backup-restore.html
	https://simkimsia.com/how-to-restore-database-dumps-for-postgres-in-docker-container/
	https://stackoverflow.com/questions/24718706/backup-restore-a-dockerized-postgresql-database
Help	<code>pg_dump --help</code>

Tryton

./"Tryton 6.0 - Doc 00.01 - Installation & administration.database.tryt11.backup"

```
Set-ExecutionPolicy -ExecutionPolicy Bypass -Scope CurrentUser
```

```
#
```

```
Write-Host "-----"
```

```
Write-Host "1. Status"
```

```
Write-Host "-----"
```

```
docker exec -tiu postgres tryt11-postgres psql -c '\l+'
```

```
# Step 2 : dump tryt11
```

```
Write-Host "-----"
```

```
Write-Host "2. Dump"
```

```
Write-Host "-----"
```

```
docker exec tryt11-postgres pg_dump -Ft -U postgres -O -f tryt11-db-backup.tar tryt11
```

```
# Step 3 : export outside container (optional ; specifically use if later import in another container)
```

```
Write-Host "-----"
```

```
Write-Host "3. Export 'tar' outside container"
```

```
Write-Host "-----"
```

```
docker cp tryt11-postgres:/tryt11-db-backup.tar tryt11-db-backup.tar
```

```
#
```

```
Write-Host "-----"
```

```
Write-Host "4. Done"
```

```
Write-Host "-----"
```

```
Pause
```

Postgres

Postgres - Backup - Redirection - Incorrect result

Note :

- The “tryt11-postgres” container contains two databases : “postgres” and “tryt01”
- The “post01-postgres” container (if installed) contains one database : “postgres”

```
docker exec post01-postgres pg_dump -C -c -U postgres -O postgres > post01-db-backup.sql
```

```
docker exec post01-postgres pg_dump -Fc -U postgres -O postgres > post01-db-backup.bak
```

```
docker exec post01-postgres pg_dump -Ft -U postgres -O postgres > post01-db-backup.tar
```

- Above file content redirections generate incorrect results with respect to UTF-8 characters
- File assignment must be used (see hereafter)

./"Tryton 6.0 - Doc 00.01 - Installation & administration.database.post01.backup"

```
#
Write-Host "-----"
Write-Host "2. Dump"
Write-Host "-----"
docker exec post01-postgres pg_dump -C -c -U postgres -O -f post01-db-backup.createYes.sql postgres # includes database create commands
docker exec post01-postgres pg_dump -c -U postgres -O -f post01-db-backup.createNot.sql postgres # does not include such commands
docker exec post01-postgres pg_dump -Fc -U postgres -O -f post01-db-backup.bak postgres
docker exec post01-postgres pg_dump -Ft -U postgres -O -f post01-db-backup.tar postgres
docker exec post01-postgres ls -l
```

```
#
Write-Host "-----"
Write-Host "3. Export 'tar' outside container"
Write-Host "-----"
docker cp post01-postgres:/post01-db-backup.createYes.sql post01-db-backup.createYes.sql
docker cp post01-postgres:/post01-db-backup.createNot.sql post01-db-backup.createNot.sql
docker cp post01-postgres:/post01-db-backup.bak post01-db-backup.bak
docker cp post01-postgres:/post01-db-backup.tar post01-db-backup.tar
```

Database Restore

Tryton

./"Tryton 6.0 - Doc 00.01 - Installation & administration.database.tryt11.restore"

Log out the system if you happen to be signed in

Step 1 : docker stop/start containers

Write-Host "-----"

Write-Host "1. Docker stop/start containers"

Write-Host "-----"

docker stop tryt11-postgres tryt11

docker start tryt11-postgres tryt11

Step 3 : drop and create tryt11-copy

Write-Host "-----"

Write-Host "3. Drop and create tryt11-copy"

Write-Host "-----"

docker exec tryt11-postgres dropdb -f -U postgres tryt11-copy

docker exec tryt11-postgres createdb -U postgres -T template0 tryt11-copy

Step 4.1 : import inside container (optional ; function of step 1.2 above)

Write-Host "-----"

Write-Host "4.1. Import inside container"

Write-Host "-----"

docker cp tryt11-db-backup.tar tryt11-postgres:/tryt11-db-backup.tar

Step 4.2 : restore tryt11-copy from tryt11

Write-Host "-----"

Write-Host "4.2. Restore tryt11-copy from tryt11"

Write-Host "-----"

docker exec -i tryt11-postgres **pg_restore** -Ft -U postgres -d **tryt11-copy** -v ./tryt11-db-backup.tar

Postgres

./"Tryton 6.0 - Doc 00.01 - Installation & administration.database.post01.restore.binary"

Step 1 : docker stop/start containers

Write-Host "-----"

Write-Host "1. Docker stop/start containers"

Write-Host "-----"

docker stop post01-postgres post01

docker start post01-postgres post01

Step 3 : drop and create post01-copy

Write-Host "-----"

Write-Host "3. Drop and create post01-copy"

Write-Host "-----"

docker exec post01-postgres dropdb -f -U postgres post01-copy

docker exec post01-postgres createdb -U postgres -T template0 post01-copy

Step 4.1 : import inside container (optional ; function of step 1.2 above)

Write-Host "-----"

Write-Host "4.1. Import inside container"

Write-Host "-----"

docker cp post01-db-backup.tar post01-postgres:/post01-db-backup.tar

Step 4.2 : restore post01-copy from post01

Write-Host "-----"

Write-Host "4.2. Restore post01-copy from post01"

Write-Host "-----"

docker exec -i post01-postgres **pg_restore** -Ft -U postgres -d **post01-copy** -v ./post01-db-backup.tar

./"Tryton 6.0 - Doc 00.01 - Installation & administration.database.post01.restore.character.createNot"

The « sql » file does not contain database drop & create statements

```
# Step 1 : docker stop/start containers
Write-Host "-----"
Write-Host "1. Docker stop/start containers"
Write-Host "-----"
docker stop post01-postgres post01-pgadmin
docker start post01-postgres post01-pgadmin

# Step 3 : drop and create post01-copy
Write-Host "-----"
Write-Host "3. Drop and create post01-copy"
Write-Host "-----"
docker exec post01-postgres dropdb -f -U postgres post01-copy
docker exec post01-postgres createdb -U postgres -T template0 post01-copy

# Step 4.1 : import inside container (optional ; function of step 1.2 above)
Write-Host "-----"
Write-Host "4.1. Import inside container"
Write-Host "-----"
docker cp post01-db-backup.createNot.sql post01-postgres:/post01-db-backup.createNot.sql

# Step 4.2 : restore post01-copy from post01
Write-Host "-----"
Write-Host "4.2. Restore post01-copy from post01"
Write-Host "-----"
docker exec -i post01-postgres psql -U postgres -d post01-copy -f post01-db-backup.createNot.sql
```

./"Tryton 6.0 - Doc 00.01 - Installation & administration.database.post01.restore.character.createYes"

The « sql » file contains database drop & create statements

```
# Step 1 : docker stop/start containers
Write-Host "-----"
Write-Host "1. Docker stop/start containers"
Write-Host "-----"
docker stop post01-postgres post01-pgadmin
docker start post01-postgres post01-pgadmin

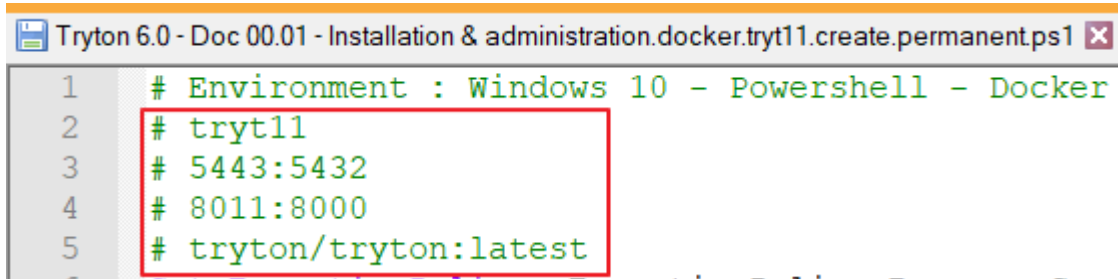
# Step 2 : state
Write-Host "-----"
Write-Host "2. Status"
Write-Host "-----"
docker ps -a
Start-Sleep -Seconds 20 # Replace by detecting database is 'up'
docker exec -tiu postgres post01-postgres psql -c '\l+'

# Step 4.1 : import inside container (optional ; function of step 1.2 above)
Write-Host "-----"
Write-Host "4.1. Import inside container"
Write-Host "-----"
docker cp post01-db-backup.createYes.sql post01-postgres:/post01-db-backup.createYes.sql

# Step 4.2 : restore post01-copy from post01
Write-Host "-----"
Write-Host "4.2. Restore post01-copy from post01 [!!! DROP & CREATE inside 'post01-db-backup.createYes.sql']"
Write-Host "-----"
docker exec -i post01-postgres psql -U postgres -f post01-db-backup.createYes.sql
```

Multi-database Container

« Tryton Database Server » Container

A screenshot of a PowerShell script window titled "Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.create.permanent.ps1". The script contains five lines of comments, with the last four lines enclosed in a red rectangular box. The lines are: 1. # Environment : Windows 10 - Powershell - Docker, 2. # tryt11, 3. # 5443:5432, 4. # 8011:8000, and 5. # tryton/tryton:latest.

```
1 # Environment : Windows 10 - Powershell - Docker
2 # tryt11
3 # 5443:5432
4 # 8011:8000
5 # tryton/tryton:latest
```

- « Tryton 6.0 - Doc 00.01 - Installation & administration.docker.tryt11.create.volatile or permanent »
- The database container hosts a database server accessible with default port 5432:5432 (adaptable).
- Initially, the database server is setup in the script to manage one database.
- When performing database backup / restore operations it is prudent to :
 - Log out of TRYTON client
 - Double-check in the script whether the database and files need to be deleted or preserved

Backup a Tryton Database & Restore it to another name

```
Tryton 6.0 - Doc 00.01 - Installation & administration.database.tryt11.backup.ps1
1  #
2  # tryt11
3  # tryt11-postgres
4  # tryt11-db-backup.tar
5  #
```

- ./"Tryton 6.0 - Doc 00.01 - Installation & administration.database.tryt11.backup"
- Use this script to backup the database initially created in the « Tryton Database Server »
- In doing so, you have a « fresh » database that can be restored to another name inside the same container

```
Tryton 6.0 - Doc 00.01 - Installation & administration.database.tryt11.restore.ps1
1  # Change replace : tryt11
2  # Database is      : tryt11-copy
```

- ./"Tryton 6.0 - Doc 00.01 - Installation & administration.database.tryt11.restore"
- Use this script to restore a database backup in the « Tryton Database Server » container under another name
- From this moment onwards, when login into TRYTON, a choice between two databases will be proposed

Next

Using Tryton

This follow-up documents explain how to use Tryton

Topics
Tryton 6.0 - Doc 00.01 - Installation & administration
Tryton 6.0 - Doc 05.01 - Basic functionality
Tryton 6.0 - Doc 10.01 - Purchase
Tryton 6.0 - Doc 15.01 - Sale
Tryton 6.0 - Doc 80.01 - Ancillaries

Issues

Known Issues

These are unresolved topics that relate to the presentation, not to the functioning of the system.

Document	Subject
Tryton 6.0 - Doc 00.01 - Installation	Waiting on Postgres DB to be ready
Tryton 6.0 - Doc 80.01 - Ancillaries	Attaching a document to an item causes an exception

References

Various sources of documentation

Documentation Latest

[<https://docs.tryton.org/en/latest>]

Docker Installation

<https://hub.docker.com/r/tryton/tryton/>

Classic Installation

[<https://blog.lordvan.com/blog/tryton-setup-config/>]

[<https://www.akarei.cz/tryton/>]

Administration Manual

[<https://readthedocs.org/projects/tryton-administration-manual/downloads/pdf/latest/>]

[https://tryton-administration-manual.readthedocs.io/_/downloads/en/latest/pdf/]

List of Modules

[<https://discuss.tryton.org/t/list-of-modules-and-what-they-do/2675/7>]

Stock

[<https://groups.google.com/g/tryton/c/H4ZqsJq37M8/m/W1TaVWu0AQAJ>]

[<https://docs.tryton.org/en/latest/stock.html#index-stock>]

Various sources of documentation

Trytond Documentation

[<https://readthedocs.org/projects/trytond/downloads/pdf/latest/>]

[<https://trytond.readthedocs.io/en/latest/>]

[<https://tryton.readthedocs.io/en/latest/>]

[<http://hg.tryton.org/readthedocs/>]

[<https://docs.readthedocs.io/en/latest/subprojects.html>]

[https://docs.readthedocs.io/en/latest/alternate_domains.html]

Other sources

Github

[<https://github.com/tryton>]

Downloads

[<https://downloads.tryton.org/>]