How to migrate a (web) server

This guide explains the steps to take when migrating a web server to a new machine and/or a new platform. Most of it will also apply to any other type of server.

Prerequisites

- Source (Pandora): running existing server with Debian 9 installed
- Destination (Calypso): basic install of the new server with Debian 11
- A firewall (FW) with port forwards for outside access (e.g. ports 80 and 443)
- Make sure both machines have SSH access through a private key so you don't need to enter a password
- Create a batch file `ccalypso` on Pandora to facilitate copying folders and files with the following content:

```
#!/bin/bash
if [ "$2" == "" ]; then
    exit 1
fi
sudo rsync -avz -e 'ssh -i /home/user/.ssh/id_ecdsa -p 22' --rsync-
path='sudo rsync' $1 user@dest.ip.addr:$2
```

User home directory

1. Copy folders and files from Pandora

```
$ ccalypso /home/user/folder-or-file /home/user/
```

2. If the UID on both machines are the same you don't need to update folder and file ownership
3. You can use the same way for any other folder or file you want to transfer from the old to the new server

Apache 2.4

1. Install Apache 2.4 and PHP 7/8 on Calypso
2. Rename folders on Calypso

```
$ sudo mv /etc/apache2/conf-available /etc/apache2/conf-available-
debian
$ sudo mv /etc/apache2/conf-enabled /etc/apache2/conf-enabled-debian
$ sudo mv /etc/apache2/sites-available /etc/apache2/sites-available-
debian
$ sudo mv /etc/apache2/sites-enabled /etc/apache2/sites-enabled-debian
```

3. Copy folders from Pandora

```
$ ccalypso /etc/apache2/conf-available /etc/apache2/
$ ccalypso /etc/apache2/conf-enabled /etc/apache2/
$ ccalypso /etc/apache2/sites-available /etc/apache2/
$ ccalypso /etc/apache2/sites-enabled /etc/apache2/
```

4. On Calypso check and copy selected files back from the debian installed folder to the folder copied from Pandora
5. If the UID on both machines are the same you don't need to update folder and file ownership
6. If you have reverse proxies don't forget to update your firewall settings

MariaDB

1. Install MariaDB 10.5 on Calypso
2. On Calypso, dump the contents of the `mysql` database

```
$ mysqldump -u user -p --opt mysql > mysql.sql
```

3. Stop the mysql service on both machines

```
$ sudo service mysql stop
```

4. On Calypso, rename the db folder

```
$ sudo mv /var/lib/mysql /var/lib/mysql_debian
```

5. On Pandora, copy the db folder to Calypso

```
$ ccalypso /var/lib/mysql /var/lib/
```

6. On Calypso, remove the following folders and files

```
$ sudo rm -R /var/lib/mysql/mysql
$ sudo rm -R /var/lib/mysql/phpmyadmin
$ sudo rm -R /var/lib/mysql/debian-10.1.flag
```

7. On Calypso move the following folders and files back from the `mysql_debian` folder to the `mysql` folder copied from Pandora

```
$ sudo mv /var/lib/mysql_debian/mysql /var/lib/mysql
$ sudo mv /var/lib/mysql_debian/aria_log00000001 /var/lib/mysql
$ sudo mv /var/lib/mysql_debian/aria_log_control /var/lib/mysql
$ sudo mv /var/lib/mysql_debian/debian-10.5.flag /var/lib/mysql
$ sudo mv /var/lib/mysql_debian/multi-master.info /var/lib/mysql
$ sudo mv /var/lib/mysql_debian/mysql_upgrade_info /var/lib/mysql
```

8. Remove folder `/var/lib/mysql_debian`
9. If the UID on both machines are the same you don't need to update folder and file ownership

System

1. Check and adjust crontab for all users and root
2. Check and adjust the sudoers file and all files in `/etc/sudoers.d/`
3. Check other machines which depend on the webserver, for example a mail server using Let's Encrypt certificates managed by the web server

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