

# HWo6 - Services

## UBNetDef Systems Security(SysSec)

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UBNetDef

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# Instructional Report

## Database Server: Set up a new database and user

-Create a database

```
[sysadmin@localhost ~]$ sudo mysql -u root -p
[sudo] password for sysadmin:
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 14
Server version: 10.3.28-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]>
```

Figure 1.1: Accessing MariaDB using command `sudo mysql -u root -p`

```
MariaDB [(none)]> CREATE DATABASE my_wiki;
Query OK, 1 row affected (0.001 sec)
```

Figure 1.2: Creating a database using command `CREATE DATABASE my_wiki;`

-Create a non-root user

```
MariaDB [(none)]> CREATE USER 'wiki_user'@'localhost' IDENTIFIED BY 'Change.me!';
Query OK, 0 rows affected (0.003 sec)

MariaDB [(none)]>
```

Figure 1.3: Creating a non-root user using command `CREATE USER 'wiki_user'@'localhost' IDENTIFIED BY 'Change.me!';`

Note: Username is given as **wiki\_user** & password is given as **Change.me!**

```
MariaDB [(none)]> use my_wiki;
Database changed
MariaDB [my_wiki]>
```

Figure 1.4: Use command `use my_wiki;` to change the database

-Grant the new remote user access to the database on behalf of the webserver's IP

```
MariaDB [(none)]> GRANT ALL ON my_wiki.* TO 'wiki_user'@'10.43.4.20' IDENTIFIED BY 'Change.me!';
Query OK, 0 rows affected (0.000 sec)

MariaDB [(none)]> _
```

Figure 1.5: Using command `GRANT ALL ON my_wiki.* TO 'wiki_user'@'10.43.4.20'; IDENTIFIED BY 'Change.me!';` to grant user access to the database my\_wiki

## Web Server: Set up MediaWiki

-Manually update the PHP version installed on WEB

```
sysadmin@web4:~$ sudo add-apt-repository ppa:ondrej/php
[sudo] password for sysadmin:
Co-installable PHP versions: PHP 5.6, PHP 7.x and most requested extensions are included. Only Supported Versions of PHP (http://php.net/supported-versions.php) for Supported Ubuntu Releases (https://wiki.ubuntu.com/Releases) are provided. Don't ask for end-of-life PHP versions or Ubuntu release, they won't be provided.
Debian oldstable and stable packages are provided as well: https://deb.sury.org/#debian-dpa
```

Figure 2.1: Using command `sudo add-apt-repository ppa:ondrej/php` to Add PHP repository

```
sysadmin@web4:~$ sudo apt upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
```

Figure 2.2: Using command `sudo apt upgrade` to update package list

```
sysadmin@web4:~$ sudo systemctl restart apache2
sysadmin@web4:~$ _
```

Figure 2.3: Using command `sudo systemctl restart apache2` to restart apache

```
sysadmin@web4:~$ sudo ln -s /var/lib/mediawiki /var/www/html/mediawiki
[sudo] password for sysadmin:
sysadmin@web4:~$
```

Figure 2.4: Using command `sudo ln -s /var/lib/mediawiki /var/www/html/mediawiki` to bypass 404 error by working the symbolic link

- Use your client VM to perform the installation and initial configuration

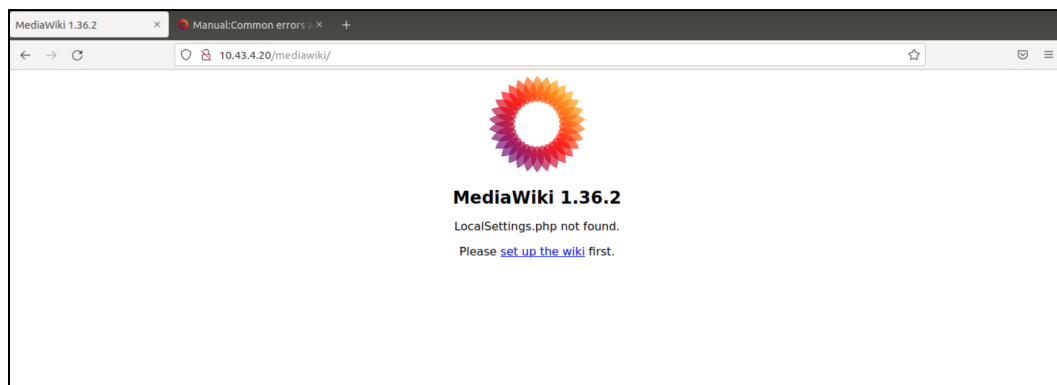


Figure 2.5: Navigating LinuxClient browser to *http://10.43.4.20/mediawiki* and Select ‘set up the wiki’

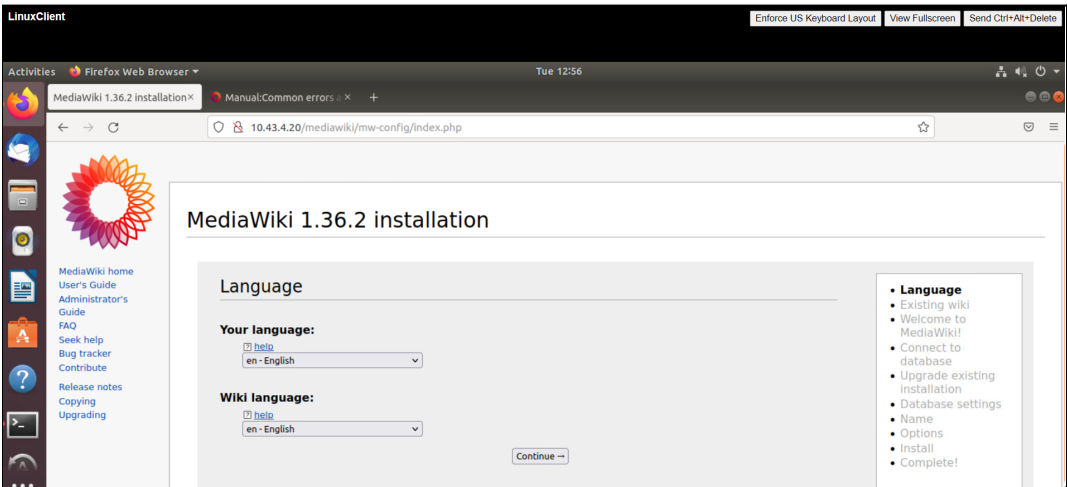


Figure 2.6: Selecting Language during configuration

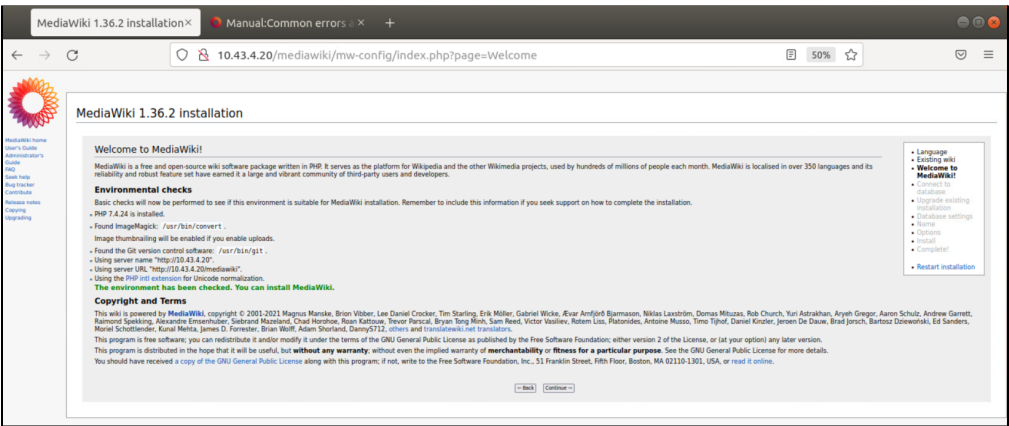


Figure 2.7: MediaWiki Copyright and Licenses: Click ‘Continue’ at the bottom of the screen  
Enter the Database host: **10.43.4.30**, Database name: **my\_wiki**  
Database username: **wiki\_user**  
Database password: **Change.me!**

10.43.4.30

Identify this wiki

Database name (no hyphens):  
[help](#)  
my\_wiki

Database table prefix (no hyphens):  
[help](#)

User account for installation

Database username:  
[help](#)  
wiki\_user

Database password:  
[help](#)  
\*\*\*\*\*

Back Continue

Figure 2.8: Entering Database host, Database name, Database username and Database password

MediaWiki 1.36.2 installation

Database settings

Database account for web access ☒ Use the same account as for installation

[← Back](#) [Continue →](#)

- Language
- Existing wiki
- Welcome to MediaWiki!
- Connect to database
- Upgrade existing installation
- **Database settings**
  - Name
  - Options
  - Install
  - Complete!
- Restart installation

Figure 2.9: Click 'Continue' for Default Database Settings

Enter Name of wiki: my\_wiki  
username: wiki\_user  
password: Change.me!

Name

**Name of wiki:**  
[help](#)

**Project namespace:**  
[help](#)  
☒ Same as the wiki name: My\_wiki  
☐ Project  
☐ Other (specify)

**Administrator account**

**Your username:**  
[help](#)

**Password:**

**Password again:**

**Email address:**  
[help](#)

☐ [help](#) Subscribe to the release announcements mailing list.  
☒ [help](#) Share data about this installation with MediaWiki developers. [Privacy policy](#).

You are almost done! You can now skip the remaining configuration and install the wiki right now.

☐ Ask me more questions.  
☒ I'm bored already, just install the wiki.

[← Back](#) [Continue →](#)

Figure 2.10: Click 'Continue' to proceed for Installation

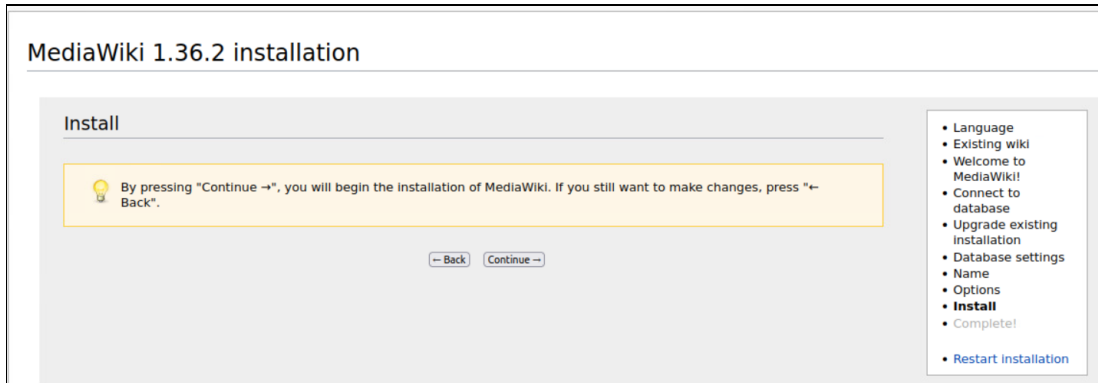


Figure 2.11: Click 'Continue' to proceed for Installation

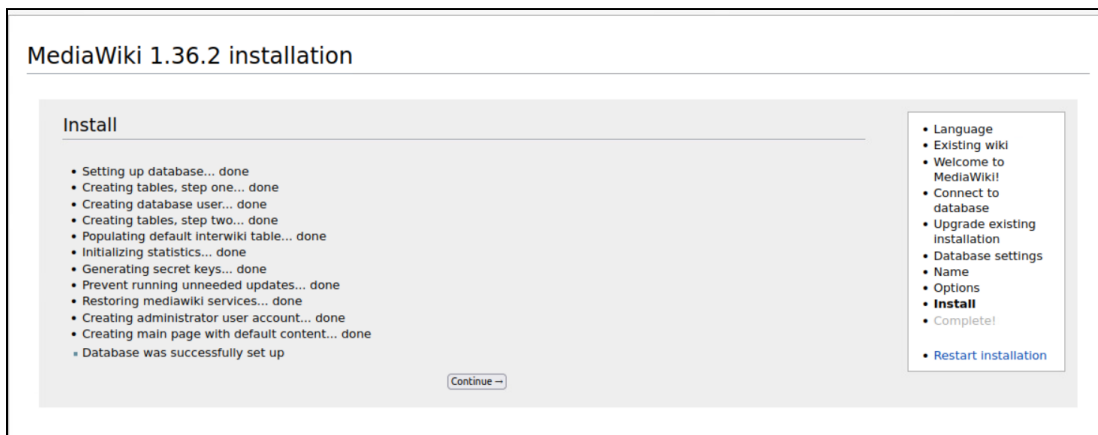


Figure 2.12: Click 'Continue' to proceed for Installation

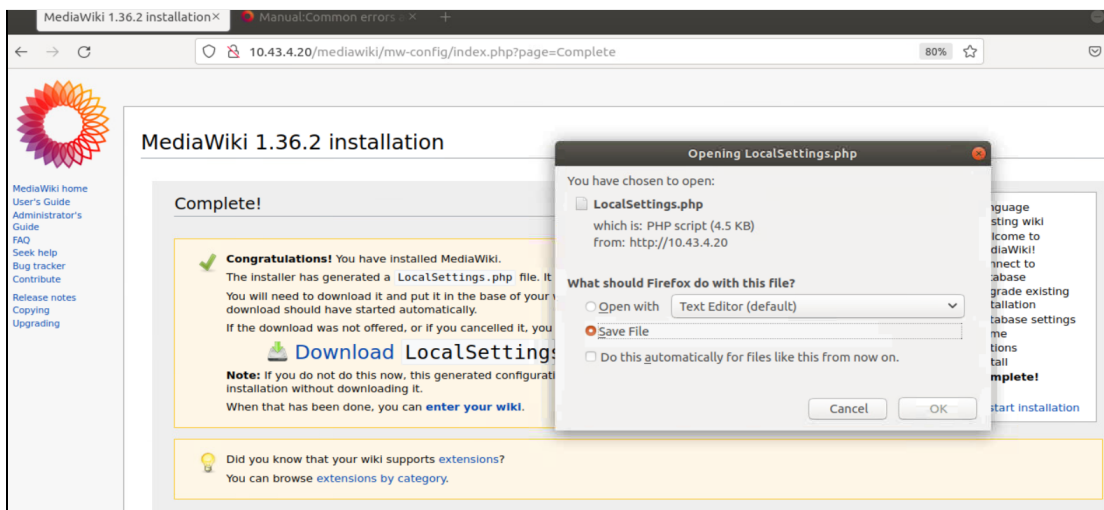


Figure 2.13: Prompt - Download(Save) the configuration file **LocalSettings.php**

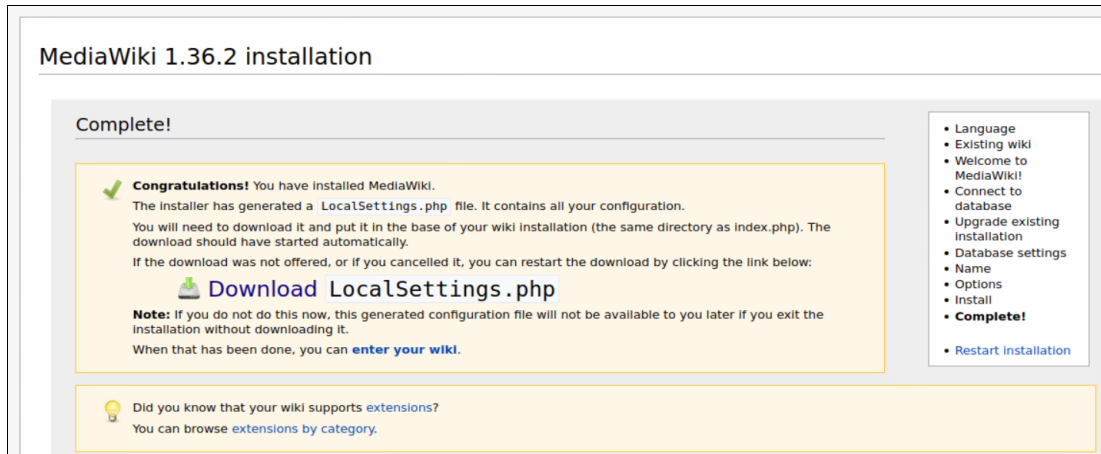


Figure 2.14: Installation Complete!

- Copy the LocalSettings.php file from your client VM to your web server using the SCP

```
sysadmin@ubnetdef04:~/Downloads$ scp LocalSettings.php sysadmin@10.43.4.20:
The authenticity of host '10.43.4.20 (10.43.4.20)' can't be established.
ECDSA key fingerprint is SHA256:u0nxtkYYrbzk2oCWTFdW8hK7ZRqLQ+5pupdgSkbH9G8.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '10.43.4.20' (ECDSA) to the list of known hosts.
sysadmin@10.43.4.20's password:
LocalSettings.php                                100% 4584      3.2MB/s   00:00
sysadmin@ubnetdef04:~/Downloads$
```

Figure 2.15: Using Command `scp LocalSettings.php sysadmin@10.43.4.20:` to copy LocalSettings.php file to root directory of Web Server

```
sysadmin@web4:~$ ls
LocalSettings.php
sysadmin@web4:~$ sudo mv LocalSettings.php /var/lib/mediawiki_
```

Figure 2.16: Using command `sudo mv LocalSettings.php /var/lib/mediawiki` to move the file from root directory to `/var/lib/mediawiki`

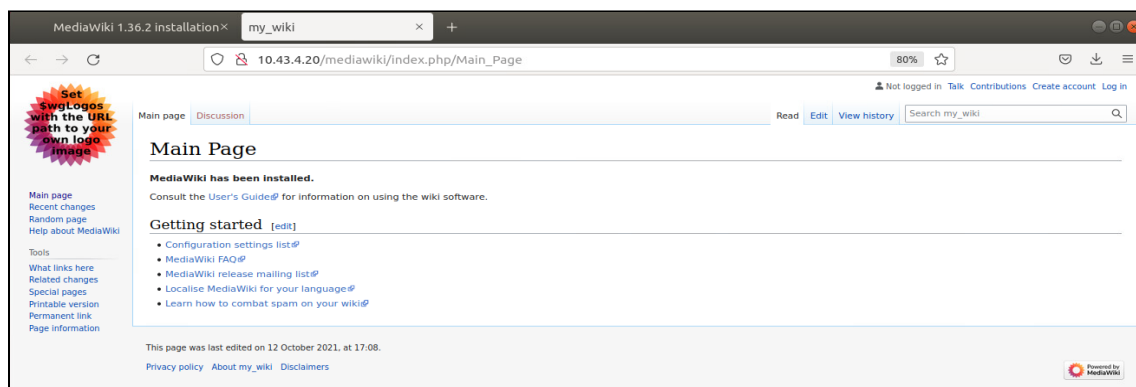


Figure 2.17: Working Wiki's Homepage



## Proof of Completion



Figure 3.1: Editing the MainPage using Edit option on main menu



Figure 3.2: Edit the wiki 'Main Page' to show UBIT name: **aundrall**

## Network Firewall Hardening


































Rules (Drag to Change Order)										
States	Protocol	Source	Port	Destination	Port	Gateway	Queue	Schedule	Description	Actions
✓ 0 / 0 B	IPv4 TCP	10.43.4.20	*	*	2220	*	none			   
✓ 0 / 0 B	IPv4 TCP	10.43.4.20	*	This Firewall	*	*	none			   
✗ 0 / 21.42 MiB	IPv4 TCP	*	*	This Firewall	22 - 443	*	none			   
✓ 0 / 378.18 MiB	IPv4 TCP	*	*	*	80 (HTTP)	*	none			   
✓ 0 / 55 KiB	IPv4 UDP	*	*	*	53 (DNS)	*	none			   
✓ 0 / 21 KiB	IPv4 ICMP any	*	*	*	*	*	none			   
✓ 0 / 191.55 MiB	IPv4 TCP	*	*	*	443 (HTTPS)	*	none			   
<div> Add  Add  Delete  Save  Separator</div>										

Figure 4.1: DMZ Rules to allow MediaWiki (Port HTTP)