Part 1: Dockerised Version for Application 1: PHP Prime Number Application (Web Service)

To run this dockerised PHP web service script, you can follow these steps:

1. Open a terminal, navigate to the directory containing your `Dockerfile` and PHP script `primenum.php`, and run the following command to build the Docker image (This command builds a Docker image named primenum based on your Dockerfile):

   ```
   docker build -t primenum .
   ```

2. After the image is built, you can run a Docker container based on that image. Use the following command (This command starts a Docker container from the `primenum` image, detaches it in the background (`-d`), and maps port 90 on your host to port 80 inside the container (`-p 90:80`):

   ```
   docker run -d --name primenum-running -p 90:80 primenum
   ```

3. You can now access the PHP web service by opening a web browser and navigating to http://localhost:90/primenum.php?limit=10 (adjust the 'limit' parameter as needed). This URL corresponds to port 90 on your host, which is mapped to port 80 inside the container. The Dockerised PHP web service will take the 'limit' parameter from the URL query string and return the prime numbers up to the specified limit in JSON format.

4. Make sure you have Docker installed on your system before proceeding with these steps.

Part 2: Non-Dockerised Version for Application 1: PHP Prime Number Application (Web Service)

To run this PHP web service script (primenum.php) natively in your system, you can follow these steps:

1. Install Apache and PHP on your own system or the CSC3065 VM (provided in Practical-2)

For Apache and PHP installation and configuration you must follow the instruction for your specific OS version.

In Ubuntu you must set up a local development environment using a web server like Apache and PHP. Here are the steps:

i. Open a terminal and run the following commands to install Apache and PHP, this will install Apache web server and PHP along with the necessary modules:

```
sudo apt update
sudo apt install apache2 php libapache2-mod-php
```

ii. After installing Apache, you can start the Apache service with the following command and then enable Apaceh to start automatically at boot:

```
sudo systemctl start apache2
sudo systemctl enable apache2
```

For Windows, to run the given PHP prime number app you can set up a local development environment using a web server like XAMPP, which includes Apache and PHP (https://www.apachefriends.org/index.html) Or you can download and run the installer from their official site here:
Apache-https://www.apachelounge.com/download/ and
PHP-https://windows.php.net/download/

2. Run the PHP application

Once you have installed and setup Apache and PHP and checked that they are enabled, you then need to create a directory to place your PHP app. For example, you can create a directory named "application1" in the default web root directory and then place your PHP code in it.

In Ubuntu it will be:

```
sudo mkdir /var/www/html/application1

sudo nano /var/www/html/application1/primenum.php
```

In this empty `primenum.php` file, copy and paste the code from the provided code in `primenum.php`

3. You can then access the PHP app by opening a browser and entering the following URL:

`http://localhost/application1/localhostprimenum.php?limit=1000`

In the limit, you need to pass a specific value for limit parameter.