

**CONCEPT NOTE**

**REGIONAL TRAINING ON SERVER ADMINISTRATION**

**CONTEXT AND JUSTIFICATION**

In the ECOWAS region, nearly all countries face the same fundamental problem in terms of human resources in the health sector: inadequate staffing in quantity and quality.

Recognizing the critical role of a qualified human resource in the operation, management and delivery of health information, WAHO's 2016-2020 strategic plan addresses these challenges by giving priority to the following programme: Health Information, Research for Health, and Human Resource.

Thus, in its activity plan of 2018, WAHO through its health information unit has planned some training for data and server administrators of ECOWAS member states.   
This training is designed to strengthen the capacity of server administrators. It contributes to the achievements of the objectives of WAHO's Priority Program 1 - Health Information System and Research for Health.

This will enable the beneficiaries to develop their server operational and managerial skills and will contribute to improve the management of the servers of the Ministries of Health of the ECOWAS region.

This activity is being implemented with support from USAID through the West Africa Health Informatics Team (WAHIT) initiative under the Leadership Capacity Strengthening (CAPS) project and with technical assistance from the University of Oslo.

**GENERAL OBJECTIVE**

Strengthen the technical skills of the IT teams responsible for the administration and maintenance of the servers of the Ministries of Health.

**SPECIFIC OBJECTIVES**

The specific objectives of the training are:

* Acquire some basics skills in the administration of Linux based systems using the command line interface
  + File system
  + User management
  + Network configuration
  + Firewall and SSH
* Master the concepts of DHIS2 installation and configuration
  + Installation and configuration of web server (apache, nginx)
  + Configuration of SSL/TLS
  + Use of dhis2-tools
* Acquire basic competence in database administration
  + Installation and configuration of PostgreSQL
  + Implementation of security rules
  + Configuration of automatic backup
* Server troubleshooting
  + Identification of issues from log files
  + Detection of attacks

**EXPECTED RESULTS**

At the end of this training, each participant should be able to:

* Configure and manage Linux based systems
* Install a DHIS 2 instance
* Configure a PostgreSQL database and perform backups
* Identify the bugs for accessing the server and the DHIS2 instance

**METHODOLOGY**

This training will combine short theoretical presentations and practice-based learning with exercises.

It will be carried out by a team composed of WAHO, WAHIT and UiO facilitators.

The facilitators will provide participants with the necessary tools to install the linux system and to carry out the practical sessions.

**DURATION**

The duration of the training will be 5 days.

**DATE AND VENUE**

From July 9th to 14th 2018 at ...

**TRAINING REQUIREMENTS**

* Video projector x 01
* Very good and reliable Internet connection
* Virtual machines for lab
* 3G Modem x 2

**PROFILE OF PARTICIPANTS**

The training targets for those who have the technical responsibility to install and maintain DHIS 2 in a production environment on Ubuntu Linux servers.

To do this, participants must fulfill the following prerequisites:

* Be familiar with the open source Linux system and more specifically Ubuntu,
* Have installed and configured at least once a Linux server,
* Be familiar with linux commands in command line mode,
* Be familiar with the Mysql or PostgreSQL database management system,
* Be familiar with the notions of securing and backing up data,
* …

**AGENDA**

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| Day 1 | | |
| Time | Activity | Facilitator |
| 08:30 – 09:30 | * Introduction and welcome note | Trainers and WAHO official |
| * Objectives |
| * Agenda & user profile |
| 09:30 – 10:30 | * Registration and allocation of virtual servers | WAHIT |
| 10:30 – 11:00 | * Coffee break |  |
| 11:00 – 13:00 | * Basic concept on Unix based operating systems * Command line interface | WAHIT |
| 13:00 – 14:00 | * Lunch break |  |
| 14:00 – 17:00 | * File system * SSH (Tips and Tricks) | WAHIT |

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| Day2 | | |
| Time | Activity | Facilitator |
| 08:30 – 09:00 | Day 1 recap | Rapporteur |
| 09:00 – 10:30 | * Linode allocation and demo | UIO |
| 10:30 – 11:00 | Coffee break |  |
| 11:00 – 13:00 | * Linode stackscript install | UiO |
| 13:00 – 14:00 | Lunch break |  |
| 14:00 – 17:00 | * DHIS 2 Tools (cont’d) * Lab and exercise | UiO  UiO/WAHIT |

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| Day 3 | | |
| Time | Activity | Facilitator |
| 08:30 – 09:00 | Day 2 recap | Rapporteur |
| 09:00 – 10:30 | Security management (for managers) | UIO |
| 10:30 – 11:00 | Coffee break |  |
| 11:00 – 13:00 | * Apache2 reverse proxy + ssl wih cetbot | UiO |
| 13:00 – 14:00 | Lunch break |  |
| 14:00 – 17:00 | * DHIS 2 Deployment and configuration II * Lab and exercise | UiO/ WAHIT |

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| Day 4 | | |
| Time | Activity | Facilitator |
| 08:30 – 09:00 | Day 3 recap | Rapporteur |
| 09:00 – 10:30 | Security – technical considerations | UiO |
| 10:30 – 11:00 | Coffee break |  |
| 11:00 – 13:00 | * Configuration of PostgreSQL * Database Backup and Restore | UiO |
| 13:00 – 14:00 | Coffee break |  |
| 14:00 – 17:00 | * Project exercise | UiO/ WAHIT |

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| Day 5 | | |
| Time | Activity | Facilitator |
| 08:30 – 09:00 | Day 4 recap | Rapporteur |
| 09:00 – 10:30 | * Develop a security plan * Security tools (fail2ban, pfsense, etc…) | UiO/WAHIT |
| 10:30 – 11:00 | Coffee break |  |
| 11:00 – 13:00 | * Country installation examples * Regional Platform | Group Discussion |
| 13:00 – 14:00 | Lunch break |  |
| 14:00 – 15:00 | * DHIS2 (Next generation)   What is on the horizon in coming year(s) and its implication for sysadmin | UiO |
| 15:00 - 16:00 | Recap of week. Discussion of building sysadmin community, continued learning etc | Group Discussion |