TWINNING CONTRACT

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Strengthening the capacity of Jordan's Department of Statistics in terms of compilation, analysis and reporting of statistical data in line with International and European best practices

MISSION REPORT

on

Component 1
**Roadmap for the development of an integrated administrative data system in Jordan
with pilots on Statistical Business registers (SBR) and population statistics**

Activity: 2.4.2:
Exploring the possibilities for updating functionalities of management system WordPress

Mission carried out by
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List of Abbreviations

- BC – Beneficiary Country
- DoS – Department of Statistics
- MoDEE - Ministry of Digital Economy and Entrepreneurship
- MS – Member State
- PL – Project Leader
- EU - European Union
- ISTAT - Italian National Statistics Institute
- DESTATIS - German Federal Statistical Office
- RTA – Resident Twinning Advisor
- SAE – Small Area Estimation
- STE – Short-term Expert

Executive Summary

The Jordan Department of Statistics (DoS) website is built with WordPress enhanced with several plugins to adapt content dissemination to user needs. The current website runs on a Windows 10 server with no proper license and the overall performance is not satisfying.

Following the recommendations in the website assessment report and insights from preliminary meetings, we identified the need to migrate to a LAMP environment. This transition will include the establishment of dedicated development, staging, and production environments, along with regular backup procedures to ensure greater stability, security, and efficiency.

The training provided an introduction to essential Linux concepts, emphasizing key aspects of operating systems and user management to enhance participants' familiarity with the Linux environment. The chosen Linux distribution was Ubuntu Server, which participants installed on a virtual machine on their notebooks to safely experiment with Linux. They learned to log into the system through both local and remote methods using SSH. Additionally, participants explored service management via Systemd and package management on Ubuntu, equipping them to configure and maintain Linux systems effectively.

We introduced the trainers to the concept of development, staging, and production environments, explaining their characteristics and why they play crucial roles in the lifecycle of a WordPress website by providing separate spaces for different stages of work:

1. **Development Environment**: A workspace where new features, plugins, and code changes are created and tested without affecting the live website. It allows developers to experiment and troubleshoot freely, ensuring initial issues are resolved early.
2. **Staging Environment**: A testing ground that closely mirrors the production environment. After development, changes are moved to staging for further testing in conditions that simulate the live site. This environment is essential for catching potential issues, such as compatibility problems or performance impacts, before going public. WordPress and plugin upgrades are also tested here before being committed to production.
3. **Production Environment**: This is the live website, accessible to users. Once changes have been thoroughly tested in staging, they are deployed here. Keeping this environment stable and error-free is crucial, as any issues here directly affect visitors and user experience.

Due to server availability, we worked exclusively on the staging environment. The Ubuntu version and software on this server were updated, and WordPress was then migrated from the current production server (Windows 10) to the staging server.

The migration did not immediately resolve the performance issues. A thorough analysis is required to address these issues comprehensively; however, due to time constraints, we were only able to schedule this analysis.

1. General comments

This mission report was prepared within the Twinning Project "Strengthening the capacity of Jordan's Department of Statistics in terms of compilation, analysis and reporting of statistical data in line with International and European best practices". The current Mission is carried out as part of component 1 Roadmap for the development of an integrated administrative data system in Jordan with pilots on Statistical Business registers (SBR) and population statistics.

Most of the activities planned in the Terms of Reference (ToR) were successfully completed, as listed below:

- Introduction to Linux OS installation and management
- Selection and installation of a Linux distribution
- Setting up the LAMP Stack (Linux, Apache, MySQL/MariaDB, PHP)
- Secure remote connection to a Linux server from Windows
- Introduction to development, staging, and production environments

However, due to access difficulties, the following task could not be fully completed:

- Preliminary analysis of the current DoS WordPress configuration, theme, and plugins.

These delays were due to challenges in accessing the server, which is physically located in a separate facility from the Department of Statistics (DoS). Additional issues included network configuration obstacles that required support tickets for resolution, as well as bandwidth limitations in communications between the DoS and the Ministry of Digital Economy and Entrepreneurship (MoDEE), further restricting access.

The consultants would like to express their sincere thanks to all officials and individuals met for their kind support and valuable information during their stay in Jordan, which greatly facilitated their work. The views and observations stated in this report are those of the consultants and do not necessarily correspond to the views of the EU, ISTAT, or Destatis.

2. Assessment and results

Based on the recommendations in the website assessment report and insights from preliminary meetings, it was evident that performance and licensing constraints necessitated a migration to a LAMP (Linux, Apache, MySQL, PHP) environment, which is the most common configuration for WordPress and its plugins.

Key activities included updating the staging server with the latest Ubuntu version, migrating WordPress, and introducing participants to Linux server and user management. While these activities were successful, significant delays occurred due to network and access limitations.

Specifically, the staging server's location on a separate network from our operating environment, combined with remote-only access and bandwidth restrictions during the migration from production to staging, led to notable delays. Addressing these network-related

issues required opening support tickets and gathering detailed information on network configurations to facilitate connectivity, which further extended the project timelines.

Despite these obstacles, the migration to the staging environment was completed, though initial performance issues remained unresolved, highlighting the need for a thorough performance analysis. Nevertheless, the project achieved several critical objectives, including the setup of a structured multi-environment workflow and an improvement in the technical skills of the team.

3. Conclusions and recommendations

The upcoming tasks, including the migration of the production site from a Windows-based system to a staging environment on Linux, as well as a detailed analysis of the WordPress site's performance, network configuration, and plugins, are time-intensive and cannot be fully addressed within the week of the next mission.

It is therefore recommended that these tasks be carried out remotely in advance. These preliminary activities will allow the team to identify issues with the plugins and suggest alternative solutions, which will be explained in detail during the upcoming on-site mission. For this purpose, it is essential that the experts are granted secure remote access from Italy to the Linux staging server hosted within the MoDEE infrastructure.

Additionally, for a better understanding of the current WordPress setup, a detailed list of the installed WordPress plugins would be helpful. The DoS experts can use the template provided in Annex 2 for this purpose.

Annex 1. Terms of Reference

 - Introduction to Linux OS installation and management
 - Choose and installation of a Linux distribution
 - Setting Up the LAMP Stack (Linux, Apache, MySQL/MariaDB, PHP)
 - Introduction to Development, Staging, and Production Environments
 - Analysis of the current DoS WordPress configuration, theme, and plugins, as well as a discussion of potential modifications, improvements according to users and editorial needs.

The scope of these activities is to list all installed plugins, their versions, and their purposes in order to identify essential plugins versus those that are optional or redundant.
Expected results: DoS IT team will have the knowledge and skills necessary to manage and optimize LAMP environments. The setup of a development environment in addition to production and staging environments will be evaluated and executed independently by DoS IT.

Annex 2. Template for WordPress plugin inventory

Plugin Name	Version	Activation Date	Primary Purpose	Utilized Features	Notes
[Plugin Name]	[Version]	[Date]	[Brief description of the main purpose]	[List of specific features used]	[Additional notes, any issues or dependencies]

Explanation of the Columns:

- *Plugin Name: The exact name of the plugin as it appears in the WordPress dashboard.*
- *Version: The currently installed version of the plugin.*
- *Activation Date: The date the plugin was first activated, if available*
- *Primary Purpose: A concise description of the plugin's main purpose. For example: "SEO optimization", "Contact form management", "Form creation".*
- *Utilized Features: A detailed list of the specific plugin features that are actually used on the site. For example: "XML sitemap generation", "Image optimization", "Integration with Contact Forms 7".*
- *Notes: Space for additional notes, such as:*
  - *Configuration: Specific plugin settings.*
  - *Issues: Any bugs or incompatibilities encountered. This might be important.*
  - *Dependencies: Other plugins or themes that the plugin depends on to function correctly.*
  - *Reason for installation: Why this plugin was chosen over others.*

Annex 3. Persons met

Mr. Hussam Abu Shukor, Head of Electronic Dissemination, IT
Ms. Manal Khuffash, Web Dissemination section, IT
Mr. Abdullah AlSous, Web Dissemination section, IT
Ms. Wafa Hasouneh, Web Dissemination section, IT …
Ms. Tamara Wadi, Web Dissemination section, IT
Ms. Lama Bnymelhem, Web Dissemination section, IT
Ms. Abrar Qudah, Web Dissemination section, IT …

Annex 4. List of submitted documents

WPS_part_1_Linux_Essentials.pdf
WPS_part_2_Website_environments.pdf