

Terms of Reference (ToR)

Local Consultant: Infrastructure, Security and DevOps Analyst for the CBY Fintech Sandbox

Vacancy information

Project Title	Yemen Fintech Sandbox Project (YFSP)
Position	Local Consultant - Infrastructure, Security and DevOps Analyst
Duty Station	Aden, Yemen (embedded at CBY premises)
Duration	7 months
Level	NPSA 3 through a third-party contracting firm
No. of positions	1
Supervisor	Administrative: UNDP Fintech Sandbox Project Manager. Day-to-day technical direction: International Senior Technical Advisor (Fintech Sandbox). Substantive technical supervision: designated CBY Sandbox Unit focal point.

Background

UNDP is launching the Fintech Sandbox as a new initiative for the Central Bank of Yemen (CBY) to facilitate fintech innovation. The Fintech Sandbox supports financial inclusion by developing pilot tools and assisting fintech entities to develop and pilot their solutions for the financial sector under CBY's oversight. The Fintech Sandbox serves as the foundational step toward launching a full Regulatory Sandbox in Yemen.

The initiative focuses on three core operational pillars:

- Enhancing the Fintech Sandbox operating environment in CBY: establishing the structural governance, operational manuals, and secure IT infrastructure (including enterprise servers and a digital Lab Portal) required to safely manage and monitor sandbox participants.
- Developing technologies: designing and launching targeted pilot technologies such as Unified QR standards and SoftPOS solutions that support the use and operation of Yemen's broader payments infrastructure.
- Organizing a Fintech Hackathon: cultivating local innovation by hosting a competitive hackathon to train local entrepreneurs, test new ideas, and pilot the winning financial solutions through the Fintech Sandbox.

Through this intervention, UNDP ensures the new initiative complements and adds strategic value to the World Bank-funded Yemen Financial Market Infrastructure and Inclusion Project (FMIIP), which is also implemented by UNDP for CBY.

Objective of the role

The objective of this assignment is to engage a local Infrastructure, Security and DevOps Analyst, embedded at the CBY Fintech Sandbox Lab, to support CBY in setting up, securing, and operating the foundational IT infrastructure of the Sandbox. This includes the on-demand virtualization platform, network connectivity, baseline security controls, and the DevOps tooling required to host, isolate, and run pilot solutions from internal teams, external fintech entities, and Hackathon participants. The analyst operates under the day-to-day technical direction of the International Senior Technical Advisor and the substantive technical supervision of the CBY Sandbox Unit. The role provides the operational backbone that enables the work of the Database Administrator, the Software Developer, and pilot teams within the Sandbox environment.

Scope of work

All technical activities under this assignment are undertaken in support of the Central Bank of Yemen (CBY) and under its direct technical authority. Day-to-day technical direction is provided by the International Senior Technical Advisor (Fintech Sandbox). The consultant does not exercise decision-making authority over regulatory, supervisory, or financial sector matters. All technical outputs, testing activities, onboarding decisions, and pilot parameters are subject to validation, approval, and oversight by the CBY Sandbox Unit and relevant CBY departments.

Within this framework, the analyst carries out the following activities:

1. Sandbox infrastructure and on-demand virtualization platform

- Support CBY in setting up and administering the Sandbox virtualization platform on the dedicated CBY floor, enabling on-demand provisioning of virtual machines for internal pilots, external fintech entities, and Hackathon teams.
- Configure standard VM templates, snapshots, storage allocation, and resource monitoring to support parallel pilot testing without interference between participants, in line with CBY IT policies.
- Support operations of the underlying physical and virtual servers, storage, and network equipment supplied under the project, including installation, configuration, performance monitoring, and ongoing availability.
- Coordinate with the Database Administrator on hosting database environments, and with the Software Developer on hosting application stacks and the Sandbox Portal, under the technical direction of the International Senior Technical Advisor.
- Support the setup of the Sandbox infrastructure and virtualization platform by installing and configuring servers, storage, and network equipment, deploying the virtualization platform, preparing standard VM templates, and documenting the baseline architecture and IP plan for CBY review and retention.

2. Network, connectivity, and workspace IT

- Support CBY in configuring and maintaining the Sandbox local network, including VLAN segmentation between management, internal pilots, and external participants.
- Support the management of internet connectivity, firewall rules, VPN access for authorized remote support, and Wi-Fi configuration on the Sandbox floor, in line with CBY network policies.
- Support the setup and maintenance of workstations (PCs, peripherals), printers, and meeting and training room IT used by the Sandbox Unit.
- Support the operational readiness of network, connectivity, and workspace IT by configuring VLAN segmentation, firewall rules, authorized remote access, Wi-Fi services, workstations, and meeting room IT in line with CBY policies.

3. Security operations and system hardening

- Support CBY in applying baseline security hardening on servers, workstations, and network devices in line with CBY policies (patching, user accounts, password policy, disabling unused services and ports).
- Support endpoint protection management, OS patching cycles, and basic log collection for the Sandbox environment.
- Support the implementation of secure access to the Sandbox (multi-factor authentication where feasible, role-based access, audit logs), in coordination with the Database Administrator and the Software Developer, and in line with CBY security standards.
- Coordinate with CBY IT and information security counterparts on security incidents affecting the Sandbox, and contribute to first-line response, containment, and documentation of evidence.
- Support the implementation and documentation of the security baseline by applying OS and device hardening, maintaining access controls, recording security configurations, and supporting incident tracking and evidence documentation.

4. DevOps, automation, and operational tooling

- Support CBY in setting up basic DevOps tooling for the Sandbox Lab (version control repository, build and deployment scripts, configuration management) to support repeatable deployment of pilots and Sandbox Portal updates.
- Automate routine administration tasks (backups, monitoring checks, account provisioning, log rotation) using shell scripts or standard automation tools, in coordination with the International Senior Technical Advisor.
- Set up a basic monitoring and alerting stack for servers, VMs, network devices, and key services to give the Sandbox Unit visibility on availability and performance.
- Implement and periodically test a regular backup and restore routine for Sandbox VMs, configurations, and Portal data, in coordination with the Database Administrator.
- Support the deployment and testing of DevOps tooling, monitoring, and backup routines, including version control, deployment scripts, configuration management, scheduled backups for VMs and Portal data, and monitoring and alerting arrangements for key Sandbox services.

5. Support to pilots, Hackathon, and external participants

- Provision isolated virtual environments for each pilot (for example SoftPOS, Unified QR, e-KYC simulation, SupTech) and for Hackathon winning teams, ensuring clear separation between participants and adherence to CBY-approved parameters.
- Support the Software Developer and external fintech teams in deploying their solutions on the Sandbox infrastructure (operating system, runtime, network access, certificates).
- Provide first-line technical support on infrastructure issues during live test windows, demonstration days, and the Hackathon.
- Support pilot environment provisioning and Hackathon activities by preparing isolated VM environments for approved pilots and Hackathon winning teams, supporting solution deployment, and providing first-line infrastructure support during live testing and demonstration activities.

6. Documentation, reporting, and knowledge transfer

- Maintain up-to-date documentation of the Sandbox infrastructure: network diagram, server and VM inventory, IP addressing plan, user and access matrix, backup plan, and standard operating procedures, for CBY review and retention.
- Provide practical knowledge transfer to designated CBY Sandbox Unit staff on day-to-day infrastructure operations (VM provisioning, basic monitoring, backups, user management).
- Submit monthly progress reports covering activities performed, system status, key incidents and risks, and the workplan for the following month, to the UNDP Project Manager, the International Senior Technical Advisor, and the CBY focal point.
- Maintain infrastructure documentation, knowledge transfer materials, operational records, and monthly progress reports to support CBY ownership, continuity, and handover of the Sandbox infrastructure and related operational procedures.

All pilot activities, onboarding decisions, testing protocols, and validation processes remain under the authority of CBY. The consultant's role is limited to technical assistance, coordination, and facilitation.

Payment modality and schedule (monthly)

The assignment is remunerated on a monthly basis at a fixed monthly fee, payable in arrears, subject to satisfactory performance during the month.

Monthly payment is processed upon:

- submission of a monthly invoice or payment request by the consultant;
- submission of a monthly progress report summarizing activities performed, results achieved, key issues and risks, and the workplan for the following month;
- submission of a monthly timesheet or attendance record, if required under the applicable contract modality;
- written certification of satisfactory performance by the UNDP supervisor in coordination with the CBY focal point.

Payments may be withheld or deferred if the required monthly documentation is not submitted or if performance is assessed as unsatisfactory, until corrective actions are completed and accepted. The monthly fee is prorated for any partial month worked.

Institutional arrangement

The consultant works under the administrative supervision of the UNDP Fintech Sandbox Project Manager. Day-to-day technical direction is provided by the International Senior Technical Advisor (Fintech Sandbox). Substantive technical supervision and validation of work products are exercised by the designated CBY Sandbox Unit focal point, in line with CBY institutional standards and supervisory requirements. The consultant applies and promotes results-based management and a client-oriented approach consistent with UNDP rules and regulations.

Competencies

Core competencies

- Achieve results: delivers quality outputs, plans resources efficiently, and ensures accountability.
- Think innovatively: proposes practical, secure technical solutions in support of CBY priorities.
- Learn continuously: seeks learning proactively and shares knowledge.
- Engage and partner: practices teamwork and builds collaborative networks.

Technical competencies

- Virtualization and infrastructure operations: VM platforms (for example VMware, Proxmox, KVM, Hyper-V), server and storage operations, and capacity planning.
- Network engineering: VLANs, firewalls, VPN, routing, switching, and Wi-Fi for secure office and lab environments.
- Security operations and hardening: endpoint protection, patching, access control, MFA, audit logging, and incident response in regulated environments.
- DevOps and automation: version control, deployment automation, configuration management, monitoring and alerting, and backup and restore practices.
- Documentation and knowledge transfer to institutional teams.

Required qualifications

Education

- University degree (Bachelor's or Master's) in Computer Science, Information Technology, Network Engineering, Cybersecurity, or a closely related field.

Experience

- Professional experience in IT infrastructure, network and security operations, systems administration, or DevOps engineering.
- Demonstrated experience setting up and operating virtualization platforms, secure networks, and DevOps tooling in regulated or enterprise environments.
- Experience supporting financial sector or government IT environments is a distinct advantage.
- Experience working with or within regulatory bodies (experience with CBY is an advantage).

Skills

- Strong command of Linux and Windows server administration, virtualization platforms, networking, and basic scripting (for example Bash, Python, PowerShell).
- Practical understanding of secure deployment practices, baseline hardening, and incident response.
- Ability to produce clear technical documentation (network diagrams, runbooks, access matrices).
- Fluent in Arabic and English, with strong technical writing skills in both languages.
- Ability to operate full-time embedded at CBY premises in Aden and coordinate closely with UNDP, the International Senior Technical Advisor, and CBY counterparts.

Mahir Chekkoury

Project Manager

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Mahir Chekkoury

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