



Issued on: 10 October 2017

Deadline For Application: 24 October 2017

JOB TITLE: Data Engineer

TYPE OF CONTRACT: Consultant

DUTY STATION: Rome, Italy

ORGANIZATIONAL UNIT: INFORMATION TECHNOLOGY DIVISION,
CIO

DURATION: Up to 11 months

FAO seeks gender, geographical and linguistic diversity in its staff and international consultants in order to best serve FAO Members in all regions.

Qualified female applicants and qualified nationals of non-and under-represented member countries are encouraged to apply.

Persons with disabilities are equally encouraged to apply.

All applications will be treated with the strictest confidence.

Organizational Setting

This proposal is part of a broader initiative that leverages the knowledge of FAO and its strategic partners in the mobile world, promoting digital inclusion for smallholders and family farmers in Rwanda and Senegal, both countries that represent the face of digital divide, rural poverty and malnutrition. Through adoption of mobile applications in Agriculture, initially four services will be deployed directly in the field (Weather and Crop Calendar, animal health and feed, nutrition production, and trade and prices), aiming to change the way rural households do business, manage their assets and access essential information for their daily needs and opportunities. It will contribute directly to the reducing poverty, end of hunger, and family farming resilience policy and governance related results envisioned under FAO Strategic Objectives 2, 3 and 5.

Reporting Lines

Under the direct supervision of the Information Technology Officer (Development area), the candidate will act as Data Engineer performing the following functions.

He/she will work in close collaboration with the FAO Representations and local developers' teams in Senegal and Rwanda.

Technical Focus

Under the overall direction of the Senior Software Development Officer, and the day-to-day management of the software development technical team leader, the incumbent will perform the below mentioned duties with respect to information systems.

Tasks and responsibilities

- Participate in an Agile software development team building high quality and effective software products that deliver real business in the shortest time.
 - Design and develop reliable, resilient, scalable and performant data services and processes in close collaboration with frontend, backend and DevOps developers and Information and Systems Architects.
 - Orchestrate, compose, configure and integrate data services (including cloud based).
 - Design, document and publish data service interfaces API.
 - Design and execute functional, performance and security testing and verification.
 - Program, test, debug and maintain services; also address systems performance issues and crashes as per operations requests when necessary.
 - Participate in defining, implementing and mainstreaming information and data models, policy and best practices.
 - Ensure service consistency, coherency and compliance with appropriate organizational standards in close collaboration with quality assurance (QA) and information and system architecture.
 - Other related duties as necessary.
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CANDIDATES WILL BE ASSESSED AGAINST THE FOLLOWING

Minimum Requirements

- **For Consultants:** Advanced university degree in Computer Science or closely related discipline.
For PSA: University degree or relevant educational certification in Computer Science or closely related discipline.
- **For Consultants:** Working knowledge of English and limited knowledge of one of the following, French, Spanish, Arabic, Chinese, or Russian.
For PSA: Working knowledge of English.
- 5 years of relevant experience
- Demonstrable ability to design and implement data services.
- Ability to communicate effectively.
- Experience working in software development teams.

FAO Core Competencies

- Results Focus
- Teamwork
- Communication
- Building Effective Relationships
- Knowledge Sharing and Continuous Improvement

Technical/Functional Skills

- Data design, modelling, processing, publication and optimization.
- Data service programming techniques, languages, frameworks and cloud services specifically including micro-services, wso2, Java, R, Python and JavaScript.
- Managing a complex data environment, including classified data.
- Connecting and managing data flows from information systems, data warehouses and external sources.
- Strong data analytical skills - data organization, modelling and analysis.
- Strong attention to detail and accuracy.
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Selection Criteria

- Length of experience in developing data services
- Quality of data service developed.
- Depth of knowledge and skill in data management programming and modelling techniques, languages and frameworks e.g.
 - Extract, Transform, Load (ETL) – Talend, GCP Dataflow, wso2
 - Data modelling - R
 - Data Query - SQL, NoSQL, SPRQL, JSONpath, XPath and XQuery
 - Online Analytical Processing (OLAP) – Pentaho Mondrian
 - Master Data Management (MDM) - EBX5.
 - Databases including MySQL, PostgreSQL, MongoDB, DynamoDB, Bigtable and Firebase.
 - Semantic Web, Linked Open Data and Triplestores
 - Data caching and optimization.
- Familiarity with data and metadata formats, protocols and standards e.g.
 - JSON, XML
 - Statistical Data and Metadata eXchange (SDMX)
 - Data Documentation Initiative (DDI)
 - Geographic information Metadata (ISO 19115)
 - Open GIS Consortium (OGC)
 - Functional Requirements for Bibliographic Records (FRBR)
 - Metadata Object Description Schema (MODS)
 - Dublin Core
 - Global Open Data for Agriculture and Nutrition (GODAN),
 - International Aid Transparency Initiative (IATI)
 - XMP, IPTC and EXIF
- Ability to clearly communicate.
- Ability work in an agile software development team.

Please note that all candidates should adhere to *FAO Values of Commitment to FAO, Respect for All and Integrity and Transparency.*

ADDITIONAL INFORMATION

- All applications will be reviewed and qualified applicants will be contacted for interviews.
- FAO does not charge a fee at any stage of the recruitment process (application, interview meeting, processing).
- Incomplete applications will not be considered. If you need help, or have queries, please contact: iRecruitment@fao.org
- Applications received after the closing date will not be accepted.
- Only language proficiency certificates from UN accredited external providers and/or FAO language official examinations (LPE, ILE, LRT) will be accepted as proof of the level of knowledge of languages indicated in the online applications.
- For other issues, visit the FAO employment website: <http://www.fao.org/employment/home/en/>

HOW TO APPLY

To apply, visit the iRecruitment website at <http://www.fao.org/employment/irecruitment-access/en/> and complete your online profile. Only applications received through iRecruitment will be considered.

Candidates are requested to attach a letter of motivation to the online profile.

Vacancies will be removed from iRecruitment at 23:59 Central European Time (CET) on the deadline for applications date. We encourage applicants to submit the application well before the deadline date.

If you need help, or have queries, please contact: iRecruitment@fao.org

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