



PROXym[®]

PFE BOOK

START YOUR CAREER OFF RIGHT

2025



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WHO ARE WE?



Proxym is an international Digital Services Group founded in 2006. The group mainly targets the European, African and Gulf markets focusing on several connectivity and information system (IS) projects, mainly in the financial (banks, microfinance and insurances...) as well as government sectors.

Proxym employs today a very large number of highly qualified engineers that have as motivation our motto **"We Deliver Your Digital Ambitions"** making us an asset to their success as much as it is to us.



Mission, Vision & Values

Our Mission is to support financial institutions (Bank, Insurance...) as well as public and private institutions to transform their digital ambitions into reality thanks to the agility and commitment of our human capital who designs, in a multicultural environment, solutions with innovative technologies.

We aspire to be as important to the success of our customers and our human capital as they are to our own success. We aim to excel and leverage our innovative spirit and great HR potential to become the recognized leader in digital solutions in the EMEA region.



CHALLENGE



ENGAGEMENT



TEAMWORK



RESPONSABILIZATION



ADAPTABILITY



GLOBAL-MINDED



Proxym in numbers

Expertise, Skills & Know How

2006

Fondation

+250

Digital Consultant

3

Continents

+600

IT & Digital Projects

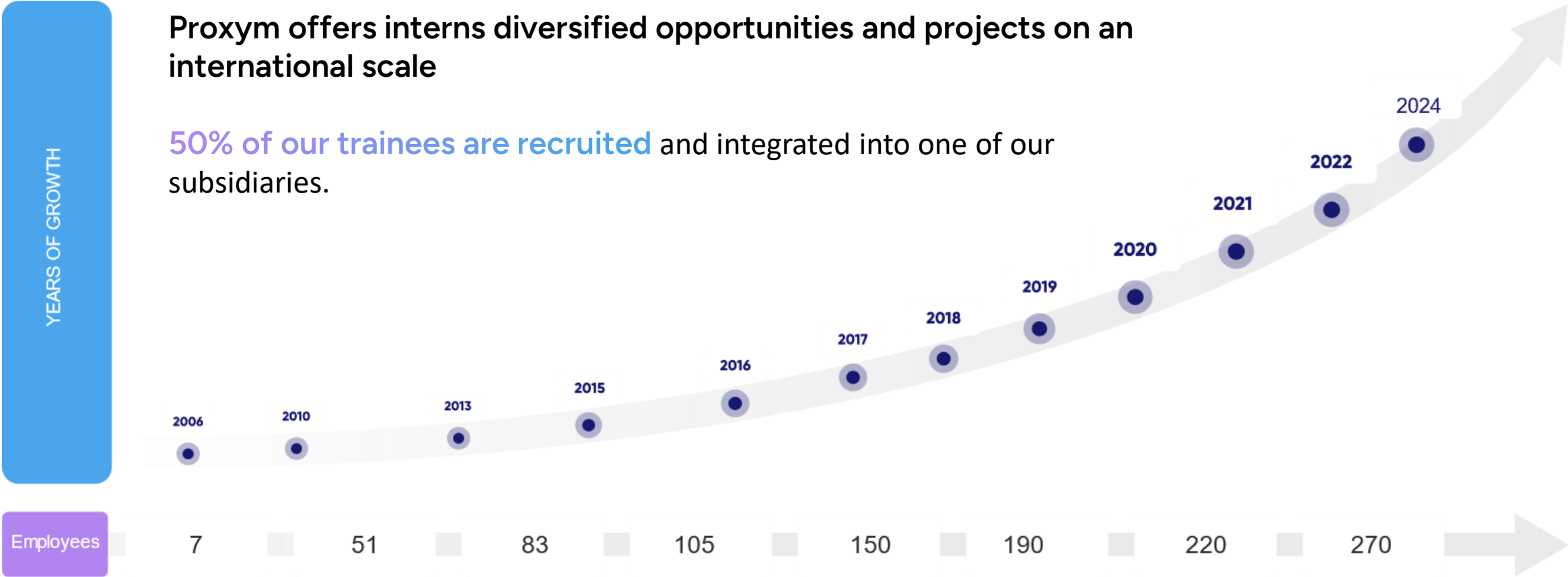
05

Excellence centers :
Tunisia, France, UAE,
Egypt & Côte d'Ivoire

Industries

35% Public Institutions
35% Financial Institutions
30% Start-ups & Innovation

Evolution of Proxym



Global Offices



Proxym IT Tunisia



Proxym France



Proxym Middle East



Proxym Egypt



Proxym Africa

Technologies



Front End

ReactJS, Angular, Flutter, React Native, Native Android, Native iOS, Kotlin



Back End

Java/JEE, Spring, Node JS, BPM, SQL/noSQL Databases



Cloud DevOps & Integrations

Microsoft Azur, Amazon AWS, Kubernetes, Kafka, API SOAP / REST, Docker, GIT, ArgoCD, KMS, KeyCloak, Jenkins

Benefits



LEARNING AND SKILLS DEVELOPMENT

TECHNICAL TRAINING

COACHING

SUPERVISORY

HOW TO APPLY?

Steps to follow

<https://trainees-platform.proxym-group.net>



REGISTER ON THE
PLATFORM



APPLY
(3 SUBJECTS MAXIMUM)



INTERVIEWS



VALIDATION

LIST OF PROJECTS

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1 Bid Management Application



1 Trainee



Technologies and Tools :

- Flowable/BPMN2
- React.js
- Chakra UI
- Spring Boot
- PostgreSQL
- Keycloak



Required profile
Software Engineer

REF : PRX-2025-01

Development of a Web application to plan, manage and track activities for responding to requests for proposals and consultations.

Activity tracking will be managed by workflows and business processes according to the BPMN2 standard.

The application must also offer Dashboards and Statistics on the status of current activities as well as the history.

2

Gift Card Management Platform



1 Trainee



Technologies and Tools :

- React.js
- Node.js
- PostgreSQL
- Keycloak



Required profile
Software Engineer

REF : PRX-2025-02

Development of a web platform for gift cards management intended for online and physical stores.

The platform will allow merchants to register, personalize and distribute gift cards to their customers.

3 Library Management Application



1 Trainee



Technologies and Tools :

- React.js
- Spring Boot
- BPMN/ Flowable
- PostgreSQL



Required profile
Software Engineer

REF : PRX-2025-03

Development of a web platform for managing bookstores and online reading communities.

The application will allow bookstores to manage their internal processes while providing an interactive space for readers.

4

Bot For Tasks Creation



1 Trainee



Technologies and Tools :

- Langchain
- AI
- Spring Boot
- Java
- SonarQube
- GitLab



Required profile
Bachelor's Degree

REF : PRX-2025-04

This subject focuses on automating the creation of ClickUp tasks from various data sources.

- The initial entry point for any project will be an FSD (Functional Specification Document). We aim to apply an AI-generated layer to translate the FSD into ClickUp tasks.
- Integrate with SonarQube, so when projects reach certain measures, tasks are automatically created for developers to fix.
- Explore the potential of automating task creation in VCS (Version Control Systems), specifically in GitLab, using web APIs.

5

Booking Platform

Micro-services



1 Trainee



Technologies and Tools :

- MongoDB
- Spring Authorization Server
- Spring Resource Server
- Spring OAuth2 Client
- Angular
- Google Maps
- Spring Cloud
- Spring WebFlux



Required profile
Software Engineer

REF : PRX-2025-05

This project aims to integrate several Spring framework dependencies while maintaining a strong focus on security measures. To achieve this, we will implement an OAuth2 microservice in a booking platform project. The exact functionalities may vary depending on the candidate's progress, but the primary focus is to utilize a less common dependency from Proxym.

Internally, most of the booking platform uses providers to supply the resources available for booking (e.g., hotels, airplanes, restaurants). We plan to either support these resources manually or simulate responses by mocking REST services.

6

Multi-Level Validation in Process Modeling Systems



1 Trainee



Technologies and Tools :

- Java/Spring boot
- ReactJS
- Relational DB : postgresSQL
- keycloak



Required profile
Software Engineer

REF : PRX-2025-06

The system is designed to enable the creation and modeling of processes that require multi-level validation.

Each step in a process can be subject to specific validation rules involving multiple user groups, with request information displayed dynamically through adaptable forms.

7

A Bank Credit Management Module



1 Trainee



Technologies and Tools :

- Java
- SpringBoot
- PostgreSQL
- Docker
- OneSignal
- React



Required profile
Software Engineer

REF : PRX-2025-07

The project allows users to simulate any type of credit. But not only for simulation; it also enables users to apply for credit entirely online.

8

Design & Development of a Web & Mobile E-Statement Application



1 Trainee



Technologies and Tools :

- Java /Spring Boot
- MySQL / Oracle
- React
- Mobile : Flutter Or React Native
- SSL Encryptpion
- Keycloak



Required profile
Software Engineer

REF : PRX-2025-08

The goal of this project is to design and develop a web and mobile application (distinct from the banking application) that allows users (both individuals and businesses) to securely and effectively view, download, and manage their bank statements.

The application will offer graphs and tables to analyze monthly or annual expenses and incomes.

9

Online Claims Management Insurance Portal



1 Trainee



Technologies and Tools :

- React
- Spring Boot
- Flowable
- Keycloak



Required profile
Software Engineer

REF : PRX-2025-09

Creation of a Client Portal for Online Claims allowing its reporting and tracking (Auto, Home, Health)

10

Implementation of a Client Request Management Application



1 Trainee



Technologies and Tools :

- React
- Tailwind CSS
- Tailwind UI



Required profile
Software Engineer

REF : PRX-2025-10

Implementation of a Client Request Management
Application :

- Revamp an Existing Application Based on Tailwind UI
- Development of Statistical Modules and Dashboards
- Authentication Based on the OpenID Connect Protocol

11

Implementation of a BPM Process Modeler Using bpmn.js



1 Trainee



Technologies and Tools :

- TailWind CSS
- Bpmn.js
- React Js



Required profile
Software Engineer

- REF : PRX-2025-11

Use the library bpmn.js to create a feature-complete BPMN modeler compatible with Flowable BPMN extensions.

12

Integrating Elastic APM with ECK Operator for Cluster

and Application Monitoring in a Microservices-Based Solution



1 Trainee



Technologies and Tools :

- Kubernetes /ECK
- Operator/Elastic APM/Bankerise
- Application (Microservices Architecture)



Required profile
Software Engineer

REF : PRX-2025-12

The Kubernetes cluster and the Bankerise solution will have comprehensive observability, allowing the team to monitor, troubleshoot, and optimize performance in real-time.

13

Integrating Automated Security Testing into GitLab CI/CD Pipelines for the Bankerise Solution



1 Trainee



Technologies and Tools :

- GitLab CI/CD /OWASP ZAP/Bankerise
- Solution/Docker/Kubernete



Required profile
Software Engineer

REF : PRX-2025-13

The Bankerise development team will have a robust security testing framework integrated into their CI/CD pipelines. This will allow for early detection of vulnerabilities, better overall security posture, and compliance with security best practices.

14 Project Financial Management



2 Trainees



Technologies and Tools :

- React.js
- Node.js
- Keycloak
- Kibana
- Elastic search



Required profile
Bachelor's Degree
Software Engineer

- REF : PRX-2025-14

Development of a module for financial management and monitoring project, integrated with ClickUp, the operational project management tool.

Key Features:

- Workflow for project budget preparation and validation
- Cost estimation, tracking, and analysis
- Variance management and profitability analysis
- Individual and consolidated reporting (portfolio level)
- Change management
- Notifications & Alerts

15

Development of a

Mobile Augmented Reality Application for
3D Product Visualization



1 Trainee



Technologies and Tools :

- React Native
- NestJS
- PostgreSQL
- ARCore & ARKit



Required profile

Bachelor's Degree
Software Engineer

• REF : PRX-2025-15

The aim of this project is to develop a cross-platform mobile application (Android and iOS) allowing customers to view second-hand products in 3D before ordering or purchasing them.

16

Real-Time Analytical Dashboard for Banking Applications



1 Trainee



Technologies and Tools :

- React.js
- Spring Boot
- ELK Stack (Elasticsearch, Logstash, Kibana)



Required profile
Bachelor's Degree
Software Engineer

REF : PRX-2025-16

Create a real-time dashboard that analyzes performance metrics, API latencies, and critical banking transactions, using React.js for the user interface.

17

Development of a Mobile Application for a Custom Cryptocurrency Wallet



1 Trainee



Technologies and Tools :

- Private Blockchain (OpenEthereum)
- Web3.js
- React Native
- NestJS
- MongoDB
- 2FA Security



Required profile
Bachelor's Degree
Software Engineer

REF : PRX-2025-17

The goal of this project is to develop a cross-platform mobile application (Android and iOS) that enables users to manage a custom cryptocurrency.

The application will be dedicated solely to managing this cryptocurrency, allowing users to send and receive tokens and view their transaction history.

Additionally, security features like two-factor authentication (2FA) will be integrated to ensure the protection of users accounts and digital assets.

18

Dynamically Generated Form Library

Based on JSON Schema



1 Trainee



Technologies and Tools :

- NodeJS
- React Native
- ReactJS
- Zod
- React Hook Form
- Storybook



Required profile
Bachelor's Degree
Software Engineer

REF : PRX-2025-18

Development of a generic library for generating dynamic forms based on JSON schemas, compatible with ReactJS and React Native applications.

The library should be flexible enough to accept customizable UI components tailored to each platform.

19 Smart Email Inbox



1 Trainee



Technologies and Tools :

- ReactJS
- Python
- Scikit learn
- Pandas
- NestJS



Required profile
Bachelor's Degree
Software Engineer

REF : PRX-2025-19

This AI-based solution aims to automate email management within companies.

The project enables email classification, extraction of relevant information, and generation of automated responses. The primary objective is to reduce email processing time while enhancing customer service efficiency through faster and more accurate replies.

This solution is designed to optimize internal and external communication management, contributing to an improved organizational performance.

20

Connected Dining

For a Social Experience



1 Trainee



Technologies and Tools :

- Java / SpringBoot
- Flutter
- PostgreSQL



Required profile

Bachelor's Degree

Software Engineer

REF : PRX-2025-20

Revolutionize the coffee experience by integrating features like automatic check-in, anonymous chat, and order tracking to promote social interaction and convenience. With options like dynamic menus, augmented reality reservations, and a loyalty program. It creates an engaging and personalized environment for users.

21

Creation of an Intuitive and Flexible Form Builder



1 Trainee



Technologies and Tools :

- NestJS
- ReactJS



Required profile
Bachelor's Degree
Software Engineer

REF : PRX-2025-21

A form builder similar to Form.io that allows users to create and manage forms intuitively using drag-and-drop elements, conditional logic, and custom validations.

This project provides interns with an enriching opportunity to learn frontend development, API integration, and real-time data management while designing a powerful and flexible solution.

22

Identity Validation via OCR for Banking Services



1 Trainee



Technologies and Tools :

- SwiftUI
- UIKit
- XML
- Jet Pack Compose
- NestJS
- ReactJS



Required profile
Bachelor's Degree
Software Engineer

REF : PRX-2025-22

The project aims to develop an identity validation system based on Optical Character Recognition (OCR), allowing the scanning of passports or national identity cards (CIN) and comparing the extracted data with the information provided by the user.

This solution, integrated into digital banking services, ensures secure identity validation before granting access to services.

23

Development of a Kubernetes Operator

for Deploying and Managing Updates for a Digital Banking Solution



1 Trainee



Technologies and Tools :

- Docker / Containerd
- Kubernetes
- Helm
- Operator SDK
- Golang
- Prometheus



Required profile
Bachelor's Degree
Software Engineer

REF : PRX-2025-23

This project aims to design and develop a Kubernetes operator (CRDs) capable of deploying and managing a digital banking solution.

This operator will streamline maintenance operations and enable continuous updates (rolling updates) of the different services within the banking application, while ensuring high availability and enhanced security (RBAC, OPA, ...).



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