

MOHANNAD MUHANA

Software Engineer / .NET Developer

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ABOUT ME

Software Engineer specializing in .NET backend development, industrial IoT, SCADA, and real-time data systems. Experienced in designing high-throughput APIs, distributed data acquisition platforms, industrial communication integrations, and monitoring solutions using ASP.NET Core, C#, SQL, Redis, MQTT, and Modbus. Experienced across the full system lifecycle—from industrial device integration and backend architecture to deployment on Windows and Linux infrastructure.

WORK EXPERIENCE

Israr Engineering LLC – Amman, Jordan

Software Engineer / .NET Developer | Sep 2022 – Present

- Architect and develop industrial IoT, SCADA, PPC, and data acquisition systems using ASP.NET Core, C#, SQL, and industrial communication protocols.
- Designed a distributed multi-site data synchronization platform processing 60,000+ data points/minute across 10+ industrial sites, with parallel processing, caching, and resilient data handling.
- Develop high-performance REST APIs and background services for real-time telemetry, monitoring, control, and historical data, using asynchronous processing, multithreading, message queues, and Redis caching for high-throughput workloads.
- Built real-time alarm and event-management systems with configurable rules, lifecycle tracking, and instant notifications, reducing operational response time by approximately 40%.
- Integrate PLCs, power meters, inverters, sensors, dataloggers, and solar tracking systems using Modbus TCP/RTU, MQTT, serial communication, TCP/UDP, and HTTP APIs.
- Design and optimize SQL Server and MySQL databases for high-frequency industrial telemetry, historical data, configuration, and reporting.
- Develop secure Angular/web applications and SCADA dashboards for monitoring, historical trends, alarms, and equipment status, integrating ASP.NET Core APIs with JWT/OAuth2 authentication and role-based authorization.
- Manage production infrastructure across Windows Server/IIS and Linux, including deployments, Plesk, SSL, reverse proxies, backups, performance monitoring, and remote-site connectivity using VPN, WireGuard, and port forwarding.
- Collaborate with electrical, automation, and mechanical engineers to deliver end-to-end industrial solutions from device integration to backend software and operator interfaces.

TECHNICAL SKILLS

Languages & Frameworks: C#, ASP.NET Core, .NET 8, Web API, Entity Framework Core, LINQ, Python, Angular, JavaScript, HTML/CSS, PHP/Laravel

Backend & API Development: REST APIs, Background Services, Async/Await, Multithreading, Parallel Processing, Message Queuing, WebSockets, SignalR, JWT, OAuth2, Role-Based Access Control

Databases & Data: SQL Server, MySQL, Redis, SQL, Database Design, Query Optimization, JSON/XML, High-Frequency Time-Series Data

Industrial & IoT: SCADA, PPC, Data Acquisition, Datalogging, MQTT, Modbus TCP/RTU, TCP/UDP, Serial Communication, Industrial IoT, Real-Time Telemetry

Industrial Hardware: PLCs, Power Meters, Inverters, Sensors, Dataloggers, Solar Tracking Systems, Arduino/Microcontrollers

DevOps & Infrastructure: Windows Server, Linux, IIS, Plesk, cPanel, VPS Administration, Nginx, Reverse Proxy, SSL/TLS, Deployment Automation, Backup & Recovery

Networking: WireGuard, VPN, TCP/IP, Port Forwarding, Serial-to-IP Communication, Remote Site Connectivity

Development Tools & Practices: Git, GitHub, Visual Studio, VS Code, Swagger/OpenAPI, Postman, Agile/Scrum, SDLC, System Design

HIGHLIGHTED PROJECTS

Industrial Alarm & Event Management System

- Designed a real-time alarm management backend supporting configurable alarm rules, event lifecycle tracking, acknowledgment, and historical records.
- Developed APIs and real-time communication mechanisms for delivering equipment and process alarms to SCADA/web dashboards.
- Improved operational issue response time by approximately 40%.

Industrial IoT / SCADA Integration Platform

- Developed backend services for integrating meters, inverters, PLCs, sensors, and dataloggers with centralized SCADA and web applications.
- Implemented communication using Modbus TCP/RTU, MQTT, TCP/UDP, serial interfaces, and REST APIs.
- Built data acquisition, device monitoring, historical storage, and remote diagnostics functionality.

Solar Tracker Controller

- Developed software for controlling solar tracking systems using real-time sensor measurements and actuator commands.
- Implemented device communication, positioning logic, telemetry acquisition, and system-status monitoring.

Modbus Tester & Communication Tools

- Developed engineering tools for Modbus device testing, register validation, serial/TCP communication, and port forwarding.
- Used the tools for commissioning and troubleshooting industrial devices and communication networks.

EDUCATION

Bachelor of Computer Science

University of Jordan – Amman, Jordan