

# JOSHUA NICHOLS

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TheJNichols.com

## Professional Summary

Senior Software Developer (14+ years) specializing in secure backend systems for critical infrastructure. 200+ hours of hands-on penetration testing and cybersecurity training (Hack The Box, RIT MicroMasters). Targeting Application Security, Penetration Testing, or OT/ICS security roles.

## Technical Skills

- Languages & Frameworks: Java, Spring Framework, Spring Boot, SQL, XML parsing, Python & Bash (scripting)
- Databases & Tools: PostgreSQL, Docker, Git, Linux, Agile/Scrum methodologies
- Security Tools & Techniques: Burp Suite, Metasploit, Nmap, Wireshark, SQLMap, web application penetration testing, privilege escalation, cryptography, network security analysis
- Domain Expertise: Energy trading systems, real-time data processing, critical infrastructure, secure API development, data validation and integrity controls

## Cybersecurity Training & Certifications

### **Hack The Box (HTB): Penetration Testing and Cybersecurity Training / 200+ hours hands-on lab**

Jun 2024

Completed comprehensive penetration testing covering offensive security techniques, vulnerability exploitation, and defense strategies:

- Web Application Security: SQL injection, XSS, CSRF, authentication bypass, insecure deserialization, API security testing
- Network Penetration Testing: Reconnaissance, scanning, enumeration, lateral movement, privilege escalation techniques
- Tools & Frameworks: Proficient with Metasploit, Burp Suite, Nmap, Wireshark, SQLMap, Hashcat, John the Ripper
- Exploitation Techniques: Buffer overflows, privilege escalation (Windows/Linux), Active Directory attacks, post-exploitation
- Practical Application: Successfully compromised 50+ vulnerable lab machines across various operating systems and architectures

### **RITx MicroMasters: Cybersecurity through edX**

Mar 2019

Graduate-level cybersecurity program covering:

- Computer Forensics & Incident Response
- Cybersecurity Risk Management & Compliance
- Network Security & Defense Strategies
- Cybersecurity Capstone Project

## Professional History

### **Implementation Specialist**

Jan 2026 – Present

**Prometheus Group** – Raleigh, NC

Currently training on SAP Plant Maintenance systems and enterprise asset management solutions.

- Actively training on SAP Plant Maintenance (PM) systems and Enterprise Asset Management (EAM) solutions.
- Developing foundational knowledge of SAP PM modules and business processes to support system implementation.
- Learning enterprise maintenance management workflows, configuration steps, and system integration points.
- Gaining hands-on exposure to industrial and manufacturing IT systems and operational technology environments.
- Building cross-functional understanding of ERP/EAM systems to contribute effectively to future client implementations.

## Senior Software Developer

May 2011 – Jan 2026

### PCI Energy Solutions – Raleigh, NC

Developed secure, high-performance backend systems for energy trading and risk management platforms processing real-time market data.

- Architected data-parsing systems to process large volumes of ISO energy market data with robust validation and error handling
- Designed and implemented secure Java applications and RESTful APIs using Spring Boot, incorporating authentication, authorization, rate limiting, and OWASP best practices
- Built and maintained PostgreSQL schemas with least-privilege access, encrypted sensitive data, and audit logging
- Containerized applications with Docker using hardened configurations and isolated runtime environments
- Implemented unit and integration testing to ensure code quality and prevent security regressions
- Collaborated with cross-functional teams in an agile environment to deliver reliable, user-focused features
- Maintained 99.9%+ uptime for mission-critical trading platforms and reduced security vulnerabilities through proactive reviews and documentation

## Computer Service Technician Intern

Jan 2008 – May 2008

### Surry Community College – Dobson, NC

- Performed hardware/software troubleshooting for faculty and staff systems.
- Configured network infrastructure including printers, drivers, and secure cabling for enterprise environment
- Assisted with wireless access point deployment ensuring proper network segmentation and security controls

## Education

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### Bachelor of Science: Computer Science

Dec 2013

#### North Carolina State University - Raleigh, NC

Graduated: Summa Cum Laude (3.764 GPA) & Upsilon Pi Epsilon

Coursework: Senior Design, Java, C/C++, Software Engineering, Database Management Systems, Filing Processing, Data Structures, Artificial Intelligence, Web Computing

### Associate in Applied Science: Computer Information Technology (3.78 GPA)

Aug 2008

### Associate in Applied Science: Information Systems: Network Administration & Support

May 2008

### Associate in Applied Science: Networking Technology

May 2008

#### Surry Community College - Dobson, NC

Graduated: Phi Theta Kappa (3.78 GPA) & Mu Alpha Theta

Coursework: CCNA I - IV, Microsoft Client & Server, System Analysis & Design

## Professional Attributes

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- Security Mindset: Approach development with defender and attacker perspectives, proactively identifying vulnerabilities
- Communication: Translate complex technical security concepts for both technical and non-technical stakeholders
- Continuous Learning: Self-directed completion of advanced cybersecurity training while maintaining full-time engineering role
- Domain Expertise: Deep understanding of energy sector operations, trading systems, and critical infrastructure security requirements