



Industrial Ethernet Network Training

DATES



March 4th, 2025 (Tues)
March 5th, 2025 (Wed)
March 6th, 2025 (Thur)

LOCATION



Houston Marriot
Energy Corridor
16011 Katy Freeway
Houston, TX 77094
Phone: 281-829-5525

HOURS



Mon & Tues: 8:30 am - 4:30 pm
Lunch Provided: 12:00 pm - 1:00 pm
Wed: 8:30 am - 12:00 pm
(*Lunch on your own)

ETHERNET IN INDUSTRY

Ethernet communications are widely-used in control systems. To design, secure, and maintain reliable networks it is important that engineers and technicians have an in-depth understanding of the technologies available in industrial Ethernet hardware. This class starts at the Physical Layer of the OSI model and works up through the Layers 2, 3, 4, 5, 6, and 7 allowing the participant to understand how the fundamental network building blocks (switches, routers, and firewalls) function. Once the basics are understood, advanced features like redundancy, VLANs, prioritization, multi-cast management are presented.

INSTRUCTORS

Learning about Ethernet technology is only helpful when coupled with knowledge of how the technology can fit into the unique requirements of the industrial user. Keeping this need in mind, our classes are taught by an engineer with vast experience designing and implementing plant control systems. Don't settle for training geared for front office IT personnel!

REGISTRATION

[REGISTER NOW](#)
(Click Here)

Josh Azores

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(800) 889-1461

COST

\$945 – Includes three-day training, course binder, refreshments and lunch*.

Hotel accommodations are the responsibility of attendees.

CONTACT INS

Main Office (800) 889-1461

DAY ONE - ETHERNET NETWORKING BASICS - ETHERNET 101

After attending this Industrial Ethernet basics course, the student should be familiar with the basics of Ethernet networks, including the ability to design and install a simple plant Ethernet network.

- **Historical Overview**
- **Layer 1 – The Physical Layer**
 - Equipment
 - Topologies
 - Media
- **Layer 2 – The Data Link Layer**
 - Ethernet Frame
 - MAC Addresses
 - Switches
- **Layer 3 – The Network Layer**
 - IP Packet
 - IP Addresses
 - Routers

Session 8:30 am - Noon	Lunch Noon – 1:00 pm	Session 1:00 - 4:30 pm
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DAY TWO - ADVANCED ETHERNET & EMERGING TECHNOLOGIES - ETHERNET 201

After attending this class, participants will have a clear understanding of the technology required for interconnecting LAN segments within their facility. They will also have an understanding of the various advanced features managed-network devices offer, how these features are configured, and applied.

- **Layer 2/3 Plus – Advanced Networking**
 - Building Redundancy in Networks (LACP, STP, MRP, DLR, PRP, HSR)
 - Multicast Management (IGMP)
 - Diagnostics (Port Configuration & Mirroring)
 - Requirements for Industrial Protocols (EIP, Modbus TCP, PROFINET)
- **Layer 4 – The Transport Layer**
 - Segments
 - Ports
 - Firewalls
 - Access Control Lists (ACL)
- **Layer 5-7 – Applications Layer**
 - Dynamic Host Configuration Protocol (DHCP)
 - Simple Network Time Protocol (SNTP)
 - Precision Time Protocol (PTP)
 - Simple Network Management Protocol (SNMP)

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DAY THREE - ADVANCED ETHERNET & EMERGING TECHNOLOGIES - ETHERNET 201

After attending this class, participants will have a good overview of emerging Ethernet and networking technologies applicable to industrial network environments.

- **Wireshark Basics**
- **Widows Networking Troubleshooting Tools**
- **Wrap Up**
 - Q&A

Session 8:30 am - Noon
