Enabling the hyper-connected world

# DZS Academy Course Catalog

## Introduction

DZS believes the best customer is an educated customer.

Our instructors have decades of experience providing customers with technical instruction.  Our courses cover a broad range of topics including overviews, fundamentals, Operation, Provisioning to advanced techniques. Our leader led classes are led by a certified experienced instructor and will provide the student with an emersive lab intensive experience.

Our classes are small providing each student with dedicated access to our premier training labs as well, more attention from our instructors.

## Training Methodologies

### e-Learning

Self paced courses that are available for your staff when it is convenient no matter where they are located.

### Open Enrollment Virtual Instructor Led Training

Customers receive live, interactive training from a DZS trainer from their secure location(s). Available through Microsoft TEAMS and a remote laboratory environment accessed through a PC or laptop browser for a maximum of 12 students.

### Customer Dedicated Instructor Led Training

Customers receive personalized, interactive training from a DZS trainer at their location. Customers will need to provide a suitable training environment to include a projection system, student PCs, a classroom environment and external access to reach our training labs.

# GPON Overview

## Course Description

This course is designed to provide the student with the basic knowledge understanding of GPON technology and the network elements that support the GPON services.

## Intended Audience

Anyone that would would require a basic understanding of GPON to support their roll. All operators, sales and sales engineers, field engineers, technical and non technical managers.

## Course Topics:

- Understand basics of the GPON Network Architecture
- GPON as an FTTX solution
- PON comparison and Standards
- GPON Components and Heighlites
- Bandwidth and Traffic Management
- Optical Budget Calculations
- Video on GPON
- Conclusion - Why GPON

## Course Objectives:

Upon completion of this course, operators will be able to:

- Describe the four options for implementing GPON,Fiber to the Neighborhood, Fiber to the Curb, Fiber to the Home and Fiber to the Business.
- Describe the basics of Point to Point and Split FTTX Architecture.
- Understand the value of a passive network and the key elements required.
- Understand basic PON principles.
- Compare the five types of service - BPON, EPON, GPON, XPON1, XGSPON (NGPON2).
- Understand PON Bandwidth.
- Recall the PON standards governing the protocal and the value achieved.
- Describe and identify the purpose of the Optical Line Terminal "OLT", Splitters, Optical Network Terminal "ONT" in the network.
- Describe traffic flow between the end user devices and the Central Office within the GPON network.
- Understand how Optical Network Terminals "ONTs" are discovered on the network and evaluated for range.
- Understand Optical Network Terminal "ONT" activation techniques.
- Understand the purpose of the GEM Port "GPON Encapsulation Mode" is used for and how it is implemented.

- Understand GPON Traffic profiles and the options for bandwidth allocation.
- Understand the ONT configuration requirements and number supported by a single OLT port.
- Describe the purpose and methodology for GEM traffic multiplexing.
- Understand where and how AES Encryption algorithms are established.
- Recall GPON Layer 1 optional features.
- Understand what Optical Budget refers to and how it is calculated.
- Describe and identify the components within a GPON networks and the effects they have on loss of signal.
- Understand distance limitations between various components in the GPON network.
- Describe the two methods for deploying video on GPON.
- Understand IPTV topologies.
- Understand how the GPON solution manages multicast transmission and how the ONTs receive and manage video services.
- Understand the value of GPON as it relates to reduced cost and increased revenue.
- Understand GPON strategy for scalability and enhancements. Understand GPON strategy for scalability and enhancements.

# Velocity Broadband Overview

### Course Description

This course is designed to provide the student with the basic knowledge understanding of the Velocity series OLT- Optical Line Terminals and the various line cards that are supported.

### Intended Audience

Anyone required to support the V-Series OLT in the network. All operators, sales and sales engineers, field engineers, technical and non-technical managers.

### Course Topics:

- What is DZS Velocity Broadband
- Multi-card Chassis OLTs
- Cards and Optic Modules
- 1RU PON OLTs
- Access Switches
- Aggregation Switches
- MileGate Distribution Point Units (DPU)

## Course Objectives:

Upon completion of this course, operators will be able to:

- Understand the purpose and value of the DZS Broadband Access solution in the network.
- Understand the network topologies, services, locations and physical media supported.
- Understand SDNOS “Software Designed Network Operating System” and its purpose.
- Understand the chassis options supporting Passive Optical Networks in the Velocity series of products.
- Recall V2, V14 and V16 OLT configurations and their bandwidth capacities.
- Understand OLT redundancy for management and customer traffic.
- Recall V2, V14 and V16 OLT hardware and Environmental specifications.
- Understand airflow for the V14 and V16 chassis.
- Recall line card options for the OLT and their port capacities.
- Understand port mapping on the V2, V14 and V16 chassis.
- Understand the 1RU V5808 and V5816 OLTs purpose and value in the lower density subscriber network.
- Recall V5808 and V5816 port and bandwith capacities.
- Recall supported protocols for the V5808 and V5816.
- Understand the type of OLT manager supports the V5808 and V5816.
- Recall V5808 and V5816 environmental specifications.
- Recall the types of physical interfaces are available on the V5808 and V5816.
- Understand the purpose and value of the V1-08XC and V1-16XC OLTs.
- Recall the port capacities and interface types supported by the V1-08XC and V1-16XC OLT.
- Recall the environmental specifications of the V1-08XC and V1-16XC OLT.
- Understand the purpose and value of the V1-24XX compact ethernet access switch.
- Recall the features supported by the V1-24XX compact ethernet access switch.
- Understand the attributes of the V1-24XX compact ethernet access switch.
- Recall the physical interfaces available and environmental specifications of the V1-24XX compact ethernet access switch.
- Understand the purpose and value of the V6824XG and V6848XG Aggregation Switch.
- Recall the attributes of the V6824XG and V6848XG Aggregation Switch.
- Understand the purpose and value of the MileGate Distribution Point Units 205X and 2144.
- Understand the value of the MileGate 205X in an existing copper infrastructure network.
- Recall MileGate 205X and 2144 DPU bandwidth rates and protocols.
- Recall the MileGate 205X and 2144 DPU interfaces and environmental specifications.
- Understand the value of the MileGate 205X as an ONU.
- Understand the MileGate Timing Strategy.

**Course Length** – ½ day

**Course Modality** – Self Paced

# FiberLAN Operations and Maintenance

## Course Description

This course is designed to provide the student with the basic skills necessary to configure, provisions services, operate and maintain FiberLAN products in the network.

This is a blended learning course containing a mandatory self-paced course with the option to attend a 1 hour follow up virtual classroom session with an expert.

## Intended Audience

Anyone required to support the Velocity OLT and Helix ONTs in the network for FiberLAN.

## Course Topics:

- FiberLAN System Overview
- Velocity OLT and Helix ONT Basics
- Provisioning
- Surveillance and Troubleshooting

## Course Objectives:

Upon completion of this course, operators will be able to:

- Understand the purpose and value of the DZS FiberLAN access solution in the network.
- Understand the network topologies of PON “Passive Optical Network” and the advantages over traditional copper LAN networks.
- Understand the components found in a PON network.
- Understand the basics of a GEM “GPON Encapsulation Method” ports and the purpose.
- Recall V2, V14 and V16 OLT configurations and their bandwidth capacities.
- Understand OLT redundancy for management and customer traffic.
- Recall V2, V14 and V16 OLT hardware and Environmental specifications.
- Recall line card options for the OLT and their port capacities.
- Understand port mapping on the V2, V14 and V16 chassis.
- Understand the functions and the purpose of the management cards, fabric cards and line cards.
- Understand the protections options for the various Velocity models.
- Identify the many available Helix ONT models.
- Understand the configuration of each ONT and the use case for each.
- Understand the purpose and options for the ZMS Element Manager, WEB User Interface and

local Command Line.

- Identify the Velocity port numbering schema based on card type and location.
- Understand bridging concepts and the best type of bridge to provision based on the customer specific needs.
- Understand the various ZMS functions to provision, manage and monitor the OLTs and ONTs in the network.
- Understand the various Command Line options in CLI to provision, manage and monitor the OLTs and ONTs in the network.
- Use the WEB Client to access the ONT and view key data as it relates to provisioned ports, services, health of the ONT and access to test capabilities within the ONT.
- Provision the OLT and ONTs
- Identify what the MSAN number is on the ONTs and use for provisioning the CPE.
- Create service templates and apply the templates in the OLT and ONT.
- Move, add or change a service on a customer's ONT ethernet port.
- Understand the purpose of port naming and assign to ports.
- Replace an ONU to upgrade a customer's CPE.
- Access the various interfaces to monitor the health of the systems within the FiberLAN network.
- Identify logs and alarms to identify faults.
- Determine actions as it relates to logs and alarms.
- Backup configurations and restore as needed.
- Synchronize the configuration data between the OLT and the ZMS.
- Pull reports from the ZMS.

**Course Length** – ½ day

**Course Modality** – Blended Learning , 3 hours self-paced and 1 hour leader led virtual online session.

# Velocity Vx OLT Implementation, Operations and Maintenance - SLMS

## Course Description

This course is designed to provide the student with the basic skills necessary to install, commission, configure, provisions services, operate and maintain the Velocity Vx OLT series of products within the network.

This is a blended learning course containing a mandatory self-paced course with the option to attend a 2 hour follow up virtual classroom session with an expert.

## Intended Audience

Anyone required to support the Velocity products in the network. All operators, NOC and field engineers.

## Course Topics:

- Installing the Velocity series of products
- Commissioning the OLT
- System Administration Settings
- External Alarms
- Bridge and VLAN Tagging Concepts
- GPON Provisioning
- CPE Management
- Operational Commands
- Monitor Logs and Alarms
- Troubleshooting

## Course Objectives

Upon completion of this course, operators will be able to:

- Locate the Hardware Installation Guide
- Understand environmental considerations
- Mount the chassis in the rack
- Connect power and ground the chassis
- Operate the fan trays and perform card removal and installation
- Connect physical cables to include Alarm, RJ-45 Clock, Craft R232, PPS Coax, Ethernet and Optical.
- Perform visual verifications
- Access the craft interface
- Log into the OLT chassis
- Assign an IP to the Out of Band Port
- Verify and download current software versions
- Add cards and profiles
- Add the In-Band Interface
- Set the user prompt
- Set the Admin debug privilege
- Set the maximum number of lines displayed in a CLI page
- Set the inactivity timer
- Update the system name
- Add users
- View the list of alarm profiles available
- List the profile of a specific external alarm
- Configure an external alarm
- View the status of the external alarms
- Interpret the indicators of the external alarms
- Recall port mapping on the V Series products for the V2, V14 and V16 chassis
- Understand basic bridge concepts and use cases
- Understand the basic concepts and provision bridge types to include Interlink, IPO, downlink and uplink.
- Understand stacked VLAN principles to support Q in Q operations on a bridge

- Understand link aggregation via Bridging
- Understand and apply bridge policy such as loop prevention and alarm settings.
- Understand and apply DHCP options such as Relays, Broadcast Suppression and Option 82
- Understand and apply traffic shaping policies and rate limiting rules.
- Understand and apply Bridge security
- Add and modify Bridge rules
- Recall the bridge strategy from the ONU to the services from the upstream devices.
- Provision the GPON ONU using Dynamic OMCI “
- Provision the GPON ONU using Residential Gateway Features
- Manage GPON ONU settings for Unified Service Provisioning
- Understand options common to USP
- Apply Service Templates
- Recall the various types of CLI commands and their purpose.
- Use the CLI commands to manage the users.
- Use the CLI commands to software and database
- Use the CLI commands to manage the System.
- Use the CLI commands to manage the Self, ports, ONTs and SFPs.
- Use the CLI commands to access the CPE Manager
- Setup access to the ONT via CPE Manager.
- Log into the CPE via the CPE Manager
- Understand the various activities performed in the CPE
- Monitor the status of the shelf, cards, ports, ONTs and SFPs.
- Understand the purpose of logs, traps, alarms.
- Interpret log formats and manage logs
- Display alarms
- Understand the basic steps required to resolve issues.
- Determine Physical level issue
- Ensure layer 2 communications
- Ensure all traffic is flowing properly

- **Course Length** – 1 day

  **Course Modality** – Blended Learning , 4.5 hours self-paced and 2 hours leader led virtual online session.

# ZMS Administration and Operations

## Course Description

This course is designed to provide the student with the basic skills necessary to administer the ZMS and the users, manage devices and services for Access Edge products in the network.

This is a blended learning course containing a mandatory self-paced course with the option to attend a 1 hour follow up virtual classroom session with an expert.

## Intended Audience

Anyone required to support the Velocity OLT and Helix ONTs in the network using the ZMS Web User Interface.

## Course Topics:

- ZMS Overview
- Administration
- Faults and Alarms
- Network Elements
- Service Templates
- Service Provisioning
- Reporting

## Course Objectives:

Upon completion of this course, operators will be able to:

- Understand the purpose of the ZMS
- Identify the applications within the ZMS and their functional purpose
- Identify the activities a user can perform using ZMS
- Identify options for third party OSS XML integration
- Understand ZMS System terminology
- Understand the sequence for installing the ZMS
- Setup new users
- Assign users to user groups
- Manage user permissions
- Setup the security configuration for password requirements
- Manage required licenses
- Identify and manage ZMS properties
- Review logging options

- Setup Video Channel Information
- Monitor High Availability systems
- View and identify the high level alarms in the network by device or alarm type.
- Filter the alarm view using available fields.
- Refresh the alarm view
- Navigate from the Alarms section to Alarm Viewer
- Interpret the types of information provided in the Alarm Viewer
- Assign faults to a user and manage the alarm
- Export alarm details in an excel spreadsheet
- Identify the network element and locate it within the Network Elements level.
- Locate Network Elements within the ZMS Web User Interface
- Navigate and understand the element tree structure, the elements and the context available for each based on the device level.
- Identify services, elements, alarms for each device level in the element tree
- Locate devices by serial number
- Locate the device in the element tree using the alarm viewer
- Identify the tabs available based on the level entered in the element tree
- Interpret the fields provided in the tabs displayed based on the device selected in the element tree
- Make modifications to configurations and services based on the device level.
- Review ONT Model information
- Upgrade the shelf, cards, ONTs
- Review scheduler to determine which elements are upgraded or when they are scheduled to upgrade.
- Locate the service templates
- Identify the default service templates available in the ZMS
- Understand the basic requirements for setting up a data service, voice service, video service
- Build custom service templates
- Modify service template
- Create Service Group templates
- Modify Service Group templates
- Apply services to the CPE
- Locate service provisioning with in the ZMS Web User Interface
- Add services to a target ONT by Serial Number
- Add services to a target ONT by registration ID
- Add services using service groups
- Add services by individual service type
- Accept or modify override fields while provisioning a service
- Manage provisioned services by deleting, modifying or adding to an existing active account.

- Make available modifications to the bridge, GTP, WAN or LAN settings.
- Bulk delete services
- Bulk add services.
- Locate reporting in the ZMS Web user interface
- Generate ONT Inventory, ONT GEM Port, Bridge, Shelf and Card Inventory, USP Detail, Services and LLDP Remote reports.
- Interpret the fields within each report
- Set filters to generate discrete reports
- Export to excel
-

**Course Length** – ½ day

**Course Modality** – Blended Learning , 4 hours self-paced and 1 hour leader led virtual online session.

# SABER 4400 Implementation and Support

## Course Description

This course is designed to provide the student with the basic knowledge and skills necessary to implement and manage the SABER 4400 products.

## Intended Audience

Anyone required to support the SABER 4400 in the network. All operators, NOC and field engineers.

## Course Syllabus:

Module 1. Fiber Optics 101

- Fiber Basics
- Transmitters and Receivers
- Fiber Types and Characteristics
- WDM Technology
- Wave Division Multiplexing (WDM)
- Coarse Wave Division Multiplexing (CWDM)
- Dense Wave Division Multiplexing (DWDM)
- xWDM Compared
- Transponders/Muxponders and Amplification (EDFA + RAMAN)
- Network Topologies

Module 2. SFP/SFP+, XFP, QSFP28, QSFPDD, CFP & CFP2 Transceivers

- Small Form Pluggable (SFP/SFP+)
  - SFP Introduction

    - SFP Overview
- 10 Gb's Small Form Pluggable (XFP)
    - XFP Introduction
    - XFP Overview
- 100-400 Gb QSFP28/QSFP-DD, CFP, CFP2
    - Introduction & Overview

Module 3. Mounting Solutions

- Saber-4400

Module 4. Saber-4400 Shelf Management

- Management
    - MGT Introduction
    - MGT Overview
    - MGT-OSC/2150/2190 Overview
    - MGT-2150 Front Panel View
    - MGT-OSC Questions

Module 5. Fiber Maintenance & Cleaning

- Maintenance and handling
- Cleaning and Inspecting
- Examples of dirty connectors
- Examples of fiber cleaning devices.
- Examples of fiber inspecting devices

Module 6. TMX-4400, TMX-4401 & TMX-4402 Units

- TMX-4400/4401/4402 & Saber-9103 Specific Functions
- TMX-4400/4401/4402 & Saber-9103 Module

Module 7. RDM-4400 & Fox Modules

- RDM-4400 & Fox Module Specific Functions
- RDM-4400 & Fox Module Connection Modes

Module 8. OFA & DCMs

- Optical Fiber Amplifiers
    - OFA – Optical Fiber Amplifier
    - OFA Overview
    - OFA Front Panel Overview
- Dispersion Compensation Module
    - DCM – Dispersion Compensation Module
    - DCM Overview
    - DCM Application

Module 10. Fiber Maintenance & Cleaning

- Maintenance and handling
- Cleaning and Inspecting
- Examples of dirty connectors
- Examples of fiber cleaning devices.
- Examples of fiber inspecting devices

**Course Length** – 1 day

**Course Modality** – Leader Led

## DZS Cloud Xtreme Transport Orchestration and SDN Controller

## Course Description

This course is designed to provide the student with the basic knowledge and skills necessary to utilize DZS Cloud Xtreme Transport Orchestration and SDN Controller.

## Course Syllabus:

Module 1: Introduction to Orchestration and SDN Controller

- Overview of Orchestration and SDN Controller
- Introduction to Network and Service Orchestration
- Introduction to Software Defined Networking (SDN)

Module 2: Introduction to DZS Xtreme Transport Orchestration and SDN Controller

- Overview of Xtreme Transport Orchestration and SDN Controller
- Xtreme Transport Orchestration Architecture
- Xtreme Transport Orchestration Components and Functions
- Xtreme SDN Controller Architecture
- Xtreme SDN Controller Components and Functions

Module 3: DZS Xtreme Transport Orchestration

- User Management and Access Control
- Topology View User Interface and Navigation
- Device Discovery and Inventory
- Optical Wave Service Design
- Optical Wave Service Provisioning and Activation Procedure
- Optical Wave Service Monitoring, Management and Optimization
- Optical Wave Service Assurance and SLA Management

Module 4: DZS Xtreme SDN Controller Operation and Administration (OAM)

- Configuration Management
    - Node Configuration Backup
    - Node Configuration Restore
    - Node Configuration Change and Testing
- Performance Management
    - Performance Management Overview
    - Performance Metrics and Measurements
    - Performance Reporting and Analysis
    - Capacity Planning and Optimization
- Fault Management
    - Fault Management Overview
    - Fault Detection and Isolation
    - Alarm Management and Notification
    - Trouble Ticketing and Resolution
- Security Management
    - Security management overview
    - EMS security features and capabilities
- Software Management
    - Software Upgrade
    - Software Bulk Upgrade

Module 5: DZS Xtreme Transport Orchestration and SDN Controller Design and Deployment

- Xtreme Transport Orchestration and SDN Controller Design
- Xtreme Transport Orchestration and SDN Controller Deployment: Installation, Configuration and

Management

Module 6: DZS Xtreme Transport Orchestration and SDN Controller Applications
- Xtreme Transport Orchestration and SDN Controller Use Cases
- Network Security and Management

Module 7: Network Automation and Programmability
- Network Automation and Programmability Concepts
- Xtreme Transport Orchestration and SDN Controller APIs and Protocols
- Network Automation and Programmability Tools

Module 8: Hands-on Lab Sessions
- Xtreme Transport Orchestration and SDN Controller Deployment
- Xtreme SDN Controller Configuration and Management

Optional Module X: CDC ROADM Network Basics for Beginners
- Introduction to Optical Networking
  - Optical networking fundamentals
  - Types of optical network technologies and topologies
- Introduction to CDC ROADM Network
  - Definition and Overview of CDC ROADM Network
  - Why CDC ROADM Network is Important
  - Key Features and Benefits of CDC ROADM Network
- CDC ROADM Network Architecture
  - Network Topology and Design
  - Key Components of CDC ROADM Network
  - Multi-Degree and Multi-Node Architecture

**Course Length** – 1 day

**Course Modality** – Leader Led

# DZS Cloud Extreme Mobile

## Course Description

This course is designed to provide the student with the basic knowledge and skills necessary to deploy DZS Cloud Orchestration.

## Intended Audience

Anyone required to support the deployment and ongoing management of the services supported in the DZS Cloud Extreme applications.

## Course Topics:

- Orchestration
- DZS Cloud End to End Orchestration Architecture

- Resiliency and Scaling Architecture
- RBAC
- SAA/Closed-Loop Integration
- DZS Cloud UI Design
- VIM Integrations (K8,AWS,GKE,OCP,SSP)
- Descriptor and Specifications Package Format
- DZS Cloud Product Dissection
- DZS Cloud Installation
- Carrier Deployment Model
- 3rd Party Integrations (OSS/BSS, T-NSSMF, S-VNFMs etc)
- VNF/CNF On-Boarding Basics
- Catalog Management/Package Composition
- Slice Specification Composition
- Service/Config Primitive Uses
- Lifecycle Management
- Logs/Syslogs/Alarms
- Orchestration Workshops

## Course Objectives:

Upon completion of this course, operators will be able to:

- Understand the purpose and value of DZS Cloud Orchestration.
- Recall Use Cases for DZS Cloud Orchestration.
- Understand the value of automation.
- Understand the elements and their purpose in the DZS Cloud Orchestration Architecture to include the following :
    - SO/NFVO/RO/G-VNFM
    - CSMF/NSMF/NSSMF
    - Generic ETSI Model
    - API (REST, NETConf)
    - Platform
- Understand the resiliencey and scaling of Architecture as it relates to High Availability and Geographic Redundancy.
- Understand the purpose of RBAC.
    - Projects and User Creations
    - SSO and LDAP/AD integrations
- Understand SAA/Closed-Loop Integration.
- Understand the DZS Cloud UI Design.
    - UI calls REST to interact with the Orchestration subsystem

    - Northbound/Southbound Integrations
- Understand how VIM Integrations (K8, AWS, GKE, OCP, OSP) are performed.
- Understand the Descriptor and Specifications Package Formats to include:
    - NSD, VNFD, CNFD, RFS, CFS and NEST
- Understand DZS Cloud Product Dissection of the following:
    - Automation and On-Boarding Workflow Engine
    - Service Orchestration
    - Resource Orchestration with G-VNFM
    - Platform, O&M and Configuration
    - Grafana UI for Analytics
- Determine the installation requirement for DZS Cloud Orchestration.
- Understand the Carrier Deployment Model.
- Intigrate 3rd Party (OSS/BSS, T-NSSMF, S-VNFMs etc.)
- Understand the minimal information needed to on-board VNF/CNFs.
- Locate and understand the use of the On-Boarding User Guide.
- Recall questions required for On-Boarding.
- Understand the phases of On-Boarding.
- Ise guidelines for VNF/CNF Vendeors.
- Understand the basics of Composition for On-Boarding Network Functions.
- Compose sample CNFDs, VNFDs and NSDs and launch it in a VIM.
- Manage catalogs and package composition.
- Understand Slice Specification Composition to support RFS, CFS and NEST.
- Understand service and configuration primitives uses of VNF/CNF Health Check, Day N configurations and other operations.
- Understand lifecycle management of Networks Services.
- Locate and interpret the logs/syslogs/Alarms of Cloud Orchestration.
- Gather customer specific integration details and perform CI/CD Integrations.
- Implement the deployment model for DZS Cloud instance and configure using best practices.
- Intigrate VIM “Virtual Instance Manager” for NS “Network Service” deployment.
- Instantiate VNF/CNF/NS.
- Perform advanced Life Cycle Management LCM tasks of the Network Service NS to scale, update, heal and monitor parameters for auto-scale actions.
- Use Postman to manage Northbound APIs.
- Create a service primitive using py.

**Prerequisit** - Audience is expected to have basic knowledge on industry definition of ”Orchestration”.

- **NFVO MANO Basics (https://www.sdxcentral.com/networking/nfv/definitions/whats-network-functions-virtualization-nfv/nfv-elements-overview/nfv-mano/ )**

- **ETSI NFV MANO Spec (https://www.etsi.org/deliver/etsi_gs/nfv-man/001_099/001/01.01.01_60/gs_nfv-man001v010101p.pdf )**

**Course Length** – 5 Days

**Course Modality** – Leader Led

## To order a course, please contact your sales representative.

## If you have any questions, feel free to contact us at DZSAcademy@dzsi.com

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### Contact DZS today

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