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TetraScience

2023 TetraU Catalog

Table of Contents

Introduction and Course Delivery Methods	1
Introduction to TetraU	2
TetraScience Overview	3
Tetra Data Platform Overview	4
Introduction to the Tetra Data Platform	5
Pipelines and IDS	6
Data Hub, Connectors and Agents	7
Search Files and Related Operations	8
TDP Data Consumption Deep Dive	9
Organizational Administrator Basics	10
Attribute Management	11
Audit Trails, Health Monitoring and AWS CloudWatch	12
TDP Version 3.2 Overview	13
Tetra File-Log Agent	14
Tetra UNICORN Agent	15
TDP Version 3.3 Overview	16
Fundamentals of Tetra Scientific Data Cloud for Scientists	17
Tetra Empower Agent	18
LabX Agent	19
Creating Pipelines Workshop	20
Self-Service Pipelines Workshop	21
SSP Usage Troubleshooting with Health Monitoring Events Workshop	22

Tetra Data Platform End-User Course Catalog

Introduction:

TetraScience is proud to offer courses to meet your organization's needs, ranging from navigation basics to advanced technical courses. Curriculum is organized according to the user roles. Customized courses can be designed to meet your team's specific needs; please contact your Customer Success Manager.

Course Delivery Methods:

- **eLearning:** These self-paced, computer-based courses cover most TetraScience specific topics. After going through the eLearnings provided in TetraU, the learner will have a solid understanding of the Tetra Scientific Data Cloud.
- **Virtual Instructor-Led Training (VILT):** These personalized courses are delivered remotely by TetraScience's expert trainers, using a virtual technology platform such as Zoom. These VILT courses offer hands-on exercises providing practical experience with a focus on the audience's needs.
- **Self-Paced Workshops:** The self-paced workshops use the same materials provided in the instructor-led training to cover and allow the user to review the materials at their own pace. Hands-on exercises complete with required files, task scripts and code allows an enhanced learning experience.

Introduction to TetraU

This course provides an overview of the TetraU platform. We discuss the main features and functionality of the platform and how you can utilize it to take training.

Learning Objectives

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

- Understand an overview of the TetraU platform
- Be able to navigate in the platform
- Explain the main features and functions of TetraU

Course Outline

- How to navigate through TetraU interface
- How to enroll in training
- How to un-enroll in training
- How to keep track of courses you have completed
- Access to completion certification
- What to do if you need help

Audience

All learners interacting with TetraU.

Prerequisites

None

Delivery & Duration

Self-Paced, eLearning – 5 min.

TetraScience Overview

This course provides an overview of the TetraScience organization along with a brief preview of what the Tetra Data Platform can accomplish.

Learning Objectives

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

- Be familiar with TetraScience as an organization
 - Understand what the Tetra Data Platform accomplishes on a very high level
-

Course Outline

- Learn about TetraScience
 - Learn what is Tetra Data Platform (TDP)
 - Understand what can be accomplished with TDP
-

Audience

All learners interacting with TetraU.

Prerequisites

None

Delivery & Duration

Self-Paced, video – 6 min.

Tetra Data Platform Overview

This course provides a high-level overview of the Tetra Data Platform and its functions and benefits.

Learning Objectives

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

- Be familiar with the Tetra Data Platform
- Understand what the Tetra Data Platform accomplishes and associated benefits

Course Outline

- Understand what is Tetra Data Platform (TDP)
- Learn the Value that TDP bring to an organization
- Understand overarching principles and techniques used by TDP to bring organization to data

Audience

All learners interacting with TetraU.

Prerequisites

None

Delivery & Duration

Self-Paced, eLearning – 10 min.

Introduction to the Tetra Data Platform

This course provides a high-level overview of the TDP. We discuss how data is ingested into TDP. Review key features and functions of TDP. Lastly, we discuss how data is consumed.

Learning Objectives

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

- Understand a high-level overview of the Tetra Data Platform (TDP)
- Discuss Data Ingestion including Agents, Connectors and Data Hub
- Explain how to access TDP's interface and common features
- Explain Attributes, Pipelines, Search File feature
- Understand Basics of Health Monitoring and Audit Trails
- Discuss Data Consumption including SQL and REST API
- Retrieve API documentation provided by TetraScience

Course Outline

- Tetra Data Platform (TDP) Overview
- Agents, Connectors, Data Hub
- TDP Interface access
- Common features (Hamburger menu)
- Attributes
- Pipelines
- Search File
- Health Monitoring & Audit Trails
- SQL Search and REST API
- API Documentation

Audience

All learners interacting with TDP in any role.

Prerequisites

Knowledge of TetraScience as an organization

Delivery & Duration

Self-Paced, eLearning – 35 min.

Pipelines and IDS

This course provides a Pipeline and IDS overview. We demonstrate how Pipelines fit into the TDP integration. You will learn how you can create your own Pipelines, Process Pipelines and view Pipeline Output. We will discuss Artifacts and the role they play with Pipelines.

Learning Objectives

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

- Understand a high-level overview of the Tetra Data Pipelines
- Discuss how Pipelines fit into the TDP integration
- Create your own Pipelines
- Understand how to Process Pipelines
- View Pipeline Output
- Understand Attributes and the role they play with Pipelines

Course Outline

- Pipeline Overview
- Pipeline as part of Tetra Integration
- Pipeline Design
- Pipeline Processing
- Pipeline Output
- Intermediate Data Schema
- Artifacts

Audience

- Mandatory for TDP Admins
- Optional for all other learners

Prerequisites

Introduction to Tetra Data Platform course

Delivery & Duration

Self-paced, eLearning – 20 min.

Data Hub, Connectors and Agents

This course provides an overview of Data Hub, Connectors and Agents and how they relate to one another. You will learn how to install and manage a Data Hub; create and install a Connector and create and install an Agent. Tetra Software Agents supported by TDP will also be discussed.

Learning Objectives

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

- Understand an overview of Data Hub, Connectors and Agents and how they work with each other
- Install and manage a Data Hub
- Create and Install a Connector
- Create and Install Agents
- Understand various Tetra Agents supported by TDP

Course Outline

- Data Hub, Connector, Agents Overview
- Data Hub installation and management
- Connector creation and installation
- Agent creation and installation
- Tetra Agents supported by TDP

Audience

- Mandatory for TDP Admins
- Optional for all other learners

Prerequisites

Introduction to Tetra Data Platform course

Delivery & Duration

Self-Paced, eLearning – 35 min.

Search Files and Related Operations

This course provides an overview of searching the Tetra Data Lake. We will discuss how to access the Search File Landing page , perform a search, look at Search File Details along with Schema and Details. Use of JSON detail option and open Preview Elasticsearch documents will be demonstrated. Using Attribute Management to decorate files will also be discussed.

Learning Objectives

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

- Understand an overview of Searching Files in the Tetra Data Lake
- Access Search File landing page using Launch pad Hamburger menu
- Perform a search using Basic and Additional Filter options
- View Search File Details and the Schema and Details for the selected IDS Type
- Use JSON details option to open the Preview Elasticsearch document
- Understand how to use Attribute Management to decorate files

Course Outline

- Overview of Data Lake Files
- Access Search Files
- Basic Filter Options
- Additional Filter Options
- Search File Details
- View Schema
- Preview File Details
- Attribute Management

Audience

- Mandatory for TDP Admins
- Optional for all other learners

Prerequisites

Introduction to Tetra Data Platform course

Delivery & Duration

Self-Paced, eLearning – 20 min.

TDP Data Consumption Deep Dive

This course provides an overview of TDP's Data Consumption. You will learn about SQL access and data flow. Data indices will be discussed along with how to set up a connection and query Akta data. You will also learn about REST API and perform REST API set up. Search and Retrieve examples will also be discussed.

Learning Objectives

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

- Understand common patterns used to consume data
- Describe SQL access overview
- Explain Data Flow from instruments to AWS Athena
- Understand Data Indices
- Perform a connection set up
- Understand how to query Akta Athena
- Understand REST API overview
- Perform REST API set up
- Understand Search and Retrieve Examples

Course Outline

- Common Patterns of Data Consumption
- SQL Access
- Data Flow – instruments to AWS Athena
- Connection Set Up
- Query Akta Data
- REST API Overview and Set Up
- Search and Retrieve Examples

Audience

- Mandatory for Data Scientists
- Optional for all other learners

Prerequisites

- Introduction to Tetra Data Platform course
- Pipeline and IDS

Delivery & Duration

Self-Paced, eLearning – 20 min.

Organizational Administrator Basics

This course will provide an overview of the basic functions of the Org. Admin role, including User and Service User Management, Shared Settings, Audit Trails, Pipeline Management and Health Monitoring.

Learning Objectives

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

- Understand basic functions of the Org. Admin role
 - Manage Organizational details and create JSON Web Tokens associated with Service Users
 - Create/Replace SQL Access Credentials
 - Create Shared Settings
 - Understand and access Audit Trails
 - Understand Data Hub, Agents, Connectors
 - Create an Agent and Cloud Data Connector
 - Understand Pipelines; Create and Process Pipelines
 - Understand and perform Health Monitoring
-

Course Outline

- | | |
|---|-----------------------------------|
| ▪ Basic Functions of an Org. Admin role | ▪ Audit Trails |
| ▪ Different Personas interacting with TDP | ▪ Data Hub, Agents and Connectors |
| ▪ User and Service User Management | ▪ Pipelines |
| ▪ Data and SQL Access | ▪ Health Monitoring |
| ▪ Shared Settings | |
-

Audience

TDP Admins

Prerequisites

Introduction to Tetra Data Platform (TDP) course

Delivery & Duration

Self-Paced, eLearning – 45 min.

Attribute Management

This course provides an Attributes overview including Metadata, Tags and Labels. You will learn how to utilize Attributes on TDP, Reconciliation Rules of Conflict, Design Strategies for Attributes. Further, you will learn to apply metadata, tags and labels to files, manage Attributes, review a use case and best practices.

Learning Objectives

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

- Identify types of Attributes
- Understand on overview of Metadata, Tags and Labels
- Utilize Attributes on TDP
- Understand Reconciliation Rules of Conflict
- Apply design strategies for Attributes
- Apply Metadata, Tags and Labels to Files
- Understand a Use Case and Best Practices

Course Outline

- Attributes Overview and Types
- Metadata, Tags and Labels
- Utilization of Attributes on TDP
- Reconciliation Rules of Conflict
- Design Attributes
- Apply Metadata, Tags, Labels to Files
- Use Case and Best Practices

Audience

TDP Admins

Prerequisites

- Introduction to Tetra Data Platform
- Organizational Administrator Basics

Delivery & Duration

Self-Paced, eLearning – 35 min.

Audit Trails, Health Monitoring and AWS CloudWatch

This course provides an overview of Audit Trails, Health Monitoring and AWS CloudWatch. Accessing Audit Trails, Search/File Audit Trails and exporting Audit Trail files will be discussed. You will also learn how to view Health Monitoring Dashboards and utilize AWS CloudWatch and CloudTrail.

Learning Objectives

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

- Understand an overview of Audit Trails
- Access, Search/Filter Audit Trails
- Export Audit Trail files
- Understand an overview of Health Monitoring and associated Dashboards
- Understand and utilize CloudWatch and CloudTrail

Course Outline

- Audit Trails Overview
- Accessing Audit Trails
- Search/Filter Audit Trails
- Exporting Audit Trail Files
- Health Monitoring Overview
- Health Monitoring Dashboards
- AWS CloudWatch Introduction
-

Audience

TDP Admins

Prerequisites

- Introduction to Tetra Data Platform
- Organizational Administrator Basics

Delivery & Duration

Self-Paced, eLearning – 25 min.

TDP Version 3.2 Overview

This course provides an overview of the 3.2 release highlights including Pipeline Management, Enhanced Search Experience, Collections and Shortcuts and Organizational Membership Management.

Learning Objectives

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

- Understand the 3.2 release highlights
 - Pipeline Management
 - Enhanced Search Experience
 - Understand Collections and Shortcuts
 - Learn how to manage Organizational Membership
-

Course Outline

- Version 3.2 Highlights
 - Flexible Pipeline Management
 - Enhanced Search Experience
 - Collections and Shortcuts
 - Organizational Membership
-

Audience

TDP Admins

Optional for all other learners

Prerequisites

- Introduction to Tetra Data Platform
 - Organizational Administrator Basics
-

Delivery & Duration

Self-Paced, eLearning – 25 min.

Tetra File-Log Agent

This course provides an in depth overview of the Tetra File-Log Agent.

Learning Objectives

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

- Understand the Tetra File-Log Agent's functionality
 - Understand how to install, upgrade, configure and monitor the File-Log Agent
-

Course Outline

- Understand an overview of the Tetra File-Log Agent
 - Learn the Life Journey of the File-Log Data
 - Understand File-Log Agent installation and upgrades
 - Be able to perform Agent configuration and monitoring
-

Audience

Required for Admins

Optional for any other learners interacting with TDP

Prerequisites

Introduction to Tetra Data Platform

Delivery & Duration

Self-Paced, video – 30 min.

Tetra UNICORN Agent

This course provides an in depth overview of the Tetra UNICORN Agent.

Learning Objectives

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

- Understand the Tetra UNICORN Agent's functionality
 - Understand how to install, upgrade, configure and monitor the UNICORN Agent
-

Course Outline

- Understand an overview of the Tetra UNICORN Agent
 - Learn the Life Journey of the UNICORN Data
 - Understand UNICORN installation and upgrades
 - Be able to perform Agent configuration and monitoring
-

Audience

Required for Admins

Optional for any other learners interacting with TDP

Prerequisites

Introduction to Tetra Data Platform

Delivery & Duration

Self-Paced, video – 30 min.

TDP Version 3.3 Overview

This course provides an overview of the 3.2 release highlights including Pipeline Management, Enhanced Search Experience, Collections and Shortcuts and Organizational Membership Management.

Learning Objectives

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

- Understand the 3.3 release highlights
- Become familiar with Navigation Updates
- Understand Pipeline Capabilities Enhancements
- Learn the Data Lake Capabilities and Platform Management changes
- Feel comfortable working with TDP version 3.3

Course Outline

- Version 3.3 Highlights
- Navigation Updates
- Pipeline Capabilities Enhancements
- Data Lake Capabilities
- Platform Management

Audience

TDP Admins

Optional for all other learners

Prerequisites

- Introduction to Tetra Data Platform
- Organizational Administrator Basics

Delivery & Duration

Self-Paced, eLearning – 25 min.

Fundamentals of Tetra Scientific Data Cloud for Scientists

This course provides an overview of the Tetra Scientific Data Cloud from the perspective of a scientist. We discuss common data challenges scientists face today and how the Tetra Scientific Data Cloud can help solve these challenges.

Learning Objectives

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

- Understand data challenges encountered by scientists today
- Become familiar with the Tetra Scientific Data Cloud
- Understand how Tetra Scientific Data Cloud enables scientist to perform science better
- Learn how the Tetra Scientific Data Cloud solves these challenges

Course Outline

- Challenges encountered by scientist
- Transforming Labs to become digitally enabled
- Overview of the Tetra Scientific Data Cloud
- Challenges solved by the Tetra Scientific Data Cloud

Audience

Lab Scientist
Data Scientists

Prerequisites

None

Delivery & Duration

Self-Paced, eLearning – 25 min.

Tetra Empower Agent

This course provides an in depth overview of the Tetra Empower Agent.

Learning Objectives

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

- Understand the Tetra Empower Agent's functionality
- Understand how to install, upgrade, configure and monitor the Empower Agent

Course Outline

- Understand an overview of the Tetra Empower Agent
- Learn the Life Journey of the Empower Data
- Understand Empower installation and upgrades
- Be able to perform Agent configuration and monitoring
- Troubleshoot and optimize the Empower Agent

Audience

Required for Admins

Optional for any other learners interacting with TDP

Prerequisites

Introduction to Tetra Data Platform

Delivery & Duration

Self-Paced, video – 30 min.

Tetra LabX Agent

This course provides an in depth overview of the Tetra LabX Agent.

Learning Objectives

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

- Understand the Tetra LabX Agent's functionality
- Understand how to install, upgrade, configure and monitor the Empower Agent

Course Outline

- Understand an overview of the Tetra LabX Agent
- Learn the Features and Requirements of LabX Agent
- Understand the Life Journey of LabX Data
- Be able to perform Agent configuration and monitoring

Audience

Required for Admins

Optional for any other learners interacting with TDP

Prerequisites

Introduction to Tetra Data Platform

Delivery & Duration

Self-Paced – 30 min.

Pipeline Creation Workshop

This course provides an introduction to pipeline creation in Tetra Data Platform.

Learning Objectives

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

- Create a Point-Click IDS Pipeline
- Ingest sample data using the pipeline and write it to IDS
- Analyze and explore this data within TDP's SQL Search Capability

Course Outline

- Understand the overview and prerequisites to creating a pipeline
- Learn TDP WebApp UI Based Methods
- Understand API Methods
- Be able to Trigger and Monitor a pipeline

Audience

Anyone interested in creating pipelines on TDP

Prerequisites

Introduction to Tetra Data Platform

Delivery & Duration

Self-Paced – 1 hour

Can also be offered as a Virtual Instructor-Led Training

Self-Service Pipeline Creation Workshop

This course provides an introduction to Self-Service pipeline creation in Tetra Data Platform.

Learning Objectives

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

- Understand the pre-requisites of building self-service pipelines
 - Understand basics of Pipelines
 - Create a Hello World Pipeline
 - Perform Pipeline Configuration and Context API
 - Create a simple RAW to IDS Pipeline
 - Create a Multi-Step Pipeline: RAW --> IDS --> Push to Benchling
-

Course Outline

- Understand the overview and prerequisites to creating a pipeline
 - Learn TDP WebApp UI Based Methods
 - Understand API Methods
 - Be able to Trigger and Monitor a pipeline
-

Audience

Anyone interested in creating pipelines on TDP

Prerequisites

Introduction to Tetra Data Platform
Pipeline Creation

Delivery & Duration

Self-Paced – 2-3 hours
Can also be offered as a Virtual Instructor-Led Training

Self-Service Pipeline Usage with Health Monitoring Events

This course provides a walkthrough on how to use Tetra Data Platform's Health Monitoring Events features to diagnose issues with Self-Service Pipelines and Self-Service IDS.

Learning Objectives

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

- After completing this course, the user will:
- Be able to diagnose some SSP issues with Health Monitoring
- Have access to a custom protocol to prototype new performance issues

Course Outline

- Deploy SSP and generate files with non-existent IDS
- Upload an IDS schema to resolve SSP issues
- Create an invalid 0.json file and verify system behavior

Audience

Anyone interested in creating Self-Service Pipelines

Prerequisites

Introduction to Tetra Data Platform
Pipeline Creation
Self-Service Pipelines

Delivery & Duration

Self-Paced – 1-2 hours
Can also be offered as a Virtual Instructor-Led Training