

## [ADM-301]: HDF Operations: HDF NiFi Flow Management

Length : 3 Days  
Delivery Method : Instructor-led (Classroom)

### Course Overview

This course is designed for 'Data Stewards' or 'Data Flow Managers' who are looking forward to automate the flow of data between systems. Topics Include Introduction to NiFi, Installing and Configuring NiFi, Detail explanation of NiFi User Interface, Explanation of its components and Elements associated with each. How to Build a dataflow, NiFi Expression Language, Understanding NiFi Clustering, Data Provenance, Security around NiFi, Monitoring Tools and HDF Best practices.

### Audience Profile

Data Engineers, Integration Engineers and Architects who are looking to automate Data flow between systems.

### Pre-Requisites

Participants should be familiar with programming principles and have previous experience in software development. Experience with Linux and a basic understanding of Dataflow tools would be helpful. No prior Hadoop/NiFi experience required, but is very helpful.

### Formats

Lecture/Discussion	50%
Hands-on Labs	50%

### Course Outline

#### Module 1: Introduction to HDF 3.0 (NiFi), Architecture and Features, NiFi UI, Process Groups etc

##### Lessons

- Introduction to Enterprise Data Flow
- What's new in HDF 3.0
- HDF 3.0 Architecture and Features
- HDF System Requirements
- Install and Configure HDF [NiFi]
- Describe NiFi User Interface in detail
- Describe NiFi UI Summary and History section
- Describe Anatomy of a Processor
- Describe Anatomy of a Connection
- Describe Controller Services and Reporting Tasks
- Learn How to Build a NiFi Data Flow

#### AVANTUS TRAINING PTE LTD

80 Jurong East Street 21 #04-04 Devan Nair Institute Singapore 609607

Main Line: +65 6661 0888 | Fax: +65 6661 0886

Email: [enquiries@AvantusTraining.com](mailto:enquiries@AvantusTraining.com)

[www.AvantusTraining.com](http://www.AvantusTraining.com)

- Command and Control of a NiFi Data Flow
- Describe Anatomy of a Process Group

## LABS

- Installing and Starting HDF with Ambari
- Demonstration: NiFi User Interface in detail
- Building a NiFi Dataflow
- Working with NiFi Process Groups

## Module 2: Remote Processor Group, Attributes and Templates, Expression Language, Provenance, Clustering

### Lessons

- Anatomy of a Remote Processor Group
- Remote Processor Group Transmission
- NiFi Site-to-Site Communication
- Describe the Function and Purpose of the NiFi Expression Language
- Structure of a NiFi Expression
- How to Use Expression Language Functions
- Using Expression Language Editor
- Using If/Then/Else in NiFi Expression Language
- Using Attributes and Properties
- Create, Manage and Instantiate a NiFi Templates
- How to optimize an HDF Data Flow
- Define Data Provenance and Data Provenance Events
- Describe NiFi Cluster and State Management
- Describe Cluster Setup and Management via NiFi UI
- Explain the Mechanisms Available for NiFi Monitoring

### LABS & DEMONSTRATIONS

- Working with Remote Processor Groups Site-to Site
- Working with the NiFi Expression Language
- Demonstration: Working with Attributes
- Demonstration: Working with Templates
- Demonstration: Data Provenance
- Working with NiFi Clusters
- Demonstration: NiFi Notification Services
- Demonstration: NiFi Monitoring
- Advanced NiFi Monitoring

## Module 3: HDF and HDP, Security With Idap, SSL and Kerberos, File and Ranged Based Authorization etc

### Lessons

- Describe How HDF Complements the Hortonworks Data Platform (HDF)
- Describe how Big Data Ingestion is possible with HDF
- Describe HDF Configuration Best Practices

### AVANTUS TRAINING PTE LTD

80 Jurong East Street 21 #04-04 Devan Nair Institute Singapore 609607

Main Line: +65 6661 0888 | Fax: +65 6661 0886

Email: [enquiries@AvantusTraining.com](mailto:enquiries@AvantusTraining.com)

[www.AvantusTraining.com](http://www.AvantusTraining.com)

- Describe the Process of Securing HDF with 2-Way-SSL
- Describe LDAP User Authentication with NiFi
- Describe Kerberos Authentication with NiFi
- Describe HDF Multi-tenancy
- Describe how File Based Authorizer in NiFi works
- Describe how Ranger Based Authorizer in NiFi works
- Describe the Architecture of Authorization Via the Ranger-NiFi Plug-in
- List the Installation Prerequisites, configure and Install Ranger
- Describe how to create Ranger policies for NiFi

## **LABS**

- Integrating HDF with HDP
- Securing HDF with 2-way SSL Using Ambari
- NiFi User Authentication with LDAP
- Installing Ranger and Configuring NiFi with Kerberos
- Working with File Based Authorization in NiFi
- Working with Ranger Based Authorization in NiFi

### **AVANTUS TRAINING PTE LTD**

80 Jurong East Street 21 #04-04 Devan Nair Institute Singapore 609607

Main Line: +65 6661 0888 | Fax: +65 6661 0886

Email: [enquiries@AvantusTraining.com](mailto:enquiries@AvantusTraining.com)

[www.AvantusTraining.com](http://www.AvantusTraining.com)