

Anypoint Platform Development: DataWeave 2.0 (Mule 4)

Summary

This instructor-led course is for developers interested in advancing their DataWeave 2.0 skills beyond those taught in the [Anypoint Platform Development - Fundamentals \(Mule 4\)](#) course or the self-study [MuleSoft.U Development Fundamentals \(Mule 4\)](#) course.

Duration

2 days in-person or online

Objectives

At the end of this course, students should be able to:

- Write generalized and reusable transformations using variables, functions, DataWeave modules and mappings, and dynamic evaluation components.
- Build up complex transformations from smaller testable steps.
- Build more robust and testable functions and expressions using strong typing, match operators, error handling, and logging.
- Create, transform, filter, combine, shuffle, select from, and reduce complex data structures that include nested arrays, objects, and arrays of objects.
- Recursively replace or format every element or a list of elements in a nested schema.

Audience

Mule 4 developers or architects who want to advance their DataWeave 2.0 skills so that they can build complex transformations

Prerequisites

- Completion of one of the following courses or equivalent knowledge from 6+ months Mule development experience and passing of the [MuleSoft Certified Developer - Level 1 \(Mule 4\)](#) exam:
 - [Anypoint Platform Development: Fundamentals \(Mule 4\)](#) instructor-led course
 - [MuleSoft.U Development Fundamentals \(Mule 4\)](#) self-study course
 - [Anypoint Platform Development: Mule 4 for Mule 3 Users](#) instructor-led course
 - [MuleSoft.U Development Mule 4 for Mule 3 Users](#) self-study course

Note: If you have not taken one of these courses or passed the exam, you will be contacted to confirm your qualifications.

- If new to functional programming, read [An introduction to functional programming in JavaScript](#).

Setup requirements

- A computer with at least 8-16 GB (16 highly recommended) available RAM, 2GHz CPU, and 10GB available storage
- Internet access to port 80 (with > 5Mbps download and > 2Mbps upload)
- OpenJDK 8 (NOT 11 or a later version)
<https://adoptopenjdk.net>
- Anypoint Studio 7 with embedded Mule 4.X runtime
<https://www.mulesoft.com/lp/dl/studio>
- Advanced REST Client (or some other REST client application)
<http://install.advancedrestclient.com>

A detailed setup document can be downloaded from here: <https://training.mulesoft.com/downloads>.

Outline

Module 1: Transforming Data using Metadata

- Apply DataWeave fundamentals as learned in *the Development Fundamentals* course
- Configure metadata for DataWeave transformation input and output
- Set example input for DataWeave transformations

Module 2: Organizing DataWeave Code with Variables and Functions

- Organize DataWeave code into variables and functions
- Pass functions and lambda expressions as parameters to other DataWeave functions
- Chain DataWeave functions together
- Create and use reusable DataWeave modules
- Write more robust functions using the match operator to test for data types

Module 3: Constructing Arrays and Objects

- Add components to and remove elements from arrays and objects
- Construct objects from lists of DataWeave expressions using object constructor curly braces { }
- Troubleshoot common issues when using object constructor curly braces { }

Module 4: Iteratively Transforming Data using Mapping Operators

- Transform elements of arrays into a new array using the map operator
- Transform elements of objects into a new object using the mapObject operator
- Combine map and mapObject operators to transform complex schema
- Extract an array of keys and/or values from an object using the pluck operator
- Reduce and accumulate array elements to other output types using the reduce operator

Module 5: Recursively Transforming Complex Structures

- Write recursive functions to transform complex schema
- Replace keys or values at any level of a nested data structure using a lookup object