

NIEM 302 Exercise Solutions

Exercise 1: Building a Mapping Document

The solution to this exercise is subjective, based on the NIEM elements chosen for mapping within the mapping document. The primary purpose of this exercise is to increase your exposure to the mapping process and the tools that are available to aid in this process. As stated previously, your mappings may differ from the mappings below, since there could be numerous possible options for mapping depending on the element. Part of the solution can be viewed on the next page. The full solution to this exercise, with all recommended columns, can be viewed in the downloaded training materials.

Source Container Type	Source Element	Source Data Type	Source Element Definition	Mapping	NIEM Element	NIEM Element Path	NIEM Type	NIEM Element Definition
InspectionSearchRequest	SearchDate	date	Contains the date the search request was submitted	Partial Match	nc:ActivityDate	nc:Activity/nc:ActivityDate	nc:DateType	A date of an activity
InspectionSearchRequest	OfficerID	long	Contains the ID of the officer submitting the search request	Partial Match	nc:IdentificationID	nc:Identification/nc:IdentificationID	niem-xsd:string	A value that identifies something
InspectionSearchRequest	PortOfEntry	string	Contains the code for a Port of Entry	Equivalent	scr:PortOfEntryCode	scr:PortOfEntryCode	nc:TextType	An organization location that is used for operating sea and land traffic.
InspectionReport	InspectionDate	date	Contains the date the inspection was completed	Partial Match	nc:ActivityDate	nc:Activity/nc:ActivityDate	nc:DateType	A date of an activity
InspectionReport	OfficerID	long	Contains the ID of the officer who performed the inspection	Partial Match	nc:IdentificationID	nc:Identification/nc:IdentificationID	niem-xsd:string	A value that identifies something
InspectionReport	InspectionResult	string	Contains a description of the results of the inspection	No Match				
InspectionReport	InspectionNotes	string	Contains additional notes for the inspection	No Match				
InspectionReport	PortOfEntry	string	Contains the code for a Port of Entry	Equivalent	scr:PortOfEntryCode	scr:PortOfEntryCode	nc:TextType	An organization location that is used for operating sea and land traffic.
Vehicle	VehicleVIN	string	Contains the VIN number for the vehicle	Equivalent	nc:VehicleVINAText	nc:Vehicle/nc:VehicleVINAText	nc:TextType	A Vehicle Identification Number Analysis; a combination of a vehicle make and model information
Vehicle	VehiclePlateNumber	string	Contains the license plate number for the vehicle	Partial Match	nc:IdentificationID	nc:Identification/nc:IdentificationID	niem-xsd:string	A value that identifies something
Vehicle	VehicleCarrierDOTNumber	string	Contains the DOT number for the vehicle	Equivalent	nc:VehicleMotorCarrierIdentification	nc:Vehicle/nc:VehicleMotorCarrierIdentification	nc:IdentificationType	US DOT Number
Vehicle	VehicleRegistrationState	string	Contains the state code for the issuing state of vehicle registration	Equivalent	nc:LocationStateNCICLISCode	nc:LocationStateNCICLISCode	fbi:LISCodeType	
Vehicle	VehicleRegistrationCountry	string	Contains the country code for the issuing country of vehicle registration	Equivalent	nc:LocationCountryFIPS10-4Code	nc:LocationCountryFIPS10-4Code	fips_10-4:CountryCodeType	
Trailer	TrailerPlateNumber	string	Contains the license plate number for the trailer attached to the vehicle	Partial Match	nc:IdentificationID	nc:Identification/nc:IdentificationID	niem-xsd:string	A value that identifies something
Trailer	TrailerRegistrationState	string	Contains the state code for the issuing state of trailer registration	Equivalent	nc:LocationStateNCICLISCode	nc:LocationStateNCICLISCode	fbi:LISCodeType	
Trailer	TrailerRegistrationCountry	string	Contains the country code for the issuing country of trailer registration	Equivalent	nc:LocationCountryFIPS10-4Code	nc:LocationCountryFIPS10-4Code	fips_10-4:CountryCodeType	
Driver	DriverFirstName	string	Contains the first name of the driver	Partial Match	nc:PersonGivenName	nc:Person/nc:PersonGivenName	nc:PersonNameTextType	A first name of a person.
Driver	DriverLastName	string	Contains the last name of the driver	Partial Match	nc:PersonSurName	nc:Person/nc:PersonSurName	nc:PersonNameTextType	A last name or family name of a person.
Driver	DriverDOB	string	Contains the birth date of the driver	Partial Match	nc:PersonBirthDate	nc:Person/nc:PersonBirthDate	nc:DateType	A date a person was born.

Exercise 2: Generating Schemas

The solution to this exercise is the successful downloading of schemas generated from NIEM Tools (Subset.zip). When using the Subset Schema Generation Tool, note that only one zip file should have been downloaded that contains the subset schemas for the CVT information exchange. NIEM implementers should be aware that these automatically generated schemas are just starting points for the schema development process and should in no way be considered ready for implementation.

Exercise 3: Generating a Code List

The solution to this exercise is a code list schema generated from the Generate Code List Schema tool. Once downloaded, the file should be opened and reviewed to understand the code that was automatically generated from the tool. Below is an example of the code that should have been downloaded for the code list schema:

Code List Schema

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:s="http://niem.gov/niem/structures/2.0" xmlns:iepd-
extension="http://niem.gtri.gatech.edu/iepd-extension"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:i="http://niem.gov/niem/appinfo/2.0"
targetNamespace="http://niem.gtri.gatech.edu/iepd-extension"
version="1">
  <xsd:annotation>
    <xsd:appinfo>
      <i:ConformantIndicator>true</i:ConformantIndicator>
    </xsd:appinfo>
  </xsd:annotation>
  <xsd:import namespace="http://niem.gov/niem/structures/2.0"
schemaLocation="niem/structures/2.0/structures.xsd"/>
  <xsd:import namespace="http://niem.gov/niem/appinfo/2.0"
schemaLocation="niem/appinfo/2.0/appinfo.xsd"/>
  <xsd:simpleType name="ActivityTypeCodeSimpleType">
    <xsd:annotation>
      <xsd:documentation>
        Codes for the type of commercial vehicle activity
      </xsd:documentation>
      <xsd:appinfo>
        <i:Base
          i:namespace="http://niem.gov/niem/structures/2.0"
          i:name="Object"/>
      </xsd:appinfo>
    </xsd:annotation>
    <xsd:restriction base="xsd:token">
      <xsd:enumeration value="IM">
        <xsd:annotation>
          <xsd:documentation>In
```

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        Motion</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="PE">
    <xsd:annotation>
        <xsd:documentation>Port
        Entry</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="TS">
    <xsd:annotation>
        <xsd:documentation>Traffic
        Stop</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="VA">
    <xsd:annotation>
        <xsd:documentation>Vehicle
        Accident</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="WS">
    <xsd:annotation>
        <xsd:documentation>Weigh
        Station</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>
<xsd:complexType name="ActivityTypeCodeType">
    <xsd:annotation>
        <xsd:documentation>Codes for the type of commercial vehicle
        activity</xsd:documentation>
    <xsd:appinfo>
        <i:Base
        i:namespace="http://niem.gov/niem/structures/2.0"
        i:name="Object"/>
    </xsd:appinfo>
</xsd:annotation>
<xsd:simpleContent>
    <xsd:extension base="iepd-
    extension:ActivityTypeCodeSimpleType">
        <xsd:attributeGroup
        ref="s:SimpleObjectAttributeGroup"/>
    </xsd:extension>
</xsd:simpleContent>
</xsd:complexType>
</xsd:schema>

```