

Dataset-JSON - SAS Implementation

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- **Repository:**
<https://github.com/lexjansen/dataset-json-sas>
- **Description:** SAS macros and example programs used to create SAS datasets from Dataset-JSON as well as creating Dataset-JSON from SAS datasets.
Metadata from Define-XML is read with Lua and used to for validation purposes and as pre-specified metadata.
- **Purpose:** Demonstrate Dataset-JSON's utility as a data exchange format.
- **License:** MIT

Using metadata from Define-XML

- Get variable formats from Define-XML when creating SAS datasets from Dataset-JSON (especially for numeric date/time variables)
- Get OIDs from Define-XML when creating Dataset-JSON
- Use pre-specified metadata from Define-XML (length, label, datatype) for creating Dataset-JSON

```
/* Create metadata from Define-XML for ADaM */
%CreateMetadataFromDefineXML(
    definexml=&root/json/adam/define_2_0.xml,
    metadatalib=metaadam
);

/* Some manual data type updates */
data metaadam.metadata_columns;
    set metaadam.metadata_columns;
    if xml_datatype='float' then do;
        if index(name, 'VISIT') then json_datatype='decimal';
    end;
run;

/* Create metadata from Define-XML for SDTM */
%CreateMetadataFromDefineXML(
    definexml=&root/json/sdtm/define.xml,
    metadatalib=metasdtm
);

/* Some manual data type updates */
data metasdtm.metadata_columns;
    set metasdtm.metadata_columns;
    if xml_datatype='float' then do;
        if name ne 'LBSTRESN' then json_datatype='decimal';
    end;
run;
```

Writing Dataset-JSON - %write_datasetjson()

```
data _null_;
  length datasetname $64 jsonpath $512 fileoid $128 code $2048;
  set work.dirtree_adam;
  datasetname=scan(filename, 1, ".");
  jsonpath=cats("&root/json_out/adam/", datasetname, ".json");
  fileoid=cats("&FileOID", "/", "%sysfunc(date(), is8601da.)", "/", datasetname);
  code=cats('%nrstr(%write_datasetjson('
    /* , 'dataset=dataadam.', name, ',' */
    , 'xptpath=', fullpath, ','
    , 'jsonpath=', jsonpath, ','
    , 'usemetadata=Y,'
    , 'metadatalib=metaadam,'
    , "_FileOID=", fileoid, ","
    , "_Originator=CDISC ADaM MSG Team", ","
    , "_SourceSystem=Sponsor System,"
    , "_SourceSystemVersion=1.0,"
    , "_studyOID=&StudyOID,"
    , "_MetaDataVersionOID=&MetaDataVersionOID,"
    , "_MetaDataRef=https://metadata.location.org/TDF_ADaM_ADaMIG11/define.xml"
    , '));');
  call execute(code);
run;
```

Writing Dataset-JSON - %write_datasetjson()

```
data _null_;
  length datasetname $64 jsonpath $512 fileoid $128 code $2048;
  set dirtree_sdtm;
  datasetname=scan(filename, 1, ".");
  jsonpath=cats("&root/json_out/sdtm/", datasetname, ".json");
  fileoid=cats("&FileOID", "/", "%sysfunc(date(), is8601da.)", "/", datasetname);
  code=cats('%nrstr(%write_datasetjson('
    /* , 'dataset=datasdtm.', name, ',' */
    , 'xptpath=', fullpath, ','
    , 'jsonpath=', jsonpath, ','
    , 'usemetadata=Y,'
    , 'metadatalib=metasdtm,'
    , "_FileOID=", fileoid, ","
    , "_AsOfDateTime=2023-05-31T00:00:00, "
    , "_Originator=CDISC SDTM MSG Team,"
    , "_SourceSystem=Sponsor System,"
    , "_SourceSystemVersion=1.0,"
    , "_studyOID=&StudyOID,"
    , "_MetaDataVersionOID=&MetaDataVersionOID,"
    , "_MetaDataRef=https://metadata.location.org/CDISCPILOT01/define.xml"
    , ');)');
  call execute(code);
run;
```

Reading Dataset-JSON - %read_datasetjson()

```
data _null_;  
  length code $2048;  
  set work.dirtree_adam;  
  code=cats('%nrstr(%read_datasetjson(',  
            'jsonpath=', fullpath, ', ', '  
            'datalib=outadam, ',  
            'dropseqvar=Y, ',  
            'metadatalib=metainad',  
            ');)');  
  call execute(code);  
run;
```

```
data _null_;  
  length code $2048;  
  set work.dirtree_sdtm;  
  code=cats('%nrstr(%read_datasetjson(',  
            'jsonpath=', fullpath, ', ', '  
            'datalib=outsdtm, ',  
            'dropseqvar=Y, ',  
            'metadatalib=metainsd',  
            ');)');  
  call execute(code);  
run;
```