

2 HDF5HighLevel Examples.nb * - Wolfram Mathematica 11.0

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Detailed information on a single compound datatype

```
With[
  {filename = FileNameJoin[{NotebookDirectory[], "hdf5_test.h5"}]},
  CompoundDataTypeInformation[filename, "./arrays/Vdata with mixed types"]
]

{NumberOfMembers → 7,
 MemberName → {Character, Short, Integer, Float, String, Integer Array, Float Array},
 MemberClassType → {STRING, INTEGER, INTEGER, FLOAT, STRING, ARRAY, ARRAY},
 MemberSystemType → {System.Byte[], System.Int16[], System.Int32[],
  System.Single[], System.Byte[], System.Int32[], System.Single[]},
 MemberSystemTypeCountInOneDatum → {1, 1, 1, 1, 10, {4}, {20}}}
```

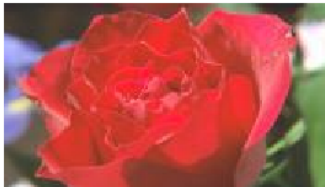
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Image (i.e., make an image from data import)

```
With[
  {filename = FileNameJoin[{NotebookDirectory[], "hdf5_test.h5"}]},
  With[
    {imageData = ReadHyperSlab[filename, "./images/pixel interlace",
      {20, 35}, {100, 175}]},
    Image[imageData, "Byte"]
  ]
]
```



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Detailed information on a nested compound datatypes

```
With[
  {filename = FileNameJoin[{NotebookDirectory[], "hdf5_test.h5"}]},
  CompoundDataTypeInformationTree[filename, "./arrays/ArrayOfStructures"]
]
```

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1 HDF5HighLevel Examples.nb * - Wolfram Mathematica 11.0

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Read compound datatypes

metadata on what we will read

```
With[
  {
    filename = FileNameJoin[{NotebookDirectory[], "h5ex_t_cmpd.h5"}],
    dataSet = "DS1"
  },
  CompoundDataTypeInformation[filename, dataSet]
]
```

{NumberOfMembers → 4, MemberName → {Serial number, Location, Temperature (F), Pressure (inHg)}, MemberClassType → {INTEGER, STRING, FLOAT, FLOAT}, MemberSystemType → {System.Int64[], System.IntPtr[], System.Double[], System.Double[]}, MemberSystemTypeCountInOneDatum → {1, 1, 1, 1}}

read all data

```
With[
  {
    filename = FileNameJoin[{NotebookDirectory[], "h5ex_t_cmpd.h5"}],
    dataSet = "DS1"
  },
  ReadRank1[filename, dataSet, "ByteConversionFunction" → (myFunction[#1, #2, #3, #4] &)]
]
```

{{1153, Exterior (static), 53.23, 24.57}, {1184, Intake, 55.12, 22.95}, {1027, Intake manifold, 103.55, 31.23}, {1313, Exhaust manifold, 1252.89, 84.11}}

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