

How to download DICOM SR/Image using DICOMWeb interfaces from ORTHANC Server

Base URL and authentication details:

URL: <http://dicompacsweb.westeurope.cloudapp.azure.com/dicom-web>

Username: alice

Password: alicePassword

Testing Tool: Postman – Download link: <https://www.postman.com/downloads/>

Search Transaction – How to fetch the DICOM data for any Study/Series/Instance using the QIDO-RS web interface

The below the sample QIDO-RS URLs to fetch the data from the ORTHANC Server.

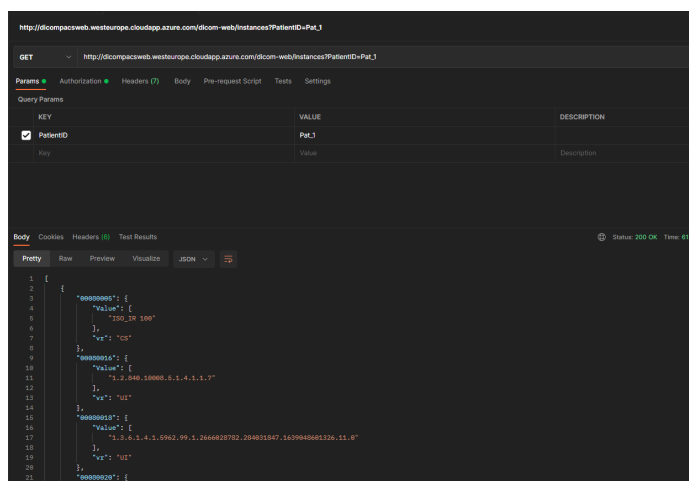
Resource	URI Template	Query Type
All Studies	/studies{?search*}	hierarchical
Study's Series	/studies/{study}/series{?search*}	hierarchical
Study's Instances	/studies/{study}/instances{?search*}	relational
All Series	/series{?parameter*}	relational
Study's Series' Instances	/studies/{study}/series/{series}/instances{?search*}	hierarchical
All Instances	/instances{?search*}	relational

Retrieve all instance(image/SR) details of a given patient

<http://dicompacsweb.westeurope.cloudapp.azure.com/dicom-web/instances?PatientID=<patient id>>

With the above URL providing the patient ID, we can fetch the instance level details of the given patient.

Example URL : http://dicompacsweb.westeurope.cloudapp.azure.com/dicom-web/instances?PatientID=Pat_1



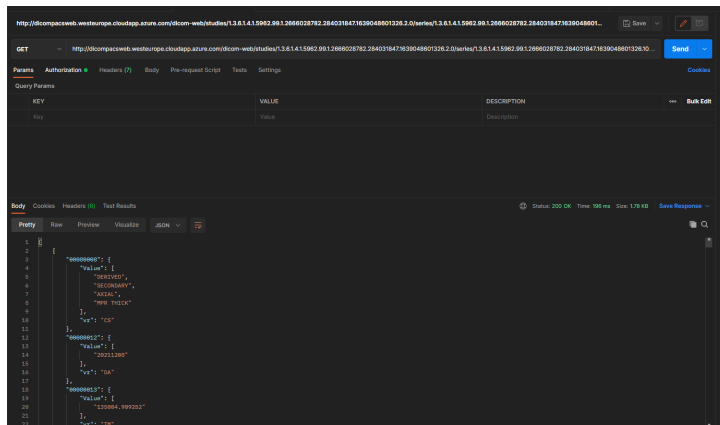
In case if we want to fetch the complete metadata information of the instance then we need to use “WADO-RS Retrieve Transaction Metadata Resources” as below

Example:

To fetch all instances meta data of the given study URL:

<http://dicompacsweb.westeurope.cloudapp.azure.com/dicom-web/studies/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.2.0/metadata>

To fetch a particular instance meta data URL: <http://dicompacsweb.westeurope.cloudapp.azure.com/dicom-web/studies/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.2.0/series/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.10.0/instances/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.11.0/metadata>



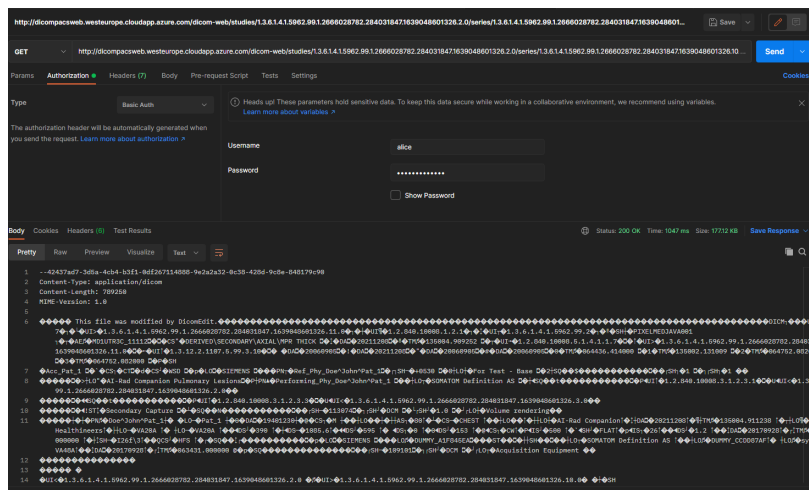
Retrieve Transaction – How to fetch the DICOM image or SR for any Study/Series/Instance using the WADO-RS web interface

Resource	URI Template
Study Instances	/studies/{study}
Series Instances	/studies/{study}/series/{series}
Instance	/studies/{study}/series/{series}/instances/{instance}

Example:

To fetch all instance of the given study URL: <http://dicompacsweb.westeurope.cloudapp.azure.com/dicom-web/studies/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.2.0>

To fetch a particular instance data URL: <http://dicompacsweb.westeurope.cloudapp.azure.com/dicom-web/studies/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.2.0/series/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.10.0/instances/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.11.0>

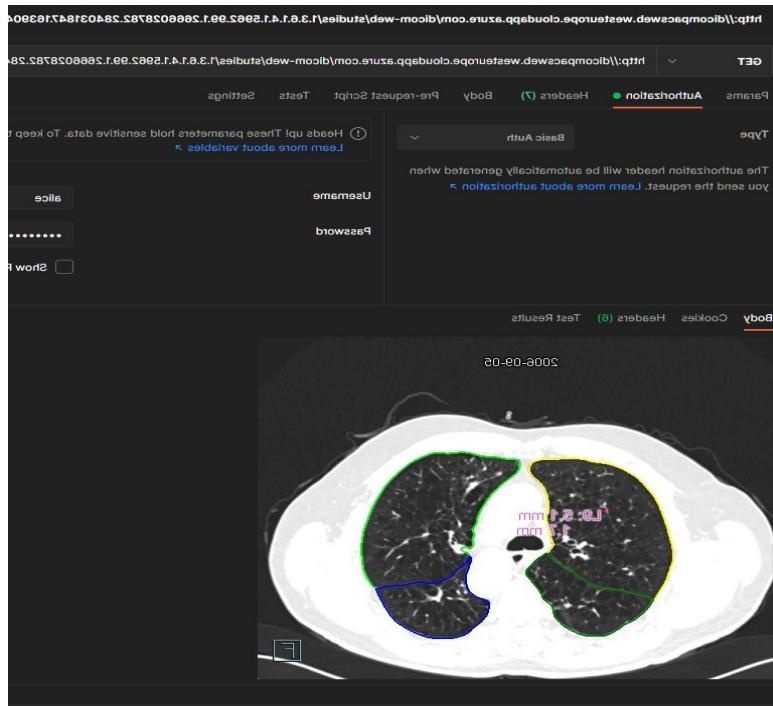


Retrieve Transaction – How to fetch the DICOM image rendered using the WADO-RS web interface

Resource	URI Template
Rendered Study	/studies/{study}/rendered
Rendered Series	/studies/{study}/series/{series}/rendered
Rendered Instance	/studies/{study}/series/{series}/instances/{instance}/rendered
Rendered Frames	/studies/{study}/series/{series}/instances/{instance}/frames/{frames}/rendered

Example:

To fetch a particular instance as Rendered URL: <http://dicompacsweb.westeurope.cloudapp.azure.com/dicom-web/studies/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.2.0/series/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.10.0/instances/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.11.0/frames/1/rendered>



Sample JSON Result for the instance level meta data fetch:

URL : <http://dicompacsweb.westeurope.cloudapp.azure.com/dicom-web/studies/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.2.0/series/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.10.0/instances/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.11.0/metadata>

Output JSON

```
[
  {
    "00080008": {
      "Value": [
        "DERIVED",
        "SECONDARY",
        "AXIAL",
        "MPR THICK"
      ],
      "vr": "CS"
    },
    "00080012": {
      "Value": [
        "20211208"
      ],
      "vr": "DA"
    },
    "00080013": {
      "Value": [
        "135004.909252"
      ],
      "vr": "TM"
    },
    "00080016": {
      "Value": [
        "1.2.840.10008.5.1.4.1.1.7"
      ],
      "vr": "UI"
    },
    "00080018": {
      "Value": [
        "1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.11.0"
      ],
      "vr": "UI"
    },
    "0008001B": {
      "Value": [
        "1.3.12.2.1107.5.99.3.10"
      ],
      "vr": "UI"
    },
    "00080020": {
      "Value": [
        "20060905"
      ],
      "vr": "DA"
    },
    "00080021": {
      "Value": [
        "20211208"
      ]
    }
  ]
}
```

```
    ],
    "vr": "DA"
  },
  "00080022": {
    "Value": [
      "20060905"
    ],
    "vr": "DA"
  },
  "00080023": {
    "Value": [
      "20060905"
    ],
    "vr": "DA"
  },
  "00080030": {
    "Value": [
      "064436.414000"
    ],
    "vr": "TM"
  },
  "00080031": {
    "Value": [
      "135002.131009"
    ],
    "vr": "TM"
  },
  "00080032": {
    "Value": [
      "064752.082000"
    ],
    "vr": "TM"
  },
  "00080033": {
    "Value": [
      "064752.082000"
    ],
    "vr": "TM"
  },
  "00080050": {
    "Value": [
      "Acc_Pat_1"
    ],
    "vr": "SH"
  },
  "00080060": {
    "Value": [
      "CT"
    ],
    "vr": "CS"
  },
  "00080064": {
    "Value": [
      "WSD"
    ],
    "vr": "CS"
  },
  "00080070": {
```

```
    "Value": [
      "SIEMENS"
    ],
    "vr": "LO"
  },
  "00080090": {
    "Value": [
      {
        "Alphabetic": "Ref_Phy_Doe^John^Pat_1"
      }
    ],
    "vr": "PN"
  },
  "00080201": {
    "Value": [
      "+0530"
    ],
    "vr": "SH"
  },
  "00081030": {
    "Value": [
      "For Test - Base"
    ],
    "vr": "LO"
  },
  "00081032": {
    "Value": [
      {
        "00080100": {
          "Value": [
            "1"
          ],
          "vr": "SH"
        },
        "00080102": {
          "Value": [
            "1"
          ],
          "vr": "SH"
        }
      }
    ],
    "vr": "SQ"
  },
  "0008103E": {
    "Value": [
      "AI-Rad Companion Pulmonary Lesions"
    ],
    "vr": "LO"
  },
  "00081050": {
    "Value": [
      {
        "Alphabetic": "Performing_Phy_Doe^John^Pat_1"
      }
    ],
    "vr": "PN"
  },
}
```

```
"00081090": {
  "Value": [
    "SOMATOM Definition AS"
  ],
  "vr": "LO"
},
"00081110": {
  "Value": [
    {
      "00081150": {
        "Value": [
          "1.2.840.10008.3.1.2.3.1"
        ],
        "vr": "UI"
      },
      "00081155": {
        "Value": [
          "1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.2.0"
        ],
        "vr": "UI"
      }
    }
  ],
  "vr": "SQ"
},
"00081111": {
  "Value": [
    {
      "00081150": {
        "Value": [
          "1.2.840.10008.3.1.2.3.3"
        ],
        "vr": "UI"
      },
      "00081155": {
        "Value": [
          "1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.3.0"
        ],
        "vr": "UI"
      }
    }
  ],
  "vr": "SQ"
},
"00082111": {
  "Value": [
    "Secondary Capture"
  ],
  "vr": "ST"
},
"00089215": {
  "Value": [
    {
      "00080100": {
        "Value": [
          "113074"
        ],
        "vr": "SH"
      }
    }
  ]
}
```



```

    },
    "00080102": {
      "Value": [
        "DCM"
      ],
      "vr": "SH"
    },
    "00080103": {
      "Value": [
        "1.0"
      ],
      "vr": "SH"
    },
    "00080104": {
      "Value": [
        "Volume rendering"
      ],
      "vr": "LO"
    }
  ]
},
"vr": "SQ"
},
"00100010": {
  "Value": [
    {
      "Alphabetic": "Doe^John^Pat_1"
    }
  ],
  "vr": "PN"
},
"00100020": {
  "Value": [
    "Pat_1"
  ],
  "vr": "LO"
},
"00100030": {
  "Value": [
    "19401230"
  ],
  "vr": "DA"
},
"00100040": {
  "Value": [
    "M"
  ],
  "vr": "CS"
},
"00101000": {
  "vr": "LO"
},
"00101010": {
  "Value": [
    "80"
  ],
  "vr": "AS"
},

```

```
"00180015": {
  "Value": [
    "CHEST"
  ],
  "vr": "CS"
},
"00181000": {
  "vr": "LO"
},
"00181010": {
  "Value": [
    "AI-Rad Companion"
  ],
  "vr": "LO"
},
"00181012": {
  "Value": [
    "20211208"
  ],
  "vr": "DA"
},
"00181014": {
  "Value": [
    "135004.911238"
  ],
  "vr": "TM"
},
"00181016": {
  "Value": [
    "Siemens Healthineers"
  ],
  "vr": "LO"
},
"00181019": {
  "Value": [
    "VA20A"
  ],
  "vr": "LO"
},
"00181020": {
  "Value": [
    "VA20A"
  ],
  "vr": "LO"
},
"00181100": {
  "Value": [
    390
  ],
  "vr": "DS"
},
"00181110": {
  "Value": [
    1085.5999999999999
  ],
  "vr": "DS"
},
"00181111": {
```

```
    "Value": [
      595
    ],
    "vr": "DS"
  },
  "00181120": {
    "Value": [
      0
    ],
    "vr": "DS"
  },
  "00181130": {
    "Value": [
      153
    ],
    "vr": "DS"
  },
  "00181140": {
    "Value": [
      "CW"
    ],
    "vr": "CS"
  },
  "00181150": {
    "Value": [
      500
    ],
    "vr": "IS"
  },
  "00181160": {
    "Value": [
      "FLAT"
    ],
    "vr": "SH"
  },
  "00181170": {
    "Value": [
      26
    ],
    "vr": "IS"
  },
  "00181190": {
    "Value": [
      1.2
    ],
    "vr": "DS"
  },
  "00181200": {
    "Value": [
      "20170928"
    ],
    "vr": "DA"
  },
  "00181201": {
    "Value": [
      "063431.000000"
    ],
    "vr": "TM"
  }
```

```
},
"00181210": {
  "Value": [
    "I26f",
    "3"
  ],
  "vr": "SH"
},
"00185100": {
  "Value": [
    "HFS"
  ],
  "vr": "CS"
},
"0018A001": {
  "Value": [
    {
      "00080070": {
        "Value": [
          "SIEMENS"
        ],
        "vr": "LO"
      },
      "00080080": {
        "Value": [
          "DUMMY_A1F845EA"
        ],
        "vr": "LO"
      },
      "00080081": {
        "vr": "ST"
      },
      "00081010": {
        "vr": "SH"
      },
      "00081090": {
        "Value": [
          "SOMATOM Definition AS"
        ],
        "vr": "LO"
      },
      "00181000": {
        "Value": [
          "DUMMY_CCDD87AF"
        ],
        "vr": "LO"
      },
      "00181020": {
        "Value": [
          "syngo CT VA48A"
        ],
        "vr": "LO"
      },
      "00181200": {
        "Value": [
          "20170928"
        ],
        "vr": "DA"
      }
    }
  ]
}
```

```

    },
    "00181201": {
      "Value": [
        "063431.000000"
      ],
      "vr": "TM"
    },
    "0040A170": {
      "Value": [
        {
          "00080100": {
            "Value": [
              "109101"
            ],
            "vr": "SH"
          },
          "00080102": {
            "Value": [
              "DCM"
            ],
            "vr": "SH"
          },
          "00080104": {
            "Value": [
              "Acquisition Equipment"
            ],
            "vr": "LO"
          }
        }
      ],
      "vr": "SQ"
    }
  ],
  "vr": "SQ"
},
"0020000D": {
  "Value": [
    "1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.2.0"
  ],
  "vr": "UI"
},
"0020000E": {
  "Value": [
    "1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.10.0"
  ],
  "vr": "UI"
},
"00200010": {
  "Value": [
    "1234567890"
  ],
  "vr": "SH"
},
"00200011": {
  "Value": [
    7
  ],

```

```
      "vr": "IS"
    },
    "00200012": {
      "Value": [
        2
      ],
      "vr": "IS"
    },
    "00200013": {
      "Value": [
        14
      ],
      "vr": "IS"
    },
    "00200020": {
      "Value": [
        "L",
        "P"
      ],
      "vr": "CS"
    },
    "00200032": {
      "Value": [
        -185.619140625,
        -347.619140625,
        26.5
      ],
      "vr": "DS"
    },
    "00200037": {
      "Value": [
        1,
        0,
        0,
        0,
        1,
        0
      ],
      "vr": "DS"
    },
    "00200052": {
      "Value": [
        "1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.8.0"
      ],
      "vr": "UI"
    },
    "00201040": {
      "vr": "LO"
    },
    "00201041": {
      "Value": [
        26.5
      ],
      "vr": "DS"
    },
    "00204000": {
      "Value": [
        "auto-created - NOT FOR CLINICAL USE"
      ]
    }
  }
}
```

```
    ],
    "vr": "LT"
  },
  "00280002": {
    "Value": [
      3
    ],
    "vr": "US"
  },
  "00280004": {
    "Value": [
      "RGB"
    ],
    "vr": "CS"
  },
  "00280006": {
    "Value": [
      0
    ],
    "vr": "US"
  },
  "00280010": {
    "Value": [
      512
    ],
    "vr": "US"
  },
  "00280011": {
    "Value": [
      512
    ],
    "vr": "US"
  },
  "00280030": {
    "Value": [
      0.76171875,
      0.76171875
    ],
    "vr": "DS"
  },
  "00280100": {
    "Value": [
      8
    ],
    "vr": "US"
  },
  "00280101": {
    "Value": [
      8
    ],
    "vr": "US"
  },
  "00280102": {
    "Value": [
      7
    ],
    "vr": "US"
  },
}
```

```
"00280103": {
  "Value": [
    0
  ],
  "vr": "US"
},
"00280106": {
  "Value": [
    0
  ],
  "vr": "US"
},
"00280107": {
  "Value": [
    2964
  ],
  "vr": "US"
},
"00280301": {
  "Value": [
    "NO"
  ],
  "vr": "CS"
},
"00282110": {
  "Value": [
    "00"
  ],
  "vr": "CS"
},
"00290010": {
  "Value": [
    "SIEMENS MEDCOM HEADER"
  ],
  "vr": "LO"
},
"00291040": {
  "Value": [
    {
      "00290010": {
        "Value": [
          "SIEMENS MEDCOM HEADER"
        ],
        "vr": "LO"
      },
      "00291041": {
        "Value": [
          "VIA_NO_VOLUME"
        ],
        "vr": "CS"
      },
      "00291042": {
        "Value": [
          "NOT FOR VOLUME WORKFLOW"
        ],
        "vr": "LO"
      },
      "00291043": {
```



```
        "Value": [
            "V1 20120620"
        ],
        "vr": "LO"
    }
}
],
"vr": "SQ"
},
"00321060": {
    "vr": "LO"
},
"7FE00010": {
    "BulkDataURI": "http://dicompacsweb.westeurope.cloudapp.azure.com/dicom-
web/studies/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1639048601326.2.0/series/1.3.6.1.4.1.5962.9
9.1.2666028782.284031847.1639048601326.10.0/instances/1.3.6.1.4.1.5962.99.1.2666028782.284031847.1
639048601326.11.0/bulk/7fe00010",
    "vr": "OB"
}
}
]
```