

# XNAT Search API

## Contents:

- [Post A Search To The XNAT Search Engine](#)
- [Get A List Of Available Data Elements](#)
- [Get A List Of Queryable Fields For A Given Data Type](#)
- [Get A List Of Search Report Versions For A Data Type](#)

## Post A Search To The XNAT Search Engine

This REST endpoint assumes you have built a valid XML search. You can download the XML of any existing data table in XNAT and use that as a starting point, or you can build your own. See [How to Query the XNAT Search Engine with REST API](#).

```
POST - /data/search
```

### Parameters:

<b>format</b>	Optional querystring parameter. Specifies the format of the returned data <ul style="list-style-type: none"><li>• xml (default)</li><li>• html</li><li>• json</li><li>• csv</li></ul>
<b>body</b>	Required search definition. Can be included in the body, or in a supplied XML file

**Response:** A valid search will return a formatted search result, showing data that the user has permission to see.



You can also create a stored search out of a valid XML search. See [Stored Search API](#)

## Get A List Of Available Data Elements

This REST endpoint displays a list of all installed data types in your XNAT, regardless of whether there is available data of that type.

```
GET - /data/search/elements
```

### Parameters:

<b>format</b>	Optional querystring parameter. Specifies the format of the returned data <ul style="list-style-type: none"><li>• xml (default)</li><li>• html</li><li>• json</li><li>• csv</li></ul>
---------------	---

### Response:

Showing JSON formatted results. Note that the ELEMENT\_NAME field corresponds with the XNAT xsiType for that data type.

```

{
  "ResultSet": {
    "Result": [
      {
        "SINGULAR": "Project",
        "SECURED": "true",
        "ELEMENT_NAME": "xnat:projectData",
        "COUNT": "10",
        "PLURAL": "Projects"
      },
      {
        "SINGULAR": "Subject",
        "SECURED": "true",
        "ELEMENT_NAME": "xnat:subjectData",
        "COUNT": "39",
        "PLURAL": "Subjects"
      },
      {
        "SINGULAR": "MR Session",
        "SECURED": "true",
        "ELEMENT_NAME": "xnat:mrSessionData",
        "COUNT": "36",
        "PLURAL": "MR Sessions"
      },
      {
        "SINGULAR": "PET Session",
        "SECURED": "true",
        "ELEMENT_NAME": "xnat:petSessionData",
        "COUNT": "7",
        "PLURAL": "PET Sessions"
      },
      ...
    ],
    "title": "Data-Types"
  }
}

```

## Get A List Of Queryable Fields For A Given Data Type

From the list of available elements, supply an xsiType to get a list of columns you can search on.

```
GET - /data/search/elements/{xsiType}
```

### Parameters

<b>{xsiType}</b>	Required path parameter.
<b>format</b>	Optional querystring parameter. Specifies the format of the returned data <ul style="list-style-type: none"> <li>• xml (default)</li> <li>• html</li> <li>• json</li> <li>• csv</li> </ul>

### Response

Displaying JSON-formatted result for a search on /data/search/elements/xnat:subjectData

```

{
  "ResultSet": {
    "Result": [
      {
        "SUMMARY": "xnat:subjectData\\meta\\insert_date",
        "SRC": "0",

```

```

"FIELD_ID": "INSERT_DATE",
"HEADER": "Inserted",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "date",
"DESC": "Inserted"
},
{
"SUMMARY": "xnat:subjectData\meta\insert_user\login",
"SRC": "0",
"FIELD_ID": "INSERT_USER",
"HEADER": "Creator",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "Creator"
},
{
"SUMMARY": "CASE xnat:demographicData\gender WHEN 'male' THEN 'M' WHEN 'female' THEN 'F' ELSE 'U'
END",
"SRC": "0",
"FIELD_ID": "GENDER_TEXT",
"HEADER": "M\F",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "M\F"
},
{
"SUMMARY": "CASE LOWER(xnat:demographicData\handedness) WHEN 'left' THEN 'L' WHEN 'right' THEN 'R'
WHEN 'ambidextrous' THEN 'A' WHEN 'r' THEN 'R' WHEN 'l' THEN 'L' WHEN 'a' THEN 'A' END",
"SRC": "0",
"FIELD_ID": "HANDEDNESS_TEXT",
"HEADER": "Hand",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "Hand"
},
{
"SUMMARY": "CAST(FLOOR(COALESCE(xnat:demographicData\yob,EXTRACT(YEAR FROM xnat:demographicData\
/dob))) AS INTEGER)",
"SRC": "0",
"FIELD_ID": "DOB",
"HEADER": "YOB",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "integer",
"DESC": "YOB"
},
{
"SUMMARY": "xnat:demographicData\education",
"SRC": "0",
"FIELD_ID": "EDUC",
"HEADER": "Education",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "integer",
"DESC": "Education"
},
{
"SUMMARY": "xnat:demographicData\ses",
"SRC": "0",
"FIELD_ID": "SES",
"HEADER": "Ses",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "integer",
"DESC": "Ses"
},
{

```

```
"SUMMARY": "xnat:subjectData\\investigator\\lastname",
"SRC": "0",
"FIELD_ID": "INVEST_CSV",
"HEADER": "PI",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "PI"
},
{
"SUMMARY": "SUB_PROJECTS.PROJECTS",
"SRC": "0",
"FIELD_ID": "PROJECTS",
"HEADER": "Projects",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "All projects tied to a subject"
},
{
"SUMMARY": "xnat:subjectData\\project",
"SRC": "0",
"FIELD_ID": "PROJECT",
"HEADER": "Project",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "Subject's primary project"
},
{
"SUMMARY": "xnat:subjectData\\group",
"SRC": "0",
"FIELD_ID": "SUB_GROUP",
"HEADER": "Group",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "Group"
},
{
"SUMMARY": "SUBJECT_IDS.ADDIDS",
"SRC": "0",
"FIELD_ID": "ADD_IDS",
"HEADER": "Labels",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "Labels"
},
{
"SUMMARY": "xnat:demographicData\\race",
"SRC": "0",
"FIELD_ID": "RACE",
"HEADER": "Race",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "Race"
},
{
"SUMMARY": "xnat:demographicData\\ethnicity",
"SRC": "0",
"FIELD_ID": "ETHNICITY",
"HEADER": "Ethnicity",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "Ethnicity"
},
{
"SUMMARY": "xnat:mrSessionData\\LABEL",
```

```
"SRC": "0",
"FIELD_ID": "XNAT_COL_MRSESSIONDATALABEL",
"HEADER": "LABEL",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "LABEL"
},
{
  "SUMMARY": "Label within the * project.",
  "SRC": "2",
  "FIELD_ID": "SUB_PROJECT_IDENTIFIER=*",
  "HEADER": "*",
  "REQUIRES_VALUE": "false",
  "ELEMENT_NAME": "xnat:subjectData",
  "TYPE": "string",
  "DESC": "Label within the * project."
},
{
  "SUMMARY": "Label within the BJC_Pat project.",
  "SRC": "2",
  "FIELD_ID": "SUB_PROJECT_IDENTIFIER=BJC_Pat",
  "HEADER": "BJC_Pat",
  "REQUIRES_VALUE": "false",
  "ELEMENT_NAME": "xnat:subjectData",
  "TYPE": "string",
  "DESC": "Label within the BJC_Pat project."
},
{
  "SUMMARY": "Label within the Behavior_DB project.",
  "SRC": "2",
  "FIELD_ID": "SUB_PROJECT_IDENTIFIER=Behavior_DB",
  "HEADER": "Behavior_DB",
  "REQUIRES_VALUE": "false",
  "ELEMENT_NAME": "xnat:subjectData",
  "TYPE": "string",
  "DESC": "Label within the Behavior_DB project."
},
{
  "SUMMARY": "Label within the Fruit_Struct project.",
  "SRC": "2",
  "FIELD_ID": "SUB_PROJECT_IDENTIFIER=Fruit_Struct",
  "HEADER": "Fruit_Struct",
  "REQUIRES_VALUE": "false",
  "ELEMENT_NAME": "xnat:subjectData",
  "TYPE": "string",
  "DESC": "Label within the Fruit_Struct project."
},
{
  "SUMMARY": "Label within the Nifti_Proc project.",
  "SRC": "2",
  "FIELD_ID": "SUB_PROJECT_IDENTIFIER=Nifti_Proc",
  "HEADER": "Nifti_Proc",
  "REQUIRES_VALUE": "false",
  "ELEMENT_NAME": "xnat:subjectData",
  "TYPE": "string",
  "DESC": "Label within the Nifti_Proc project."
},
{
  "SUMMARY": "Label within the QC_Review project.",
  "SRC": "2",
  "FIELD_ID": "SUB_PROJECT_IDENTIFIER=QC_Review",
  "HEADER": "QC_Review",
  "REQUIRES_VALUE": "false",
  "ELEMENT_NAME": "xnat:subjectData",
  "TYPE": "string",
  "DESC": "Label within the QC_Review project."
},
{
  "SUMMARY": "Label within the ResourceDemo project.",
  "SRC": "2",
```

```

"FIELD_ID": "SUB_PROJECT_IDENTIFIER=ResourceDemo",
"HEADER": "ResourceDemo",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "Label within the ResourceDemo project."
},
{
"SUMMARY": "Label within the UXE project.",
"SRC": "2",
"FIELD_ID": "SUB_PROJECT_IDENTIFIER=UXE",
"HEADER": "UXE",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "Label within the UXE project."
},
{
"SUMMARY": "Label within the UXE_London project.",
"SRC": "2",
"FIELD_ID": "SUB_PROJECT_IDENTIFIER=UXE_London",
"HEADER": "UXE_London",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "Label within the UXE_London project."
},
{
"SUMMARY": "Label within the UXE_NYC project.",
"SRC": "2",
"FIELD_ID": "SUB_PROJECT_IDENTIFIER=UXE_NYC",
"HEADER": "UXE_NYC",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "Label within the UXE_NYC project."
},
{
"SUMMARY": "Label within the UXE_Seoul project.",
"SRC": "2",
"FIELD_ID": "SUB_PROJECT_IDENTIFIER=UXE_Seoul",
"HEADER": "UXE_Seoul",
"REQUIRES_VALUE": "false",
"ELEMENT_NAME": "xnat:subjectData",
"TYPE": "string",
"DESC": "Label within the UXE_Seoul project."
}
],
"versions": {
"DisplayVersions": {
"element_name": "xnat:subjectData",
"versions": [
{
"name": "brief",
"orderBy": "SUBJECT_ID",
"darkColor": "DEDEDE",
"lightColor": "FFFFFF",
"defaultSortOrder": "ASC",
"fields": [
{
"id": "SUBJECT_LABEL",
"element_name": "xnat:subjectData",
"value": "null",
"visible": "true"
},
{
"id": "GENDER",
"element_name": "xnat:subjectData",
"value": "null",
"visible": "true"
}
]
}
]
}
},

```

```

    {
      "id": "HANDEDNESS",
      "element_name": "xnat:subjectData",
      "value": "null",
      "visible": "true"
    },
    {
      "id": "DOB",
      "element_name": "xnat:subjectData",
      "value": "null",
      "visible": "true"
    },
    {
      "id": "EDUC",
      "element_name": "xnat:subjectData",
      "value": "null",
      "visible": "true"
    },
    {
      "id": "SES",
      "element_name": "xnat:subjectData",
      "value": "null",
      "visible": "true"
    }
  ]
},
{
  "name": "project_bundle",
  "orderBy": "SUBJECTID",
  "darkColor": "DEDEDE",
  "lightColor": "FFFFFF",
  "defaultSortOrder": "ASC",
  "fields": [
    {
      "id": "SUB_PROJECT_IDENTIFIER",
      "element_name": "xnat:subjectData",
      "header": "Subject",
      "value": "null",
      "visible": "true"
    },
    {
      "id": "GENDER_TEXT",
      "element_name": "xnat:subjectData",
      "header": "M\F",
      "value": "null",
      "visible": "true"
    },
    {
      "id": "HANDEDNESS_TEXT",
      "element_name": "xnat:subjectData",
      "header": "Hand",
      "value": "null",
      "visible": "true"
    },
    {
      "id": "DOB",
      "element_name": "xnat:subjectData",
      "header": "YOB",
      "value": "null",
      "visible": "true"
    }
  ]
},
{
  "name": "listing",
  "orderBy": "SUBJECT_ID",
  "darkColor": "DEDEDE",
  "lightColor": "FFFFFF",
  "defaultSortOrder": "ASC",
  "fields": [
    {

```

```
    "id": "SUBJECT_LABEL",
    "element_name": "xnat:subjectData",
    "value": "null",
    "visible": "true"
  },
  {
    "id": "GENDER",
    "element_name": "xnat:subjectData",
    "value": "null",
    "visible": "true"
  },
  {
    "id": "HANDEDNESS",
    "element_name": "xnat:subjectData",
    "value": "null",
    "visible": "true"
  },
  {
    "id": "DOB",
    "element_name": "xnat:subjectData",
    "value": "null",
    "visible": "true"
  },
  {
    "id": "EDUC",
    "element_name": "xnat:subjectData",
    "value": "null",
    "visible": "true"
  },
  {
    "id": "SES",
    "element_name": "xnat:subjectData",
    "value": "null",
    "visible": "true"
  },
  {
    "id": "MR_COUNT",
    "element_name": "xnat:subjectData",
    "value": "null",
    "visible": "true"
  }
]
},
{
  "name": "all",
  "fields": [
    {
      "id": "SUBJECT_ID",
      "element_name": "xnat:subjectData",
      "header": "Subject",
      "type": "string",
      "visible": "true"
    },
    {
      "id": "SUBJECTID",
      "element_name": "xnat:subjectData",
      "header": "Subject",
      "type": "string",
      "visible": "true"
    },
    {
      "id": "INSERT_DATE",
      "element_name": "xnat:subjectData",
      "header": "Inserted",
      "type": "date",
      "visible": "true"
    },
    {
      "id": "INSERT_USER",
      "element_name": "xnat:subjectData",
      "header": "Creator",
```



```
"type": "string",
"visible": "true"
},
{
  "id": "GENDER",
  "element_name": "xnat:subjectData",
  "header": "Gender",
  "type": "string",
  "visible": "true"
},
{
  "id": "GENDER_TEXT",
  "element_name": "xnat:subjectData",
  "header": "M\F",
  "type": "string",
  "visible": "true"
},
{
  "id": "HANDEDNESS",
  "element_name": "xnat:subjectData",
  "header": "Hand",
  "type": "string",
  "visible": "true"
},
{
  "id": "HANDEDNESS_TEXT",
  "element_name": "xnat:subjectData",
  "header": "Hand",
  "type": "string",
  "visible": "true"
},
{
  "id": "DOB",
  "element_name": "xnat:subjectData",
  "header": "YOB",
  "type": "integer",
  "visible": "true"
},
{
  "id": "EDUC",
  "element_name": "xnat:subjectData",
  "header": "Education",
  "type": "integer",
  "visible": "true"
},
{
  "id": "SES",
  "element_name": "xnat:subjectData",
  "header": "Ses",
  "type": "integer",
  "visible": "true"
},
{
  "id": "MR_COUNT",
  "element_name": "xnat:subjectData",
  "header": "MR Count",
  "type": "integer",
  "visible": "true"
},
{
  "id": "INVEST_CSV",
  "element_name": "xnat:subjectData",
  "header": "PI",
  "type": "string",
  "visible": "true"
},
{
  "id": "PROJECTS",
  "element_name": "xnat:subjectData",
  "header": "Projects",
  "type": "string",
```

```
        "visible": "true"
      },
      {
        "id": "PROJECT",
        "element_name": "xnat:subjectData",
        "header": "Project",
        "type": "string",
        "visible": "true"
      },
      {
        "id": "SUB_GROUP",
        "element_name": "xnat:subjectData",
        "header": "Group",
        "type": "string",
        "visible": "true"
      },
      {
        "id": "SUBJECT_LABEL",
        "element_name": "xnat:subjectData",
        "header": "Subject",
        "type": "string",
        "visible": "true"
      },
      {
        "id": "SHARED_LABEL",
        "element_name": "xnat:subjectData",
        "header": "Subject",
        "type": "string",
        "visible": "true"
      },
      {
        "id": "ADD_IDS",
        "element_name": "xnat:subjectData",
        "header": "Labels",
        "type": "string",
        "visible": "true"
      },
      {
        "id": "RACE",
        "element_name": "xnat:subjectData",
        "header": "Race",
        "type": "string",
        "visible": "true"
      },
      {
        "id": "ETHNICITY",
        "element_name": "xnat:subjectData",
        "header": "Ethnicity",
        "type": "string",
        "visible": "true"
      },
      {
        "id": "XNAT_COL_MRSESSIONDATALABEL",
        "element_name": "xnat:subjectData",
        "header": "LABEL",
        "type": "string",
        "visible": "true"
      }
    ]
  }
},
"element_name": "xnat:subjectData",
"title": "Search Fields"
}
```

# Get A List Of Search Report Versions For A Data Type

In the [Advanced Search UI](#), you will notice a set of options when joining two data types together, whether you want to join a "Brief" or "Detailed" view of the data. These are two defined search report versions for a given data type. There are also other defined versions that may be shown in various contexts. This REST endpoint returns a full list of those versions.

```
GET - /data/search/elements/{xsiType}/versions
```

### Parameters

<b>{xsiType}</b>	Required path parameter.
<b>format</b>	Optional querystring parameter. Specifies the format of the returned data <ul style="list-style-type: none"><li>• xml (default)</li><li>• html</li><li>• json</li><li>• csv</li></ul>

### Response:

Displays just the contents of the "versions" object in the xsiType search example listed above