Helper SQL functions for DSpace 6

This page was adapted for DSpace 6 based on the DSpace 5 version. Not all functions have been tested. If you run into a problem, please leave a comment.
This page is related to DSpace 6. For DSpace 5 see Helper SQL functions for DSpace 5.

If you are making custom SQL queries against the DSpace database, they can get very complex due to numerous joins between various levels of DSpace objects (bitstream, bundle, item, collection, community). These helper functions contain the joins so you don't have to write them every time. In other words, using one of these functions in your query saves you from typing the body of the function in your query.

Naming convention: ds6_bitstream2item(bitstream_id), returns item id (resource_id / UUID), works on DSpace 6.x

Example usage:

```
SELECT ds6_bitstream2item(123);  -- 456
SELECT ds6_item2collectionhandle(456);  -- '123456789/789'

SELECT ds6_metadata_field2id('dc', 'title');  -- 64
SELECT ds6_metadata_field2id('dc', 'description', 'abstract');  -- 27
SELECT ds6_metadata_id2field(27);  -- (dc,description,abstract)
SELECT (ds6_metadata_id2field(27)).element;  -- 'description'
```

Overview

argument result	bitstream	bundle	item	collection	community
bitstream	-	-	-	-	-
bundle	ds6_bitstream2bundle	-	-	-	-
item	ds6_bitstream2item ds6_bitstream2itemhandle	ds6_bundle2item ds6_bundle2itemhandle	ds6_item2itemhandle ds6_itemhandle2item	-	-
collection	ds6_bitstream2collection ds6_bitstream2collectionhandle	ds6_bundle2collection ds6_bundle2collectionhandle	ds6_item2collection ds6_item2collectionhandle ds6_itemhandle2collection ds6_itemhandle2collectionhandle	ds6_collection2collectionhandle ds6_collectionhandle2collection	-
community	ds6_bitstream2community ds6_bitstream2communityhandle	ds6_bundle2community ds6_bundle2communityhandle	ds6_item2community ds6_item2communityhandle ds6_itemhandle2community ds6_itemhandle2communityhandle	ds6_collection2community ds6_collection2communityhandle ds6_collectionhandle2community ds6_collectionhandle2communityhandle	ds6_community2communityhandle ds6_communityhandle2community

Other functions:

ds6_metadata_id2field
ds6_metadata_field2id

Create functions

```
CREATE OR REPLACE FUNCTION ds6_bitstream2bundle(uuid) RETURNS uuid
AS 'SELECT bundle_id
FROM bundle2bitstream
WHERE bundle2bitstream.bitstream_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_bitstream2item(uuid) RETURNS uuid
AS 'SELECT item2bundle.item_id
FROM bundle2bitstream, item2bundle
WHERE item2bundle.bundle_id = bundle2bitstream.bundle_id
AND bundle2bitstream.bitstream_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_bitstream2itemhandle(uuid) RETURNS varchar
AS 'SELECT handle
```

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FROM bundle2bitstream, item2bundle, handle
WHERE handle.resource_type_id = 2
AND handle.resource_id = item2bundle.item_id
AND item2bundle.bundle_id = bundle2bitstream.bundle_id
AND bundle2bitstream.bitstream_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_bitstream2collection(uuid) RETURNS uuid
AS 'SELECT collection2item.collection_id
FROM bundle2bitstream, item2bundle, collection2item
WHERE collection2item.item_id = item2bundle.item_id
AND item2bundle.bundle_id = bundle2bitstream.bundle_id
AND bundle2bitstream.bitstream_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_bitstream2collectionhandle(uuid) RETURNS varchar
AS 'SELECT handle
FROM bundle2bitstream, item2bundle, collection2item, handle
WHERE handle.resource_type_id = 3
AND handle.resource_id = collection2item.collection_id
AND collection2item.item_id = item2bundle.item_id
AND item2bundle.bundle_id = bundle2bitstream.bundle_id
AND bundle2bitstream.bitstream_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_bitstream2community(uuid) RETURNS uuid
AS 'SELECT community2collection.community_id
FROM bundle2bitstream, item2bundle, collection2item, community2collection
WHERE community2collection.collection_id = collection2item.collection_id
AND collection2item.item_id = item2bundle.item_id
AND item2bundle.bundle_id = bundle2bitstream.bundle_id
AND bundle2bitstream.bitstream_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_bitstream2communityhandle(uuid) RETURNS varchar
AS 'SELECT handle
FROM bundle2bitstream, item2bundle, collection2item, community2collection, handle
WHERE handle.resource_type_id = 4
AND handle.resource_id = community2collection.community_id
AND community2collection.collection_id = collection2item.collection_id
AND collection2item.item_id = item2bundle.item_id
AND item2bundle.bundle_id = bundle2bitstream.bundle_id
AND bundle2bitstream.bitstream_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_bundle2item(uuid) RETURNS uuid
AS 'SELECT item2bundle.item_id
FROM item2bundle
WHERE item2bundle.bundle_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_bundle2itemhandle(uuid) RETURNS varchar
AS 'SELECT handle
FROM item2bundle, handle
WHERE handle.resource_type_id = 2
AND handle.resource_id = item2bundle.item_id
AND item2bundle.bundle_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_bundle2collection(uuid) RETURNS uuid
AS 'SELECT collection2item.collection_id
FROM item2bundle, collection2item
WHERE collection2item.item_id = item2bundle.item_id
AND item2bundle.bundle_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_bundle2collectionhandle(uuid) RETURNS varchar
AS 'SELECT handle
FROM item2bundle, collection2item, handle
WHERE handle.resource_type_id = 3
AND handle.resource_id = collection2item.collection_id
```

```
AND collection2item.item_id = item2bundle.item_id
AND item2bundle.bundle_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_bundle2community(uuid) RETURNS uuid
AS 'SELECT community2collection.community_id
FROM item2bundle, collection2item, community2collection
WHERE community2collection.collection_id = collection2item.collection_id
AND collection2item.item_id = item2bundle.item_id
AND item2bundle.bundle_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_bundle2communityhandle(uuid) RETURNS varchar
AS 'SELECT handle
FROM item2bundle, collection2item, community2collection, handle
WHERE handle.resource_type_id = 4
AND handle.resource_id = community2collection.community_id
AND community2collection.collection_id = collection2item.collection_id
AND collection2item.item_id = item2bundle.item_id
AND item2bundle.bundle_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_item2itemhandle(uuid) RETURNS varchar
AS 'SELECT handle
FROM handle
WHERE handle.resource_type_id = 2
AND handle.resource_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;


CREATE OR REPLACE FUNCTION ds6_itemhandle2item(varchar) RETURNS uuid
AS 'SELECT resource_id
  FROM handle
  WHERE handle.resource_type_id = 2
  AND handle = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_item2collection(uuid) RETURNS uuid
AS 'SELECT collection2item.collection_id
FROM collection2item
WHERE collection2item.item_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_item2collectionhandle(uuid) RETURNS varchar
AS 'SELECT handle
FROM collection2item, handle
WHERE handle.resource_type_id = 3
AND handle.resource_id = collection2item.collection_id
AND collection2item.item_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_itemhandle2collection(varchar) RETURNS uuid
AS 'SELECT collection_id
FROM collection2item
WHERE collection2item.item_id = (
  SELECT resource_id
  FROM handle
  WHERE handle.resource_type_id = 2
  AND handle = $1
)'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_itemhandle2collectionhandle(varchar) RETURNS varchar
AS 'SELECT handle
FROM collection2item, handle
WHERE handle.resource_type_id = 3
AND handle.resource_id = collection2item.collection_id
AND collection2item.item_id = (
  SELECT resource_id
  FROM handle
  WHERE handle.resource_type_id = 2
```

```
  AND handle = $1
)'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_item2community(uuid) RETURNS uuid
AS 'SELECT community_id
FROM collection2item, community2collection
WHERE community2collection.collection_id = collection2item.collection_id
AND collection2item.item_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_item2communityhandle(uuid) RETURNS varchar
AS 'SELECT handle
FROM collection2item, community2collection, handle
WHERE handle.resource_type_id = 4
AND handle.resource_id = community2collection.community_id
AND community2collection.collection_id = collection2item.collection_id
AND collection2item.item_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_itemhandle2community(varchar) RETURNS uuid
AS 'SELECT community_id
FROM collection2item, community2collection
WHERE community2collection.collection_id = collection2item.collection_id
AND collection2item.item_id = (
  SELECT resource_id
  FROM handle
  WHERE handle.resource_type_id = 2
  AND handle = $1
)'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_itemhandle2communityhandle(varchar) RETURNS varchar
AS 'SELECT handle
FROM collection2item, community2collection, handle
WHERE handle.resource_type_id = 4
AND handle.resource_id = community2collection.community_id
AND community2collection.collection_id = collection2item.collection_id
AND collection2item.item_id = (
  SELECT resource_id
  FROM handle
  WHERE handle.resource_type_id = 2
  AND handle = $1
)'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_collection2collectionhandle(uuid) RETURNS varchar
AS 'SELECT handle
FROM handle
WHERE handle.resource_type_id = 3
AND handle.resource_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_collectionhandle2collection(varchar) RETURNS uuid
AS 'SELECT resource_id
  FROM handle
  WHERE handle.resource_type_id = 3
  AND handle = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_collection2community(uuid) RETURNS uuid
AS 'SELECT community_id
FROM collection2item, community2collection
WHERE community2collection.collection_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_collection2communityhandle(uuid) RETURNS varchar
AS 'SELECT handle
FROM collection2item, community2collection, handle
WHERE handle.resource_type_id = 4
AND handle.resource_id = community2collection.community_id
```

```
AND community2collection.collection_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_collectionhandle2community(varchar) RETURNS uuid
AS 'SELECT community_id
FROM collection2item, community2collection
WHERE community2collection.collection_id = (
  SELECT resource_id
  FROM handle
  WHERE handle.resource_type_id = 3
  AND handle = $1
)'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_collectionhandle2communityhandle(varchar) RETURNS varchar
AS 'SELECT handle
FROM collection2item, community2collection, handle
WHERE handle.resource_type_id = 4
AND handle.resource_id = community2collection.community_id
AND community2collection.collection_id  = (
  SELECT resource_id
  FROM handle
  WHERE handle.resource_type_id = 3
  AND handle = $1
)'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_community2communityhandle(uuid) RETURNS varchar
AS 'SELECT handle
FROM handle
WHERE handle.resource_type_id = 4
AND handle.resource_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_communityhandle2community(varchar) RETURNS uuid
AS 'SELECT resource_id
  FROM handle
  WHERE handle.resource_type_id = 4
  AND handle = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_metadata_id2field(integer) RETURNS TABLE (schema varchar, element varchar,
qualifier varchar)
AS 'SELECT short_id AS schema, element, qualifier
FROM metadatafieldregistry, metadataschemaregistry
WHERE metadatafieldregistry.metadata_schema_id = metadataschemaregistry.metadata_schema_id
AND metadata_field_id = $1'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_metadata_field2id(varchar, varchar, varchar) RETURNS integer
AS 'SELECT metadata_field_id
FROM metadatafieldregistry, metadataschemaregistry
WHERE metadatafieldregistry.metadata_schema_id = metadataschemaregistry.metadata_schema_id
AND short_id = $1
AND element = $2
AND qualifier = $3'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;

CREATE OR REPLACE FUNCTION ds6_metadata_field2id(varchar, varchar) RETURNS integer
AS 'SELECT metadata_field_id
FROM metadatafieldregistry, metadataschemaregistry
WHERE metadatafieldregistry.metadata_schema_id = metadataschemaregistry.metadata_schema_id
AND short_id = $1
AND element = $2
AND qualifier IS NULL'
LANGUAGE SQL  STABLE  RETURNS NULL ON NULL INPUT;
```

Drop functions

```
DROP FUNCTION ds6_bitstream2bundle(uuid);
DROP FUNCTION ds6_bitstream2item(uuid);
DROP FUNCTION ds6_bitstream2itemhandle(uuid);
DROP FUNCTION ds6_bitstream2collection(uuid);
DROP FUNCTION ds6_bitstream2collectionhandle(uuid);
DROP FUNCTION ds6_bitstream2community(uuid);
DROP FUNCTION ds6_bitstream2communityhandle(uuid);
DROP FUNCTION ds6_bundle2item(uuid);
DROP FUNCTION ds6_bundle2itemhandle(uuid);
DROP FUNCTION ds6_bundle2collection(uuid);
DROP FUNCTION ds6_bundle2collectionhandle(uuid);
DROP FUNCTION ds6_bundle2community(uuid);
DROP FUNCTION ds6_bundle2communityhandle(uuid);
DROP FUNCTION ds6_item2itemhandle(uuid);
DROP FUNCTION ds6_itemhandle2item(varchar);
DROP FUNCTION ds6_item2collection(uuid);
DROP FUNCTION ds6_item2collectionhandle(uuid);
DROP FUNCTION ds6_itemhandle2collection(varchar);
DROP FUNCTION ds6_itemhandle2collectionhandle(varchar);
DROP FUNCTION ds6_item2community(uuid);
DROP FUNCTION ds6_item2communityhandle(uuid);
DROP FUNCTION ds6_itemhandle2community(varchar);
DROP FUNCTION ds6_itemhandle2communityhandle(varchar);
DROP FUNCTION ds6_collection2collectionhandle(uuid);
DROP FUNCTION ds6_collectionhandle2collection(varchar);
DROP FUNCTION ds6_collection2community(uuid);
DROP FUNCTION ds6_collection2communityhandle(uuid);
DROP FUNCTION ds6_collectionhandle2community(varchar);
DROP FUNCTION ds6_collectionhandle2communityhandle(varchar);
DROP FUNCTION ds6_community2communityhandle(uuid);
DROP FUNCTION ds6_communityhandle2community(varchar);
DROP FUNCTION ds6_metadata_id2field(integer);
DROP FUNCTION ds6_metadata_field2id(varchar, varchar, varchar);
DROP FUNCTION ds6_metadata_field2id(varchar, varchar);
```