Welcome to Release 5.9, a bug-fix release for the DSpace 5.x platform. For information on upgrading to DSpace 5, please see Upgrading DSpace.

5.10 Release Notes

We recommend sites dependent on Java 7, REST API and/or RDF skip DSpace 5.9 and update to DSpace 5.10

Unfortunately, bug fixes in the DSpace 5.9 release resulted in issues running DSpace 5.9 on Java 7, and with running the REST API and RDF interfaces. These issues are being resolved in an upcoming 5.10 release (see below for more details). Sites which are dependent on one of these features should consider upgrading directly from DSpace 5.8 to 5.10.

Summary

DSpace 5.10 is a bug fix release to resolve JAR dependency issues found in DSpace 5.9 for users running Java 7 (regardless of Tomcat version).

This release also addresses a bug in the DSpace 5.9 release that prevented VIEW statistics from being logged by DSpace.

Other minor bug fixes have been included in the release.

Major bug fixes include

- DS-4000 - Getting issue details...  [STATUS]
- DS-3938 - Getting issue details...  [STATUS]
- DS-4020 - Getting issue details...  [STATUS]

Other fixes include

- DS-4007 - Getting issue details...  [STATUS]
  - To fully realize the benefit of this fix, a full discover reindex is recommended.
    - If you don't reindex, newly added bitstreams would no longer display the file metadata in their index. (But, old bitstreams would still continue to display file metadata until you do a full reindex).
    - Institutions unaffected/unconcerned by this bug do not need to reindex. If you do choose to reindex, then the bug would be fully fixed

- DS-2948 - Getting issue details...  [STATUS]
- DS-3664 - Getting issue details...  [STATUS]
In addition, this release fixes a variety of minor bugs in the 5.x releases. For more information, see the Changes section below.

Upgrade Instructions

- For upgrade instructions from ANY PRIOR VERSION to 5.10, please see Upgrading DSpace
  - When upgrading from any 5.x version, if you're reusing your 5.x configuration, make sure to change all instances of Filter attribute "red" to "ref" (e.g. `<Filter red="exampleFilter" />` to `<Filter ref="exampleFilter" />`) in [dspace]/config/crosswalks/oai/xoai.xml. "red" was a temporary workaround for a bug (xoai issue #32), which was first fixed in DSpace 5.4.

No new features in DSpace 5.10

5.10 is a bug-fix release. This means it includes no new features and only includes the above listed fixes.

For a list of all new 5.x Features, please visit the 5.x Release Notes.

5.10 Acknowledgments

The 5.10 release was led by Terrence W Brady.

The following individuals provided code or bug fixes to the 5.10 release: Terrence W Brady, Alexander Sulfran, Philip Vissenaekens (Atmire), Jozsef Marton.

5.9 Release Notes

We highly recommend ALL JSPUI users of DSpace 5.x upgrade to 5.9

DSpace 5.9 contains security fixes for the JSPUI (only). To ensure your 5.x JSPUI site is secure, we highly recommend ALL JSPUI DSpace 4.x users upgrade to DSpace 5.9.

DSpace 5.x XMLUI users may also wish to upgrade as several major bugs have been fixed in the XMLUI as well.

DSpace 5.9 upgrade instructions are available at: Upgrading DSpace

DSpace 5.9 is a security & bug fix release to resolve several issues located in previous 5.x releases. As it only provides bug/security fixes, DSpace 5.9 should constitute an easy upgrade from DSpace 5.x for most users. No database changes or additional configuration changes should be necessary when upgrading from DSpace 5.x to 5.9.

JSPUI security fixes include

- [HIGH SEVERITY] A user can inject malicious Javascript into the names of EPeople or Groups. This is most severe in sites which allow anyone to register for a new account. ([https://jira.duraspace.org/browse/DS-3866](https://jira.duraspace.org/browse/DS-3866) - requires a JIRA account to access.)
  - Reported by Julio Brafman

- [MEDIUM SEVERITY] Any user was able to export metadata to CSV format if they knew the correct JSPUI path/parameters. Additionally, the exported CSV included metadata fields which are flagged as hidden in configuration. ([https://jira.duraspace.org/browse/DS-3840](https://jira.duraspace.org/browse/DS-3840) - requires a JIRA account to access.)
  - Reported by Eike Kleiner (ZHAW, Zurich University of Applied Sciences)

Major bug fixes include

- Update DSpace ORCID Integration to use ORCID API v2 (instead of now obsolete ORCID v1): DS-3447
- Update DSpace Statistics to use GeoIP API v2 (instead of now discontinued GeoIP API v1): DS-3832
- Other API-level fixes (affecting all UIs)
- PostgreSQL JDBC driver upgraded to latest version (to allow for full compatibility with PostgreSQL v10): DS-3854
- Ensure ImageMagick thumbnails respect the orientation of original file: DS-3839
- OAI-PMH Fixes
  - Enhanced "oai import" command to report on items that cause indexing issues: DS-3852
  - Fix 500 error when no Community or Collection: DS-3853
- XMLUI Fixes
  - Fixed Mirage v2 build issues caused by Bower Registry URL change: DS-3936
  - Fixed performance issues for Items with 100+ bitstreams: DS-3883
  - Fix issue where search results lose Community/Collection context when sorting: DS-3835
  - Update Mirage to use recommended MathJax inline delimiters (DS-3087) and to use new CDN location (DS-3560)

In addition, this release fixes minor bugs in the 5.x releases. For more information, see the Changes in 5.x page.

5.9 Acknowledgments

The 5.9 release was led by the DSpace Committers.

The following individuals provided code or bug fixes to the 5.9 release: Pascal-Nicolas Becker, Ben Bosman, Terry Brady, Tim Donohue, Alex Magaz Graça, Lotte Hofstede, Ivan Masár, Hardy Pottinger, Kim Shepherd, Jonas Van Goolen and Mark H. Wood.
5.8 Release Notes

We recommend users of DSpace 5.x who use the ImageMagick Thumbnail filter process to upgrade to 5.8

DSpace 5.8 contains a fix for the ImageMagick thumbnail creation process. We highly recommend ALL DSpace 5.x users upgrade to DSpace 5.8.

DSpace 5.8 upgrade instructions are available at: Upgrading DSpace

DSpace 5.8 contains a fix for a bug introduced in DSpace 5.7. As it only provides bug fixes, DSpace 5.8 should constitute an easy upgrade from DSpace 5.x for most users. No database changes or additional configuration changes should be necessary when upgrading from DSpace 5.x to 5.8.

Major bug fixes include:

- Resolve a performance issue in the ImageMagick Thumbnail Creation process for PDF files (DS-3661)

Other fixes

- Update automated testing resources (DS-3674)
- Set a particular version for CSS processing in Mirage 2

5.8 Acknowledgments

The 5.8 release was led by the DSpace Committers.

The following individuals provided code or bug fixes to the 5.8 release: Terry Brady (terrywbrady), Tim Donohue (tdonohue), Hardy Pottinger (hardyoyo). Release support provided by Mark Wood (mwood).

5.7 Release Notes

We highly recommend ALL users of DSpace 5.x upgrade to 5.7

DSpace 5.7 contains security fixes for the XMLUI and JSPUI and REST. To ensure your 5.x site is secure, we highly recommend ALL DSpace 5.x users upgrade to DSpace 5.7.

DSpace 5.7 upgrade instructions are available at: Upgrading DSpace

DSpace 5.7 is a security & bug fix release to resolve several issues located in previous 5.x releases. As it only provides bug/security fixes, DSpace 5.7 should constitute an easy upgrade from DSpace 5.x for most users. No database changes or additional configuration changes should be necessary when upgrading from DSpace 5.x to 5.7.

Major bug fixes include:

- Security fixes for both JSPUI and XMLUI:
  - [HIGH SEVERITY] Basic (Traditional) Workflow approval process is vulnerable to unauthorized manipulations ([https://jira.duraspace.org/browse/DS-3647](https://jira.duraspace.org/browse/DS-3647) - requires a JIRA account to access.)
  - Discovered by Pascal Becker (The Library Code / TU Berlin).
  - [LOW SEVERITY] DSpace shipped with a version of Apache Commons Configuration that was vulnerable to COLLECTIONS-580 (Deserialization Vulnerability). ([https://jira.duraspace.org/browse/DS-3520](https://jira.duraspace.org/browse/DS-3520) - requires a JIRA account to access.)
    - Discovered by Alan Orth.
- Security fixes for REST API:
  - [HIGH SEVERITY] A user with submit permissions can bypass workflow approvals by depositing via REST API ([https://jira.duraspace.org/browse/DS-3281](https://jira.duraspace.org/browse/DS-3281) - requires a JIRA account to access.)
    - Discovered by Emilio Lorenzo.
- XMLUI bug fixes:
  - /handlers resolver path was no longer working: DS-3366
  - Fix broken images when running Mirage 2 on Jetty: DS-3289
  - Improve error message when user attempts to update an e-mail address to an existing address: DS-3584
  - Fix error when uploading large files (>2GB) via a web browser: DS-2359
- JSPUI bug fixes:
  - READ access rights not being respected on Collection homepage: DS-3441
- Solr Statistics fixes:
  - Sharding statistics corrupted some fields and was unstable: DS-3436, DS-3458
- AIP Backup and Restore fixes:
  - Failed AIP imports left files in assetstore: DS-2227

5.7 Acknowledgments

The 5.7 release was led by the DSpace Committers.
The following individuals provided code or bug fixes to the 5.7 release: Pascal-Nicolas Becker (pnbecker), Andrea Bollini (abollini), Terry Brady (terrywbrady), Samuel Cambien (samuelcambien), Yana De Pauw, Tom Desair (tomdesair), Peter Dietz (peterdietz), Tim Donohue (tdonohue), Claudia Juergen (cjjuergen), Bram Luyten (bram-atmire), Ivan Masar (helix84), Alan Orth (alanorth), Andrea Pascarelli (lap82), Kim Shepherd (kshepherd), Mark Wood (mwoodiupui), Jonas Van Goolen (jonas-atmire), Philip Vissenaekens (PhilipVis), and Arvo Consultores y Tecnologia. S.L (arvoConsultores)

5.6 Release Notes

We highly recommend ALL users of DSpace 5.x upgrade to 5.6

DSpace 5.6 contains security fixes for the XMLUI and JSPUI and REST. To ensure your 5.x site is secure, we highly recommend ALL DSpace 5.x users upgrade to DSpace 5.6.

DSpace 5.6 upgrade instructions are available at: Upgrading DSpace

DSpace 5.6 is a security & bug fix release to resolve several issues located in previous 5.x releases. As it only provides bug/security fixes, DSpace 5.6 should constitute an easy upgrade from DSpace 5.x for most users. No database changes or additional configuration changes should be necessary when upgrading from DSpace 5.x to 5.6.

Major bug fixes include:

- JSPUI, XMLUI, REST security fixes:
  - JSPUI and XMLUI
    - [MEDIUM SEVERITY] XML External Entity (XXE) vulnerability in pdfbox. (DS-3309 - requires a JIRA account to access)
      - Reported by Seth Robbins
  - JSPUI, XMLUI and REST
    - [MEDIUM SEVERITY] Bitstreams of embargoed and/or withdrawn items can be accessed by anyone. (DS-3097 - requires a JIRA account to access)
      - Reported by Franziska Ackermann
  - JSPUI security fix:
    - [HIGH SEVERITY] Any registered user can modify inprogress submission. (DS-2895 - requires a JIRA account to access)
      - Reported by Andrea Bollini (4Science)
  - REST security fix:
    - [HIGH SEVERITY] SQL Injection Vulnerability in 5.x REST API (DS-3250 - requires a JIRA account to access)
      - Reported by Bram Luyten (Atmire)
  - JSPUI bug fixes:
    - JSPUI: Creative Commons license fails with fetch directy the url (instead use the Creative Commons REST API) (DS-2604)
    - JSPUI: Upload a file, multfile, with a description text during the submission process (DS-2623)
    - JSPUI: Bug fix to EPerson popup (DS-2968)
  - XMLUI bug fixes:
    - XMLUI: Recyclable Cocoon components should clear local variables (DS-3246)
    - XMLUI: "Request a copy" feature was not working when the property request.item-type was set to all (DS-2623)
    - XMLUI: Bug fix to policy search form (DS-3206)
  - Other minor fixes and improvements
    - METSRightsCrosswalk NPE During AIP Restore - No Anonymous Read (DS-3140)
    - AIP Restore is not respecting access restrictions (on Items) (DS-3266)
    - Error when missing Context Description in xoai.xml (DS-2874)
    - Bug fix to REST API "find-by-metadata-field" (DS-3248)

In addition, this release fixes minor bugs in the 5.x releases. For more information, see the Changes in 5.x page.

5.6 Acknowledgments

The 5.6 release was led by Andrea Pascarelli (4Science) and the Committers.

The following individuals provided code or bug fixes to the 5.6 release: Andrea Bollini (abollini), Tim Donohue (tdonohue), Claudia Juergen (cjjuergen), Bram Luyten (bram-atmire), Ivan Masar (helix84), ooml, Andrea Pascarelli (lap82), Hardy Pottinger (hardyoyo), Roeland Dillen (tradillen), Andrea Schweer (aschweer), William Tantzen (wilee53), Mark Wood (mwoodiupui), Bruno Nocera Zanette

5.5 Release Notes

We highly recommend ALL users of DSpace 5.x upgrade to 5.5

DSpace 5.5 contains security fixes for the XMLUI and JSPUI. To ensure your 5.x site is secure, we highly recommend ALL DSpace 5.x users upgrade to DSpace 5.5.

DSpace 5.5 upgrade instructions are available at: Upgrading DSpace

DSpace 5.5 is a security & bug fix release to resolve several issues located in previous 5.x releases. As it only provides bug/security fixes, DSpace 5.5 should constitute an easy upgrade from DSpace 5.x for most users. No database changes or additional configuration changes should be necessary when upgrading from DSpace 5.x to 5.5.
Major bug fixes include:

- **XMLUI security fixes:**
  - [HIGH SEVERITY] The XMLUI "themes:" path is vulnerable to a full directory traversal. (DS-3094 - requires a JIRA account to access.) This means that ANY file on your system which are readable to the Tomcat user account may be publicly accessed via your DSpace website.
  - Reported by Virginia Tech

- **JSPUI security fixes:**
  - [MEDIUM SEVERITY] The JSPUI "Edit News" feature (accessible to Administrators) can be used to view/edit ANY files which are readable to the Tomcat user account (DS-3063 - requires a JIRA account to access.)
  - Reported by CINECA

- **REST fixes**
  - Fixed the "/handle" endpoint (DS-2936)
  - REST webapp wasn't registering itself on startup (DS-2946)

- **OAI fixes**
  - Fixed a few incorrect URL encoding issue (DS-3050)
  - Fixed the broken "NOT" filter (DS-2820)

- **Configuration Fixes**
  - Fixed misspelling in dcterms registry (conformsTo) (DS-2998)
  - Updated our default DataCite configurations to point at the updated DataCite test server (DS-2923)

- **Other minor fixes**
  - Broken SQL query in Item.findByMetadataFieldAuthority API method (DS-2517)
  - Mirage2: Ensured printing the item page from doesn't include bitstream URLs (DS-2893)

In addition, this release fixes minor bugs in the 5.x releases. For more information, see the Changes in 5.x page.

### 5.5 Acknowledgments

The 5.5 release was led by Tim Donohue (DuraSpace) and the Committers.

The following individuals provided code or bug fixes to the 5.5 release: Pascal-Nicolas Becker (pnbecker), Andrea Bollini (abollini), Tim Donohue (tdonohue), Claudia Juergen (cjuergeren), Bram Luyten (bram-atmire), Ivan Masar (helix84), Dylan Meeus (DylanMeeus), AmberPoo1, Christian Scheible (christian-scheible), Tim Van de Langenbergh (tim-atmire), Mark Wood (mwoodatupui)

### 5.4 Release Notes

We highly recommend any JSPUI users of DSpace 5.x upgrade to 5.4

DSpace 5.4 contains security fixes for the JSPUI only. To ensure your 5.x site is secure, we highly recommend JSPUI DSpace 5.x users upgrade to DSpace 5.4.

DSpace 5.4 is a bug fix release to resolve several issues found in DSpace 5.x. As it only provides bug fixes, DSpace 5.4 should constitute an easy upgrade from any other DSpace 5.x version for most users. Beginning with DSpace 5.x, we also provide an easier upgrade process from any prior version of DSpace (1.x.x, 3.x or 4.x).

Major bug fixes include:

- **JSPUI security fixes:**
  - [MEDIUM SEVERITY] Cross-site scripting (XSS injection) is possible in JSPUI search interface (in Firefox web browser). (DS-2736 - requires a JIRA account to access for two weeks, and then will be public): This vulnerability could allow someone to embed dangerous Javascript code into links to search results. If a user was emailed such a link and clicked it, the javascript would be run in their local browser. This vulnerability has existed since DSpace 3.x
  - Discovered by Genaro Contreras

- **OAI-PMH fixes:**
  - Upgraded the XOAI library to 3.2.10 to resolve several issues
  - OAI did not support harvesting by date (YYYY-MM-DD) without a time (DS-2524, DS-2542)
  - OAI getRecord was wrongly including all virtual sets (DS-2573)
  - OAI was ignoring the "dspace.oai.url" setting in "oai.cfg" (DS-2744)

- **REST API fixes:**
  - /handle not reflecting updates (DS-2692)
  - /collections/<id>/items ignores offset parameter (DS-2719)
  - login/logout thread safety (DS-2830)

- **Deposit/Submission fixes:**
  - We highly recommend any JSPUI users of DSpace 5.x upgrade to 5.4

DSpace 5.4 contains security fixes for the JSPUI only. To ensure your 5.x site is secure, we highly recommend JSPUI DSpace 5.x users upgrade to DSpace 5.4.

DSpace 5.4 is a bug fix release to resolve several issues found in DSpace 5.x. As it only provides bug fixes, DSpace 5.4 should constitute an easy upgrade from any other DSpace 5.x version for most users. Beginning with DSpace 5.x, we also provide an easier upgrade process from any prior version of DSpace (1.x.x, 3.x or 4.x).

Major bug fixes include:

- **JSPUI security fixes:**
  - [MEDIUM SEVERITY] Cross-site scripting (XSS injection) is possible in JSPUI search interface (in Firefox web browser). (DS-2736 - requires a JIRA account to access for two weeks, and then will be public): This vulnerability could allow someone to embed dangerous Javascript code into links to search results. If a user was emailed such a link and clicked it, the javascript would be run in their local browser. This vulnerability has existed since DSpace 3.x
  - Discovered by Genaro Contreras
5.4 Acknowledgments

The 5.4 release was led by Andrea Schweer (University of Waikato ITS), Tim Donohue and the Committers.

The following individuals provided code or bug fixes to the 5.4 release: Pascal-Nicolas Becker (pnbecker), Arnaud de Bossoreille (arnodb), Brad Dewar (bdewar), Peter Dietz (peterdietz), Tim Donohue (tdonohue), Ondrej Košárko (kosarko), Aleksander Kołynski-Buryła (akotynski), Ivan Masar (helix84), Hardy Pottinger (hardoyo), Christian Scheible (christian-scheible), Andrea Schweer (aschweer), Bill Tantzen (wilee53), Jonas Van Goolen, Chris Wilper (cwilper), Mark H Wood (mwoodupui), Jun Won Jung (RomanticCat).

5.3 Release Notes

DSpace 5.3 is a bug fix release to resolve several issues found in DSpace 5.2. As it only provides bug fixes, DSpace 5.3 should constitute an easy upgrade from DSpace 5.0, 5.1 or 5.2 for most users. Beginning with DSpace 5.x, we also provide an easier upgrade process from any prior version of DSpace (1.x.x, 3.x or 4.x).

Major bug fixes include:

- Security fixes:
  - Low Severity] Possible to access files attached to "in-progress" submissions via a direct link (DS-2614) - requires a JIRA account to access for two weeks, and then will be public. This vulnerability could allow anyone in the world to download a file attached to an "in-progress" submission if they are provided with a direct link to that file (from either UI). While a direct file link would be very hard to "guess" or stumble upon, this could allow an individual with deposit rights to make available content which has not been approved by local DSpace administrators. This vulnerability has at least existed since 5.0, but may effect versions as old as 3.0.
  - Discovered by Pascal-Nicolas Becker of Technische Universität Berlin
- Search and browse fixes:
  - Sols and Lucene special characters no longer cause search errors (DS-2339, DS-2461, DS-2472)
  - Resolved issues jumping to values when browsing by title or date (DS-2571, DS-2602)
- OAI fixes:
  - Performing a full OAI import now also cleans the OAI cache (DS-2543)
  - Harvested items are now properly imported in OAI (DS-2554)
  - Tombstones (deleted item status) are now properly applied for withdrawn items (DS-2593)
  - Note: This requires 'import' to be run, the OAI event consumer will not create tombstones automatically
  - dc.date.available is now properly exposed when using the mets metadata format (DS-2598)
- Authorization policy fixes:
  - Custom policies for items in workspace or workflow (eg. embargo lifts) are now ignored by AuthorizeManager (DS-2614)
  - NULL Resource Policy types (commonly found when upgrading from DSpace < 3.0) are now handled correctly by AuthorizeManager (DS-2587)
  - Item-level versioning now carries across all custom policies in new item versions (eg. embargos) (DS-2358)
- Other notable fixes:
  - Optimized "Select Collection" query is now disabled by default as a workaround to ensure special group lookups (LDAP, Shibboleth, IP-based) work out-of-the-box (DS-2563)
  - Resolved issue where citation_pdf_url metadata was NULL for items with multiple bitstreams but no primary bitstream (DS-2603)
  - dc.rights metadata is now properly exposed in embedded XHTML head DC (DS-2568)

In addition, this release fixes a variety of minor bugs in the 5.x releases. For more information, see the Changes in 5.x page.

5.3 Acknowledgments

The 5.3 release was led by Kim Shepherd (University of Auckland Library) and the Committers.

The following individuals provided code or fix to the 5.3 release: Roeland Dillen (rradillen), Tim Donohue (tdonohue), Ondej Košárko (kosarko), Bram Luyten (bram-atmire), Pascal-Nicolas Becker (pnbecker), Pablo Buenaposada (pablobuenaposada), Nicolas Schwab (nicolasschwab), Andrea Schweer (aschweer), Alex Magaz Graça (rivaldi8), junwei1229, and Claudia Juergen (cjuergen).

5.2 Release Notes

DSpace 5.2 is a bug fix release to resolve several issues found in DSpace 5.1. As it only provides bug fixes, DSpace 5.2 should constitute an easy upgrade from DSpace 5.0 or 5.1 for most users. Beginning with DSpace 5.x, we also provide an easier upgrade process from any prior version of DSpace (1.x.x, 3.x or 4.x).

Major bug fixes include:

- Solr statistics upgrade fixes:
  - Resolve issues where index data was not being properly upgraded (DS-2486, DS-2487, DS-2489)
  - Failure when "sharding" the Solr statistics index (DS-2212)
- OAI fixes:
  - Handle dates correctly in resumption tokens, so that harvesting captures the full specified range. (DS-2546, DS-2582)
  - List all authors in METS formatted metadata. (DS-2474)
  - Change the declared OAI deletion mode to "transient", which corresponds to what DSpace actually does. (DS-2491)
  - Restore the ability to create additional Filters for OAI-PMH interface. (DS-2423)

Minor fixes to XMLUI Mirage2 theme

In addition, this release fixes a variety of minor bugs in the 5.x releases. For more information, see the Changes in 5.x page.

Other notable fixes:

- Fix issue where if PubMed server is down submission lookup fails (DS-2813)
- JSPUI: Allow reviewers to upload files (DS-2814)
- Other notable fixes:
  - OAI fixes:
    - List all authors in METS formatted metadata. (DS-2474)
    - Change the declared OAI deletion mode to "transient", which corresponds to what DSpace actually does. (DS-2491)
    - Restore the ability to create additional Filters for OAI-PMH interface. (DS-2423)
  - Solr statistics upgrade fixes:
    - Resolve issues where index data was not being properly upgraded (DS-2486, DS-2487, DS-2489)
    - Failure when "sharding" the Solr statistics index (DS-2212)
  - Authorization policy fixes:
    - Custom policies for items in workspace or workflow (eg. embargo lifts) are now ignored by AuthorizeManager (DS-2614)
    - NULL Resource Policy types (commonly found when upgrading from DSpace < 3.0) are now handled correctly by AuthorizeManager (DS-2587)
    - Item-level versioning now carries across all custom policies in new item versions (eg. embargos) (DS-2358)
  - Other notable fixes:
    - Optimized "Select Collection" query is now disabled by default as a workaround to ensure special group lookups (LDAP, Shibboleth, IP-based) work out-of-the-box (DS-2563)
    - Resolved issue where citation_pdf_url metadata was NULL for items with multiple bitstreams but no primary bitstream (DS-2603)
    - dc.rights metadata is now properly exposed in embedded XHTML head DC (DS-2568)

In addition, this release fixes a variety of minor bugs in the 5.x releases. For more information, see the Changes in 5.x page.
The following security issues discovered in DSpace 5.x and below:

DSpace 5.0 to 5.1.

an easy upgrade from DSpace 5.0 for most users. No database changes or additional configuration changes should be necessary when upgrading from DSpace 5.1 is a security and bug fix release to resolve several issues located in DSpace 5.0. As it only provides bug fixes, DSpace 5.1 should constitute the 5.1 release was led by Hardy Pottinger (University of Missouri Library Systems) and the Committers.

The following individuals provided code or bug fixes to the 5.2 release: Pascal-Nicolas Becker (pnbecker), CTU Developers (ctu-developers), Roeland Dillen (radillen), Tim Donohue (tdonohue), Alex Magaz Graça (rivaldi8), Claudia Juergen (juergen), Ondej Kolárko (kosarko), Panagiotis Koutsourakis (kutsurak), Bram Luyten (bram-atmire), Ivan Masar (helix84), minusdavid, Hardy Pottinger (hardyoyo), Christian Scheible (christian-scheible), Andrea Schweer (aschweer), Antoine Snyers (antoine-atmire), Kevin Van de Velde (KevinvdV), Tim Van den Langenbergh (TimothyXL), Chris Wilper (cwilper), Mark Wood (mwoodiupui)

5.1 Release Notes

**Rest API fixes:**
- Wrong SQL in REST /items/find-by-metadata-field. (DS-2501)
- Listing collections would fail when using Oracle DB. (DS-2508)
- Correctly apply bitstream policies. (DS-2511)

**Other notable fixes:**
- "dspace update-handle-prefix" failed when using Oracle DB. (DS-2218)
- Do not index items that are still in a submitter's workspace. (DS-2403)
- Remember the context (community, collection) during browsing. (DS-2482)
- Better handle upload of file with a semicolon in its name. (DS-2513)
- EZID DOI minting properly sets the URI of the identified item. (DS-2518)
- Update of the list of robots recognized by DSpace. (DS-2531)

In addition, this release fixes a variety of minor bugs in the 5.x releases. For more information, see the Changes in 5.x page.

5.2 Acknowledgments

The 5.2 release was led by Hardy Pottinger (University of Missouri Library Systems) and the Committers.

The following individuals provided code or bug fixes to the 5.2 release: Pascal-Nicolas Becker (pnbecker), CTU Developers (ctu-developers), Roeland Dillen (radillen), Tim Donohue (tdonohue), Alex Magaz Graça (rivaldi8), Claudia Juergen (juergen), Ondej Kolárko (kosarko), Panagiotis Koutsourakis (kutsurak), Bram Luyten (bram-atmire), Ivan Masar (helix84), minusdavid, Hardy Pottinger (hardyoyo), Christian Scheible (christian-scheible), Andrea Schweer (aschweer), Antoine Snyers (antoine-atmire), Kevin Van de Velde (KevinvdV), Tim Van den Langenbergh (TimothyXL), Chris Wilper (cwilper), Mark Wood (mwoodiupui)

5.1 Release Notes

**We highly recommend any users of DSpace 5.x upgrade to 5.1**

DSpace 5.1 contains security fixes for both the XMLUI and JSPUI. To ensure your 5.x site is secure, we highly recommend all DSpace 5.x users upgrade to DSpace 5.1.

We also highly recommend removing any "allowLinking=true" settings from your Tomcat's <Context> configuration. Previously our installation documentation erroneously listed examples which included "allowLinking=true", while the Tomcat documentation lists it as a possible security concern. The XMLUI Directory Traversal Vulnerability (see below) is also exacerbated by this setting.

**DSpace 1.x.x, 3.x or 4.x users may wish to consider upgrading directly to DSpace 5.1**

Several of the security vulnerabilities patched in DSpace 5.1 (and backported to 4.3 and 3.4) also affect sites running unsupported DSpace 1.x.x releases. In order to ensure your site is patched, we highly recommend upgrading to DSpace 3.4, DSpace 4.3 or DSpace 5.1.

If you are considering an upgrade from DSpace 1.x.x, note that, as of DSpace 5, your existing data (i.e. database contents, search/browse indexes) will now be automatically upgraded from ANY prior version of DSpace. Therefore, you may wish to consider upgrading directly to DSpace 5.1, as the 5.x upgrade process is simplified.

DSpace 5.1 is a security and bug fix release to resolve several issues located in DSpace 5.0. As it only provides bug fixes, DSpace 5.1 should constitute an easy upgrade from DSpace 5.0 for most users. No database changes or additional configuration changes should be necessary when upgrading from DSpace 5.0 to 5.1.

This release addresses the following security issues discovered in DSpace 5.x and below:

**XMLUI Security Fixes**
- [HIGH SEVERITY] XMLUI Directory Traversal Vulnerabilities (DS-2445 - requires a JIRA account to access for two weeks, and then will be public): These vulnerabilities allow someone to potentially access any file on your local filesystem which is readable to the Tomcat user account. This includes files which are unrelated to DSpace or Tomcat, but are readable to all users on the filesystem (e.g. /etc/passwd, /etc/hosts, etc.). This also includes Tomcat configuration files which may or may not contain passwords. These vulnerabilities have existed since DSpace 1.5.2.
  - Discovered by: Khalil Shreateh, with additional (related) vulnerabilities discovered by the DSpace Committer Team
  - In some configurations of Tomcat, simply removing any "allowLinking=true" settings from your Tomcat's <Context> configuration will limit the directory traversal vulnerability's severity to only allow access to files within the XMLUI web application directory. In addition, the Tomcat documentation details "allowLinking=true" as a possible security concern. However, you still must upgrade or patch your DSpace in order to completely resolve this vulnerability.

**JSPUI Security Fixes**
- [MEDIUM SEVERITY] JSPUI Directory Traversal Vulnerability (DS-2448 - requires a JIRA account to access for two weeks, and then will be public): This vulnerability allows someone to potentially access any file within the JSPUI web application directory (e.g. WEB-INF/web.xml). This vulnerability is believed to have existed in all prior versions of DSpace.
  - Discovered by Khalil Shreateh
- [LOW SEVERITY] Cross-site scripting (XSS injection) is possible in JSPUI Recent Submissions listings (DS-1702 - requires a JIRA account to access for two weeks, and then will be public): This vulnerability could allow a depositor/submitter to embed dangerous Javascript code into the metadata of a new submission, thus causing that code to be run across other user accounts. However, this vulnerability is only possible by someone with privileges to add content to your DSpace site. This vulnerability has existed since DSpace 1.5.x.
  - Discovered by: Jean-Paul Zhao of University of Toronto
• [LOW SEVERITY] Cross-site scripting (XSS injection) is possible in JSPUI Discovery search form (DS-2044 - requires a JIRA account to access for two weeks, and then will be public): This vulnerability could allow someone to embed dangerous Javascript code into links to search results. If a user was emailed such a link and clicked it, the javascript would be run in their local browser. This vulnerability has existed since DSpace 3.x
  • 4.x / 5.x vulnerability discovered by Gabriela Mircea of McMaster University and Khalil Shreateh
  • 3.x vulnerability discovered by Iyas Orak of Biznet Bilisim A.S.

In addition, this release fixes a variety of minor bugs in the 5.0 release. For more information, see the Changes in 5.x page.

5.1 Acknowledgments

The 5.1 release was led by Tim Donohue (DuraSpace) and the Committers.

The following individuals provided code or bug fixes to the 5.1 release: CTU Developers (ctu-developers), Tim Donohue (tdonohue), Ondej Košarko (kosarko), Pascal-Nicolas Becker (onbecker), Claudia Juergen (juergen), Ivan Masar (helix84), Andrea Pascarelli (iap82), Hardy Pottinger (hardyoyo), Christian Scheible (christian-scheible), William Tantzen (wilee53), Mark Wood (mwooduiupui),

5.0 Release Notes

The following is a list of the new features included for the 5.x platform (not an exhaustive list):

DSpace 5.0 ships with a number of new features. Certain features are automatically enabled by default while others require deliberate activation. The following non-exhaustive list contains the major new features in 5.0.

Easier Upgrading to 5.x from ANY previous DSpace version (1.x.x, 3.x or 4.x).
- Your underlying DSpace database now upgrades itself automatically when you first run a newer version of DSpace (see DS-2167, by Tim Donohue with support/feedback from 5.0 Release Team).
- Solr/Lucene indexes now upgrade automatically during the “ant update” step of the Upgrade process (see DS-2297 by Tim Donohue, with support/feedback from Ivan Masár and 5.0 Release Team).

Perform Batch Imports from the User Interface (in both XMLUI and JSPUI)
- XMLUI version (XMLUI Documentation, also see DS-1641) by Peter Dietz with the support of Ohio State University Libraries and Longsight
- JSPUI version (JSPUI Documentation, also see DS-2177) by the Greek National Documentation Centre /EKT

XMLUI new features
- Mirage 2 Responsive Theme, based on Bootstrap (disabled by default, see DS-2052 for screenshots) by @mire
- ORCID Integration (disabled by default, see DS-2049) by @mire
- Report Google Analytics statistics from Admin UI (disabled by default, see DS-2108) by Robin Taylor
- Track file downloads in Google Analytics statistics (see DS-2008) by Robin Taylor
- Autogenerate PDF citation “cover pages” for all PDFs (disabled by default, see DS-2175) by Peter Dietz with the support of Ohio State University Libraries and Longsight
- Sherpa/Romeo lookup during item submission process, see DS-2053 by Kevin Van de Velde and Bert Vanderhallen with the support of @mire (previously available only in JSPUI)
- Rendering MathML code in abstracts using MathJax, see DS-635 by Peter Dietz with the support of Ohio State University Libraries and Longsight
- Ensure “page not found” error pages use configured theme, see DS-1596 by Tim Donohue with the support of DuraSpace
- Performance improvements for “Select Collection” dropdown in submission process, see DS-682 by Peter Dietz with the support of Ohio State University Libraries and Longsight

JSPUI new features
- Drag and drop file upload (using HTML5), see DS-1994 by Pascal-Nicolas Becker with the support of TU Berlin
- Item Visual Indicators in Browse/Search results, see DS-2162 by Greek National Documentation Centre/EKT
- Track file downloads in Google Analytics statistics (see DS-2008) by Robin Taylor

REST API new features
- DSpace REST API now includes CRUD (Create/Read/Update/Delete) endpoints, see DS-2168 by the Czech Technical University in Prague
### RDF Interface to support Linked (Open) Data (NEW)
- DSpace can now provide its content as [Linked (Open) Data](https://www.w3.org/RDF/) via a new RDF interface (provided as an "rdf" webapp), see [DS-2061](https://github.com/DSpace/DSpace/pull/2061) by [Pascal -Nicolas Becker](https://github.com/pascal-nicolas-becker).

### OAI-PMH interface enhancements / bug fixes
- OpenAIRE v3 compliance (operators over filters)
- OAI respects item READ rights
- /oai displays the list of available contexts; contexts have descriptions

See [DS-1649](https://github.com/DSpace/DSpace/pull/1649) by [João Melo](https://github.com/joaomoreno).

### Enhanced Thumbnail Quality *(disabled by default)*
- Enhanced image thumbnails can now be generated using ImageMagick
- Enhanced PDF Thumbnails can now be generated using ImageMagick and Ghostscript

See [DS-2105](https://github.com/DSpace/DSpace/pull/2105) by [Terry Brady](https://github.com/terrybrady) with the support of [Georgetown University](https://www.georgetown.edu).

### Bug fixes / improvements to Biblio-Transformation-Engine (BTE)
- BTE: batch import from various bibliographic formats was upgraded to the latest version (see DS-2183)

Kindly contributed by the [Greek National Documentation Centre/EKT](https://www.ekt.gr).

### Enhancements to DOI Support *(disabled by default)*
- Enhanced EZID IdentifierProvider Metadata Mapping via XSLT, see [DS-2119](https://github.com/DSpace/DSpace/pull/2119) by [Mohamed Mohideen Abdul Rasheed](https://github.com/mohideen).

### Apache Solr libraries were upgraded for all interfaces (JSPUI, XMLUI, and OAI)

See [DS-2253](https://github.com/DSpace/DSpace/pull/2253) by [Roeland Dillen](https://github.com/roelanddillen) with the support of [@mire](https://github.com/mire).

### Add a place for third-party JARs / plugins to be "found" by DSpace *(disabled by default)*
- DSpace will now look for JARs / plugins in the locations specified by "plugin.classpath" value specified in dspace.cfg.

See [DS-2107](https://github.com/DSpace/DSpace/pull/2107) by [Mark H. Wood](https://github.com/mwood) with the support of [IUPUI University Library](https://www.iupui.edu). and [Kevin Van de Velde](https://github.com/kvdv) with the support of [@mire](https://github.com/mire).

### All objects now have metadata support
- All DSpace objects (Communities, Collections, Items, EPeople, Groups) now have metadata, and most now use the default "dc" (Dublin Core) metadata schema.
- NOTE: The only exception is EPeople metadata, which is stored in a new "eperson" metadata schema.
- The User Interfaces don't yet take advantage of this enhancement in DSpace 5.0. Instead, this is an internal restructuring of data within DSpace. In the future, this provides the potential to create more enhanced metadata (or even more configurable metadata) on all objects

See [DS-1582](https://github.com/DSpace/DSpace/pull/1582) by Mark H. Wood with the support of [IUPUI University Library](https://www.iupui.edu) and [Kevin Van de Velde](https://github.com/kvdv) with the support of [@mire](https://github.com/mire).

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DSpace 5.0, 5.1 and 5.2 Acknowledgments

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Additional Thanks

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We apologize to any contributor accidentally left off this list. DSpace has such a large, active development community that we sometimes lose track of all our contributors. Our ongoing list of all known people/institutions that have contributed to DSpace software can be found on our DSpace Contributors page. Acknowledgements to those left off will be made in future releases.

Want to see your name appear in our list of contributors? All you have to do is report an issue, fix a bug, improve our documentation or help us determine the necessary requirements for a new feature! Visit our Issue Tracker to report a bug, or join dspace-devel mailing list to take part in development work. If you'd like to help improve our current documentation, please get in touch with one of our Committers with your ideas. You don't even need to be a developer! Repository managers can also get involved by volunteering to join the DSpace Community Advisory Team and helping our developers to plan new features.

The 5.0 Release Team consisted of:

- Peter Dietz (Longsight)
- Hardy Pottinger (University of Missouri Library Systems)
- Ivan Masár
- Mark H. Wood (Indiana University-Purdue University Indianapolis)
- Robin Taylor (University of Edinburgh)
- Pascal-Nicolas Becker (Technische Universität Berlin)
- Andrea Schweer (Library Consortium of New Zealand)

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