



# Sakai CLE 2.8 release notes

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## Sakai Collaboration and Learning Environment (CLE) 2.8

### Sakai CLE 2.8 release dates:

2.8.3 - 15 February 2013

2.8.2 - 10 June 2012

2.8.1 - 11 October 2011

2.8.0 - 18 April 2011

The Sakai Collaboration and Learning Environment (CLE) is a Java-based, service-oriented web application that provides a variety of c and ad-hoc project collaboration. The Sakai CLE is typically deployed using Apache Tomcat as its servlet container and scalability is ac environment, each deploying a copy of the Sakai CLE. It integrates with a variety of external authentication services including CAS, Kε MySQL or Oracle, provides a transactional store of information while file storage is typically delegated to NAS or SAN solutions. In mos information system (SIS) to provide it with student and course information, which the Sakai CLE consults via provider APIs.

The Sakai CLE 2.8 release builds on previous releases by refining and stabilizing the 2.x feature set. It offers dozens of new features a internationalization, performance, and security.

Icons are used throughout the release notes to highlight important points in the installation, configuration, build and deployment proci

 Hints  Useful Information  Caution  Warning  Good practice  Bad practice

The documentation is presented here for ongoing comment, correction, and clarification, so please use the "**Add Comment**" link at the details or have tips to share.

## What's new

### Highlights

Among the many enhancements included in the Sakai CLE 2.8 release are:

- Configurable URL shortening service
- Numerous mobile portal UI improvements
- Collapsible portal navigation menu
- reCAPTCHA support for logins
- Enhanced user profile options
- Support for IMS BasicLTI outcomes
- Respondus question import handling
- Optional CKEditor implementation
- Six new webservices
- Persistent event logging for Quartz Scheduler jobs
- Improved IMS BasicLTI external integration capabilities
- Improved integration with external user providers (eg LDAP)
- Updated language packs (Chinese, Dutch, French, Spanish, Portuguese, Turkish and Vietnamese.)

For a complete listing of new features see the lists below.

## Portal

Ticket	Project	Feature
<a href="#">SAK-19827</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Adds portal icons for Etudes's Mneme, Melete and JForum tools.
<a href="#">SAK-19646</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Leverages browser caching opportunities.
<a href="#">SAK-19156</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Adds ability for tools to request the maximum tool area for display purp auto.minimize=true).
<a href="#">SAK-19148</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Logout timer setting (timeoutDialogEnabled) is now enabled by default.
<a href="#">SAK-19129</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Eliminates Presence iframe and replaces with JQuery.Ajax calls.
<a href="#">SAK-19089</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Adds ability to specify a URL (rather than a siteId) for the gateway pag
<a href="#">SAK-19061</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Adds link to PDA portal on gateway page.
<a href="#">SAK-19014</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Includes tool css in background portal document so JSR-168 tools can t
<a href="#">SAK-18687</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Adds collapsible navigation menu (icons only). See also <a href="#">SAK-19193</a> -
<a href="#">SAK-18468</a> - Getting issue details... <input type="button" value="STATUS"/>	skins	Add FLUID reordering support.
<a href="#">SAK-17160</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Sub-sites in navigation menu are sectioned separately from a site's too

<a href="#">SAK-16926</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	The Kernel version can now be listed in the footer. See also <a href="#">KNL-546</a> <a href="#">KNL-546</a> - Getting issue details... <input type="button" value="STATUS"/>
<a href="#">SAK-16484</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Implements Javascript routine to more accurately poll status of user se
<a href="#">SAK-15653</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Render menu links to "hidden" tool pages in italics and with an opacity
<a href="#">SAK-12841</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	portal/xlogin page converted to a vm template.
<a href="#">SAK-2991</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Cancel button added to (xlogin) login page.

### Mobile/PDA Portal

Ticket	Project	Feature
<a href="#">SAK-20332</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Added ability to hide synoptic tools.
<a href="#">SAK-20330</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Added tool icons to help distinguish between site and tool lists.
<a href="#">SAK-20053</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Adjust .css to distinguish between sites and tools in mobile portal.
<a href="#">SAK-19491</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Mobile .css skins updated.
<a href="#">SAK-19275</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Since 2.7.0 the standard portal has (SAK-15097) the ability to insert some markup on a site-ported to the PDA portal in such a way that the same site can (if needed) contain a different n
<a href="#">SAK-19179</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	PDA changes for 2.8: breadcrumbing simplified; additional rendering capabilities added for dev screen and (max-device-width: 480px)"; .css trim and ellipsis provided for site titles that go o devices in order to differentiate items in the breadcrumb; <meta /> tag modified in pda.vm to modified how links to child sites are displayed (passing control over to the css); moved strings site menus are rendered (make entire block clickable) and styled in order to make them more
<a href="#">SAK-18800</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Added "opt out" link in the /portal/pda footer in order to forward user to portal/site (i.e., "clas
<a href="#">SAK-18720</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Auto-detect mobile devices and forward to /portal/pda; otherwise forward to portal/site (desk

### Tools

Ticket	Project	Feature
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<a href="#">SAK-12489</a> - Getting issue details... <input type="button" value="STATUS"/>	account	Added recaptcha support for new account signups.
<a href="#">SAK-8005</a> - Getting issue details... <input type="button" value="STATUS"/>	announcements	Authors can now change display order of announcements.
<a href="#">SAK-18710</a> - Getting issue details... <input type="button" value="STATUS"/>	announcements	Notification history added.
<a href="#">SAK-18764</a> - Getting issue details... <input type="button" value="STATUS"/>	announcements	entitybroker support added.
<a href="#">SAK-19814</a> - Getting issue details... <input type="button" value="STATUS"/>	announcements	Announcements tool is now registered as group-aware when starting PermissionHelper.
<a href="#">SAK-20074</a> - Getting issue details... <input type="button" value="STATUS"/>	announcements	Accessibility: list navigator buttons provided with appropriate contextual text labels in order to <a href="#">SAK-20073</a> - Getting issue details... <input type="button" value="STATUS"/> .
<a href="#">SAK-18752</a> - Getting issue details... <input type="button" value="STATUS"/>	assignments	Letter grades now customizable (assignment.letterGradeOptions).
<a href="#">SAK-19119</a> - Getting issue details... <input type="button" value="STATUS"/>	assignments	Instructors now provided with a manifest of archives uploaded by students (*.zip only so far).
<a href="#">SAK-19816</a> - Getting issue details... <input type="button" value="STATUS"/>	assignments	Assignments tool is now registered as group-aware when starting PermissionHelper.
<a href="#">SAK-18076</a> - Getting issue details... <input type="button" value="STATUS"/>	assignments	Allows instructor to specify options for Assignment tool default page (e.g., show no assignmer
<a href="#">BLTI-60</a> - Getting issue details... <input type="button" value="STATUS"/>	basicliti	Now auto-registers events for use by sitestats.
<a href="#">BLTI-68</a> - Getting issue details... <input type="button" value="STATUS"/>	basicliti	Adds ability to set grades in the Sakai CLE from an external tool using web services. Disabled
<a href="#">BLTI-69</a> - Getting issue details... <input type="button" value="STATUS"/>	basicliti	Permits multiple placements of basicliti in a given context (e.g., site).
<a href="#">BLTI-77</a> - Getting issue details... <input type="button" value="STATUS"/>	basicliti	Adds ability to open a basicliti tool in a new window.

<p><b>BLTI-80</b> - Getting issue details...</p> <p>STATUS</p>	basiclti	Adds support for the ext_lms feature in IMS Basic LTI permitting basiclti to know which LMS it
<p><b>BLTI-81</b> - Getting issue details...</p> <p>STATUS</p>	basiclti	Adds a checkbox that provides option to minimize the portal navigation menu after a launch o
<p><b>BLTI-85</b> - Getting issue details...</p> <p>STATUS</p>	basiclti	Added support for basic outcomes and settings service. This change alters the outcomes servi outcomes service and adds a per-placement settings service. Disabled by default (basiclti.outc
<p><b>BLTI-88</b> - Getting issue details...</p> <p>STATUS</p>	basiclti	Implemented the Context Memberships Service as described in the IMS GLC Basic Learning To an external tool (if granted proper permissions) to retrieve a course roster for the course that
<p><b>BLTI-89</b> - Getting issue details...</p> <p>STATUS</p>	basiclti	Added support for the IMS Basic LTI ext_resource_link_content extension. This allows the laur a field in the configuration dialog, future work will permit basiclti launches from a resource har BLTI is being launched from), allowing the launching of a SCORM object with an external SCOI test engine the actual content to be played.
<p><b>BLTI-99</b> - Getting issue details...</p> <p>STATUS</p>	basiclti	Added parameter ext_sakai_provider_eid so that an external consumer can pass an eid instea
<p><b>SAK-17523</b> - Getti ng issue details...</p> <p>STATUS</p>	chat	Adds RESTful way of retrieving new chat messages for a channel.
<p><b>SAK-19818</b> - Getti ng issue details...</p> <p>STATUS</p>	content	Resources tool is now registered as group-aware when starting PermissionHelper.
<p><b>SAK-12800</b> - Getti ng issue details...</p> <p>STATUS</p>	email- archive	Site owners can choose to forward to site members or simply archive emails sent to the site e
<p><b>SAK-18532</b> - Getti ng issue details...</p> <p>STATUS</p>	email template service	Sender address can now be specified in a template.
<p><b>SAK-17637</b> - Getti ng issue details...</p> <p>STATUS</p>	email template service	Adds template loading/updating.
<p><b>SAK-18589</b> - Getti ng issue details...</p> <p>STATUS</p>	gradebo ok	Adds sorting for categories by name, average, weight. Category sorting also added to "roster"
<p><b>SAK-17943</b> - Getti ng issue details...</p> <p>STATUS</p>	gradebo ok	Adds edu-services scenarios for saving assignment with trailing whitespace to unit tests.
<p><b>SAK-19510</b> - Getti ng issue details...</p> <p>STATUS</p>	hybrid	Added hybrid-util dependency to login and provider projects in order to simplify adding the ful

<p><a href="#">SAK-20033</a> - Getting issue details...</p> <p>STATUS</p>	memory	Added cache evict item functionality to Memory tool.
<p><a href="#">MSGCNTR-307</a> - Getting issue details...</p> <p>STATUS</p>	msgcntr	Forum threads are now sortable.
<p><a href="#">MSGCNTR-309</a> - Getting issue details...</p> <p>STATUS</p>	msgcntr	Added ability to set open/close dates for discussion boards,forums and topics.
<p><a href="#">MSGCNTR-310</a> - Getting issue details...</p> <p>STATUS</p>	msgcntr	Added ability to preview message before sending.
<p><a href="#">MSGCNTR-319</a> - Getting issue details...</p> <p>STATUS</p>	msgcntr	entitybroker support extended.
<p><a href="#">MSGCNTR-354</a> - Getting issue details...</p> <p>STATUS</p>	msgcntr	Added the ability to configure the default email behavior for the "Watch" functionality in Forum
<p><a href="#">MSGCNTR-355</a> - Getting issue details...</p> <p>STATUS</p>	msgcntr	Option added to permit authors to save a message draft.
<p><a href="#">MSGCNTR-364</a> - Getting issue details...</p> <p>STATUS</p>	msgcntr	Query findNumModeratedTopicsForSiteByUserByMembership rewritten in order to improve per
<p><a href="#">MSGCNTR-365</a> - Getting issue details...</p> <p>STATUS</p>	msgcntr	Query findAllPendingMsgsByContextByMembership rewritten in order to improve performance.
<p><a href="#">MSGCNTR-371</a> - Getting issue details...</p> <p>STATUS</p>	msgcntr	Synoptic queries permissionLevelId and permissionLevelName rewritten in order to improve p
<p><a href="#">SAK-18831</a> - Getting issue details...</p> <p>STATUS</p>	osp	Adds configurable property that turn off tool categorizations in the navigation menu in the xsl
<p><a href="#">SAK-18559</a> - Getting issue details...</p> <p>STATUS</p>	osp	Adds support for email notification preferences in Matrices and Wizards.

<a href="#">SAK-18013</a> - Getting issue details... <input type="button" value="STATUS"/>	osp	Adds Gradebook2 integration support to OSP Matrix helper.
<a href="#">SAK-17564</a> - Getting issue details... <input type="button" value="STATUS"/>	osp	Adds a new "Public Portfolios" tab.
<a href="#">POLL-92</a> - Getting issue details... <input type="button" value="STATUS"/>	polls	Added import/export capabilities so that polls can be duplicated across sites, imported from other sites.
<a href="#">POLL-121</a> - Getting issue details... <input type="button" value="STATUS"/>	polls	Anonymous user can now access public polls via /direct. See also <a href="#">POLL-122</a> - Getting issue details... /direct.
<a href="#">POLL-129</a> - Getting issue details... <input type="button" value="STATUS"/>	polls	Now supports poll voting on multiple options through /direct.
<a href="#">SAK-18855</a> - Getting issue details... <input type="button" value="STATUS"/>	polls	Adds option to allow public voting on individual polls.
<a href="#">SAK-19130</a> - Getting issue details... <input type="button" value="STATUS"/>	presence	Presence is now turned off in My Workspace (display.users.present.myworkspace=false).
<a href="#">PRFL-13</a> - Getting issue details... <input type="button" value="STATUS"/>	profile2	Adds private messaging.
<a href="#">PRFL-90</a> - Getting issue details... <input type="button" value="STATUS"/>	profile2	A user's official institutional image can now be accessed and used as their profile image. Disables official.image.source=url, profile2.official.image.attribute=jpegPhoto).
<a href="#">PRFL-134</a> - Getting issue details... <input type="button" value="STATUS"/>	profile2	Adds an image gallery along with privacy settings. Users can select their profile image from their gallery.
<a href="#">PRFL-178</a> - Getting issue details... <input type="button" value="STATUS"/>	profile2	Adds "kudos" ratings widget that provides scores based on profile completeness. Runs as a cron job. See <a href="#">PRFL-336</a> - Getting issue details... <input type="button" value="STATUS"/> .
<a href="#">PRFL-206</a> - Getting issue details... <input type="button" value="STATUS"/>	profile2	Adds a business/company information panel to each profile.
<a href="#">SAK-18864</a> - Getting issue details... <input type="button" value="STATUS"/>	quartz scheduler	The quartz scheduler event log has been replaced with a persistent, database-backed event log. This prevents the need to skim through Tomcat logs. This permits sys-admins to review job execution event logs across a cluster.
<a href="#">SAK-19178</a> - Getting issue details... <input type="button" value="STATUS"/>	quartz scheduler	A default job has been added which will purge all but the last X days of events from the log (sys-admins can choose X on restart, never). This purge job must be scheduled in order to control the size of the event log.



<p><a href="#">SAK-13696</a> - Getting issue details...</p> <p>STATUS</p>	quartz scheduler	Update tool providing JobDataMap and trigger interfaces.
<p><a href="#">SAK-18802</a> - Getting issue details...</p> <p>STATUS</p>	rwiki	Added Radeox <pre> macro.
<p><a href="#">SAK-5279</a> - Getting issue details...</p> <p>STATUS</p>	rwiki	Authenticated users can now edit pages marked publicly editable.
<p><a href="#">SRCH-34</a> - Getting issue details...</p> <p>STATUS</p>	rwiki	Optimize indexing batch size and frequency. Previously, the search indexing formula could refresh frequently on idle nodes. The formulas were tweaked for better max batch sizes for large refresh indexing intervals (e.g., 30-60s when there are only a few pending docs, e.g., < 100).
<p><a href="#">SAK-19817</a> - Getting issue details...</p> <p>STATUS</p>	schedule	Calendar tool is now registered as group-aware when starting PermissionHelper.
<p><a href="#">SAK-18997</a> - Getting issue details...</p> <p>STATUS</p>	site info	Added the account validation tool in Site-manage-participant-helper. Activated via a property; /false).
<p><a href="#">SAK-18978</a> - Getting issue details...</p> <p>STATUS</p>	site info	Users can be added to sites with a status of inactive.
<p><a href="#">SAK-18653</a> - Getting issue details...</p> <p>STATUS</p>	site info	Added a "Select all" checkbox to simplify the task of selecting all users.
<p><a href="#">SAK-18462</a> - Getting issue details...</p> <p>STATUS</p>	site info	Option added that restricts the joiner role selection offered in Site Info / Manage Access only if siteinfo.prohibited_permission_for_joiner_role has been added for configuring a list of permissions default is site.upd.
<p><a href="#">SAK-688</a> - Getting issue details...</p> <p>STATUS</p>	site info	Worksite Setup UI for site access options improved.
<p><a href="#">SAM-663</a> - Getting issue details...</p> <p>STATUS</p>	test and quizzes	Added ability to import questions from Respondus.
<p><a href="#">SAM-666</a> - Getting issue details...</p> <p>STATUS</p>	test and quizzes	Added ability to allow instructors to select a feedback option that would show students their own
<p><a href="#">SAM-756</a> - Getting issue details...</p> <p>STATUS</p>	test and quizzes	4000 character limit lifted on questions, short answers and feedback.
<p><a href="#">SAM-772</a> - Getting issue details...</p> <p>STATUS</p>	test and quizzes	Added ability to allow instructors to enter a zero score in the gradebook for unsubmitted assessments

<a href="#">SAM-801</a> - Getting issue details... <input type="button" value="STATUS"/>	test and quizzes	Added ability to use FCKEditor for composing short answers.
<a href="#">SAM-862</a> - Getting issue details... <input type="button" value="STATUS"/>	test and quizzes	Added ability to choose "average" score along with last score or highest score for "recorded sc
<a href="#">SAM-863</a> - Getting issue details... <input type="button" value="STATUS"/>	test and quizzes	Added view all submissions with average) to student view of submitted assignments.
<a href="#">SAM-869</a> - Getting issue details... <input type="button" value="STATUS"/>	test and quizzes	Question pool with sub pools tree structure now accurately displayed.
<a href="#">SAM-921</a> - Getting issue details... <input type="button" value="STATUS"/>	test and quizzes	Displaying Assessment templates/types is now a configurable option (samigo.showAssessmen
<a href="#">SAM-942</a> - Getting issue details... <input type="button" value="STATUS"/>	test and quizzes	Method added allowing QTI test imports via web services.
<a href="#">SAM-971</a> - Getting issue details... <input type="button" value="STATUS"/>	test and quizzes	Improve linear access logic to ensure that test takers are returned to the last question encoun
<a href="#">SAK-10416</a> - Getti ng issue details... <input type="button" value="STATUS"/>	user membership	Allows custom implementations of search on external user providers.
<a href="#">SAK-19369</a> - Getti ng issue details... <input type="button" value="STATUS"/>	web content	Added Annotated Url (sakai.iframe.annotatedurl), another type of iframe tool developed at the configured as a tool property.

## CKEditor

Ticket	Project	Feature
<a href="#">SAK-20296</a> - Getting issue details... <input type="button" value="STATUS"/>	editor	Upgraded CKEditor to version 3.5.2.
<a href="#">SAK-17880</a> - Getting issue details... <input type="button" value="STATUS"/>	editor	Adds CKEditor support.

## Kernel

Ticket	Project	Feature
<a href="#">KNL-328</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Adopted a more secure format for storing passwords.
<a href="#">KNL-375</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Improved error messaging for RequestFilter servlet exceptions.

<a href="#">KNL-383</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Improved BaseContentResource NULL checking.
<a href="#">KNL-403</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Added check to ensure that if a user is added manually to a course site (e.g., non-with the same role, then the user's site membership will be promoted to provided.
<a href="#">KNL-404</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	BasicEmailService now issues warning in logs if send mail is attempted with no SM EmailService).
<a href="#">KNL-413</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Added improved ContentHostingService unit tests with an emphasis on special cha
<a href="#">KNL-420</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	BaseAuthzGroup now throws exception instead of failing silently if addMember is c
<a href="#">KNL-428</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Added new ToolManager isVisible method to permit checking on whether a tool is required to view the tool.
<a href="#">KNL-435</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	All Kernel static covers marked as deprecated.
<a href="#">KNL-447</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Added exception-handling support for dynamic tool localization.
<a href="#">KNL-467</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	ContentHostingCompator sorting on name is now case insensitive.
<a href="#">KNL-497</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Adds new UsageSessionService methods to check if a user is active, to retrieve a active sessions.
<a href="#">KNL-499</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Adds ability to turn off automatic "promotion" to provided user that was implemer
<a href="#">KNL-500</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Adds a new Event getEventTime method in order to return the time of an event.
<a href="#">KNL-541</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Adds generics to SecurityAdvisor.
<a href="#">KNL-542</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Improved SecurityAdvisor API to better handle push/pop stack processing.
<a href="#">KNL-563</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Added support for dynamic resource loader.
<a href="#">KNL-565</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Replace home-grown StringUtil.trimtoNull method with Apache commons-lang Str
<a href="#">KNL-570</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	BasicEmailService mail.*.sendpartial can now be set to either true or false (default
<a href="#">KNL-572</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Project site members with "access" role can now post messages to site by default.

<a href="#">KNL-580</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Utility method getZipManifest added to return a list of files in a *.zip archive together.
<a href="#">KNL-585</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Tools are now permitted to register their own email notification preferences.
<a href="#">KNL-589</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Added automatic file encoding detection.
<a href="#">KNL-662</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Added new memory service evictExpiredMembers method to evict expired objects.
<a href="#">KNL-667</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Added generics to ResourceLoader.
<a href="#">KNL-669</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Added user.login.container to the UsageSessionService in order to permit instituting guest logins.
<a href="#">KNL-671</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Added method to get User's locale.
<a href="#">SAK-10416</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Extends the UserDirectoryService to permit searching of externally provided users.

## Entity Broker

Ticket	Project	Feature
<a href="#">SAK-18879</a> - Getting issue details... <input type="button" value="STATUS"/>	entitybroker	Adds adds version.kernel to ServerConfigEntityProvider.
<a href="#">SAK-18643</a> - Getting issue details... <input type="button" value="STATUS"/>	entitybroker	Adds ability to specify the depth of a serializable object graph to JSON (entitybroker.maxJSONReflectUtils JSONTranscoder).
<a href="#">SAK-18276</a> - Getting issue details... <input type="button" value="STATUS"/>	entitybroker	Adds the ability to retrieve the list of groups for a site.
<a href="#">SAK-18103</a> - Getting issue details... <input type="button" value="STATUS"/>	entitybroker	Adds a custom action to the site provider, enabling the retrieval of user permissions (e.g., retrieve the calendar permissions for the currently logged in user. Leave off the PREFIX (e.g., PREFIX) for a specified site.
<a href="#">SAK-14256</a> - Getting issue details... <input type="button" value="STATUS"/>	entitybroker	Adds searching via REST; entitybroker entities can now implement searchable and be added to search.

## Other services: common, edu-services, shortenedurl, content-review (api)

Ticket	Project	Feature
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<a href="#">SAK-17821</a> - Getting issue details... <input type="button" value="STATUS"/>	common	SakaiPerson user profile information extended (staffProfile, universityProfileURL, academicProf
<a href="#">SAK-19155</a> - Getting issue details... <input type="button" value="STATUS"/>	content-review	Retrieve localized message status from ContentReviewService.
<a href="#">SAK-19053</a> - Getting issue details... <input type="button" value="STATUS"/>	content-review	ContentReview item error status codes can now be stored and retrieved.
<a href="#">SAK-19080</a> - Getting issue details... <input type="button" value="STATUS"/>	edu-services	User-entered grades now recorded. See also <a href="#">GRBK-736</a> - Getting issue details... <input type="button" value="STATUS"/>
<a href="#">SAK-19028</a> - Getting issue details... <input type="button" value="STATUS"/>	edu-services	New method added to the CourseManagementService retrieve all currently active course offeri
<a href="#">SHORTURL-10</a> - Getting issue details... <input type="button" value="STATUS"/>	shortenedurl	Provides a configurable shortening URL service that includes caching. Developers simply imple code as a Spring bean and choose a URL shortening service such as the built-in RandomisedUI implementation=org.sakaiproject.shortenedurl.api.RandomisedUrlService). It will then be usec <a href="#">/SHRTURL/Home</a> for more details. See also <a href="#">SAK-15653</a> - Getting issue details... <input type="button" value="STATUS"/>

## Web services

Ticket	Project	Feature
<a href="#">SAK-18923</a> - Getting issue details... <input type="button" value="STATUS"/>	web services	Adds new web service addConfigPropertyToPage in order to set to se page via web services.
<a href="#">SAK-18664</a> - Getting issue details... <input type="button" value="STATUS"/>	web services	Binary assembly now generated.
<a href="#">SAK-18254</a> - Getting issue details... <input type="button" value="STATUS"/>	web services	Adds new web service getAllSitesForUser to include my Workspace a
<a href="#">SAK-18236</a> - Getting issue details... <input type="button" value="STATUS"/>	web services	Adds new web service signature for getUserId in order to retrieve us
<a href="#">SAK-18191</a> - Getting issue details... <input type="button" value="STATUS"/>	web services	Adds new web service signature for getPagesAndToolsForSite to allo
<a href="#">SAK-18124</a> - Getting issue details... <input type="button" value="STATUS"/>	web services	Adds new web service getPagesAndToolsForSite in order to retrieve . page.
<a href="#">SAK-18119</a> - Getting issue details... <input type="button" value="STATUS"/>	web services	Adds new web service to get a user's ID, given their eid.
<a href="#">SAK-18115</a> - Getting issue details... <input type="button" value="STATUS"/>	web services	Adds new web service to allow html inline property to be set from re
<a href="#">SAK-14321</a> - Getting issue details... <input type="button" value="STATUS"/>	web services	Adds new web service copyResources copy the resources from one s

## Configuration, localization

Ticket	Project	Feature
<a href="#">SAK-19312</a> - Getting issue details... <input type="button" value="STATUS"/>	config	Added recaptcha properties for account. See also <a href="#">SAK-12489</a> - Getti <a href="#">SAK-19267</a> - Getting issue details... <input type="button" value="STATUS"/>
<a href="#">SAK-17615</a> - Getting issue details... <input type="button" value="STATUS"/>	config	Added text/x-tex to filetypes.
<a href="#">SAK-15037</a> - Getting issue details... <input type="button" value="STATUS"/>	config	Created shared i18n properties in /config project in order to minimize tools.

## Language updates and additions

Release	Language	Country	locale
2.8.0	Catalan	Spain	ca_ES
2.8.0	English	United States	en_US
2.8.0	French	France	fr_FR
2.8.0	Japanese	Japan	ja_JP
2.8.0	Portuguese	Portugal	pt_PT
2.8.0	Russian	Russia	ru_RU
2.8.0	Spanish	Spain	es_ES

## Providers

Ticket	Project	Feature
<a href="#">SAK-20225</a> - Getting issue details... <input type="button" value="STATUS"/>	providers	Added method to Memory service in order to evict expired cach
<a href="#">SAK-19821</a> - Getting issue details... <input type="button" value="STATUS"/>	providers	Added new groupExists method to GroupProviders.
<a href="#">SAK-17816</a> - Getting issue details... <input type="button" value="STATUS"/>	providers	Added jpegPhoto mapping to the JLDAP provider; if set, this wil

## Release support

Ticket	Project	Feature
<a href="#">SAK-20094</a> - Getting issue details... <input type="button" value="STATUS"/>	pack	Package up demo with Tomcat 5.5.33.
<a href="#">SAK-20055</a> - Getting issue details... <input type="button" value="STATUS"/>	pack	Create separate anrun tasks to generate demo, binary and sou

## Documentation

Ticket	Project	Feature
<a href="#">SAK-19879</a> - Getting issue details... <input type="button" value="STATUS"/>	skins	Updated skin documentation for Sakai CLE 2.8.
<a href="#">SAK-19476</a> - Getting issue details... <input type="button" value="STATUS"/>	webdav	Updated webdav instructions for Sakai CLE 2.8.

## Conversion scripts

Upgrade Step	MySQL	Oracle	Notes
2.8.0	<a href="#">sakai_2_8_0_mysql_conversion.sql</a>	<a href="#">sakai_2_8_0_oracle_conversion.sql</a>	
2.8.0	<a href="#">sakai_2_8_0_mysql_hbm_indexes.sql</a>	<a href="#">sakai_2_8_0_oracle_hbm_indexes.sql</a>	Starting up sakai-2.8.0 in order to populate an empty database (auto.ddl=true) can resu Check database and then run this script to add missing indexes.

## External library upgrades

Ticket	Project	Feature
<a href="#">KNL-651</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Upgraded to maven-surefire-plugin 2.7.1.
<a href="#">KNL-615</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Upgraded to maven-release-plugin 2.1.
<a href="#">KNL-583</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Upgraded to Spring 2.5.6.SEC02.
<a href="#">KNL-529</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Upgraded to Apache commons-collections 3.2.1, commons-fileu
<a href="#">KNL-430</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Upgraded to Apache commons-lang 2.5.
<a href="#">KNL-374</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Upgraded to log4j 1.2.15. Superseded by <a href="#">KNL-529</a> - Getting is
<a href="#">KNL-286</a> - Getting issue details... <input type="button" value="STATUS"/>	kernel	Upgraded to JUnit 4.8.2.
<a href="#">SAK-19011</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Upgraded to Pluto 1.1.7.
<a href="#">SAK-18761</a> - Getting issue details... <input type="button" value="STATUS"/>	portal	Upgraded WURFL definitions to 2.0.18.
<a href="#">SAK-18622</a> - Getting issue details... <input type="button" value="STATUS"/>	login	Upgraded org.apache.httpcomponents.HttpClient to 4.0.1.
<a href="#">SAK-18214</a> - Getting issue details... <input type="button" value="STATUS"/>	velocity	Upgraded to Velocity 1.6.3.
<a href="#">SAK-17553</a> - Getting issue details... <input type="button" value="STATUS"/>	js	Adds trimpath.js to /reference/library.
<a href="#">SRCH-44</a> - Getting issue details... <input type="button" value="STATUS"/>	search	Upgraded full-text search engine library to Apache Lucene 2.9.4
<a href="#">SRCH-36</a> - Getting issue details... <input type="button" value="STATUS"/>	search	Upgraded digesting libraries to Apache pdfbox 1.3.1, Apache Po

## System requirements

### Operating system (OS) choices

The Sakai CLE is OS neutral. It is typically run on any of the numerous Linux distributions such as CentOS, Debian GNU/Linux, Fedora Ubuntu but is also run on Mac OS X server, Microsoft Windows and Sun Solaris. Operating systems other than Linux are not nearly as so this is generally the recommendation.

Examples:

Cerritos College, Windows 2003.  
Georgia Tech, RHEL.  
Indiana University, RHEL.  
Mount Holyoke College: Debian GNU/Linux.  
Oxford University: Debian GNU/Linux.  
Rutgers University: Sun Solaris.  
University of California, Berkeley: Sun Solaris.  
University of Cape Town: SuSe Linux.  
University of Florida: RHEL.  
Universidad de Murcia: CentOS.  
University of Virginia: Fedora.  
Virginia Tech: Ubuntu.

## Java

Oracle's Sun Java SE 6, a.k.a Java 1.6, is the preferred version to use with the Sakai CLE. Certain files, such as \*.jsp and \*.jws, require a 64-bit environment (JRE 6.0) will not suffice. Mac OS X 10.6 (Snow Leopard) includes the full version of Java SE 6 so Mac users do not have any special conventions confusing, see Sun Java SE Naming and Versions for an outline of their practices.

Oracle's Sun Java J2SE 5.0 (a.k.a Java 1.5) has completed the EOL process and is no longer supported. If you are still running Java 1.5 please upgrade to 1.5.0\_17 and earlier.

For Sakai 2.9 OpenJDK and JDK 7 are supported along with JDK 6. Previous releases would not work with OpenJDK.

## Application server choices

The Sakai Community is overwhelmingly an Apache http/Apache Tomcat user community and the Sakai CLE is at home in such an environment. IIS and nginx proxies without issue. Since Sakai CLE 2.7.0 a Websphere module was included in the release in order to facilitate deployment support has waned and the Websphere option is currently considered deprecated. A few schools such as Hong Kong University of Science and Technology are still deploying Sakai on JBoss.



Sakai 2.8.0 and previous releases require Tomcat 5.5 out of the box but can be configured in custom builds to run under Tomcat 6. There are some changes to the Tomcat configuration required to get Sakai to startup in the source or binary form under Tomcat 6.

## Database choices

Sakai CLE production installations typically run either Oracle 10g/11g or MySQL 5.0/5.1. Support for IBM Db2 was added for the Sakai CLE 2.7.0 but is not updated or tested and are currently considered deprecated. A demo version of Sakai includes HSQLDB; it should never be deployed in production.

It should be noted that Sakai is not limited to these database choices and integration with other RDBMS systems is not difficult. In the past, requests for PostgreSQL integration are occasionally raised on the Sakai developers list. However, to date no one in the Sakai Community has implemented it. MySQL, a prerequisite for adding additional database options to the release.

Australian National University, MySQL 5.1  
Indiana University, Oracle 10g  
Oxford University, MySQL 5.0  
Stanford University, Oracle 10g  
Texas State University, San Marcos, MySQL 5.1  
University of Cape Town, MySQL 5.1  
University of Florida, Oracle 11g  
University of Virginia, MySQL 5.0  
University of Michigan, Oracle 10g  
Virginia Tech, Oracle 11g

## Clustering, file storage and load balancing strategies

A typical Sakai CLE cluster is comprised of one or more application servers running one or more instances of Tomcat 5.5 operating either in a clustered or non-clustered mode. Each Tomcat instance runs a full copy of the Sakai CLE. The cluster is backed by a single database providing a transactional store of irreplaceable data. A highly configurable option in Sakai and highly recommended from a performance standpoint. Most Sakai schools with a sizable user population (SAN) solutions. Load balancing is provided by Apache (using mod\_jk, mod\_proxy\_balancer or mod\_proxy\_ajp) or dedicated hardware.

Three examples should suffice:

### University of Cape Town

**User base:** 27,000+

**Cluster:** six Dual Xeon 3.6 GHz 8G RAM, 64-bit SuSe Linux (4 x physical servers, 2 x VMWare servers).

**App servers:** Apache HTTP server 2.2, Tomcat 5.5, Sakai 2.7.1.

**Database:** MySQL 5.1, 2 x dual-core processors, 16G RAM.

**File storage:** SAN Disk shared via NFS.

**Load balancing:** Apache 2.2 with mod\_jk.



## [University of Michigan](#)

**User base:** 45,000+

**Cluster:** five Dell PowerEdge 1950 boxes, each with 16 GB RAM running 64-bit RHEL 5.x (a sixth PowerEdge 1950 is utilized outside th

**App servers:** Apache HTTP server 2.2, fronting a single Tomcat 5.5/Sakai 2.7.1 install. One Java 1.6 JVM is configured per server with

**Database:** Oracle 10g running on a Sun Fire T5120 with 128 GB RAM and Solaris 10 as the OS.

**File storage:** allocated 6 TB of disk space and stored externally in a NetApp FAS3020 filer, NFS mount.

**Load balancing:** two NetScaler RS9800 Secure Application switches.

## [Indiana University](#)

**User base:** 100,000+

**Cluster:** two HP DL740 servers, 8-way with 3.0 GHz CPUs, 64 GB RAM and an IBM ESS "Shark" SAN running nine virtual application se

**App servers:** each virtual server is allocated 2 CPUs and 3.6 GB RAM and runs Apache HTTP 2.2/Tomcat 5.5.

**Database:** the Oracle 10g database is also a virtual instance housed on a Dell 810, dual socket, Quad Core server. The database is all

**File storage:** allocated 7 TB of disk space and is stored externally utilizing two NetAppliance FAS920C filers, NFS mount.

**Load balancing:** two HP DL385 servers running Zeus ZXTM load balancers. The load balancers run under Red Hat Enterprise Linux (RH more horizontal scaling if required.

See also:

[Georgia Tech](#)

[Marist College](#)

[Oxford University](#)

[Rice University](#)

[Rutgers University](#)

[Saginaw Valley State University](#)

[Sabanci University](#)

[University of Florida](#)

[Universidad de Murcia](#)

[University of Rhode Island](#)

[University of Virginia](#)

[Virginia Tech](#)

## External Authentication choices

The Sakai CLE can integrate with a variety of external authentication services including CAS, Kerberos, LDAP, Shibboleth and WebAuth

Examples:

Australian National University: LDAP.

Indiana University: CAS.

Georgia Tech: CAS.

Oxford University: WebAuth.

Pepperdine University: CAS.

Stanford University: Kerberos.

Stockholm University: Shibboleth.

University of California, Davis: CAS.

University of Delaware: LDAP.

University of Hawaii: LDAP.

University of Michigan: Kerberos.

University of Florida: Shibboleth.

Yale University, CAS.

## Integrating with student information systems

Sakai Community institutions have integrated their Sakai CLE installations with Banner, Datatel and Peoplesoft as well as a variety of I

The Sakai CLE has two basic approaches to integrating data from external systems. Most sites use a combination of these approaches. These APIs are places for Sakai to "consult" while Sakai is running. There are APIs for User Identity, User Directory, Course Listing and

**User Identity API:** allows Sakai to call local code to validate users when they log into the system. This commonly uses Kerberos, Active

**User Directory API:** allows user information such as name and e-Mail address to be retrieved from an external system such as LDAP or to make decisions when to display student information in order to meet FERPA requirements. Each institution has different interpretati User Directory API.

**Course Listing API:** consulted when the instructor is creating a course site - this API returns the list of externally stored rosters for whi or more of these external rosters to associate with the course they are creating.

**User Role API:** is consulted when users log in to determine which external rosters they user is a member of and what their role is with are any changes to an individual's roster status.

The above API's are "pull" APIs--they are consulted when the user logs in or tries to take some action. The Course List API described a

If there is a desire to "push" information into the Sakai CLE, there are two approaches - Quartz and web services.

Sakai utilizes an internal batch system called Quartz that provides a cron-like capability within Sakai. Quartz is used by creating a Jav; schedule the regular execution of that Java code.

A more common approach to pushing configuration information into Sakai is through web services. Any of Sakai's APIs can be accessed for many of the common Sakai APIs used for configuration. These SOAP web services can be called from PHP, Python, Perl, Java, .NET are kept simple to insure the widest possible interoperability with as many languages as possible. Administrators often build scripts to that data. These scripts may be automated using cron or manually executed by the administrator at the proper time during a semester.

This combination of pull/push configuration capabilities allows for a very wide range of integration possibilities for the Sakai CLE.

## Downloading

To download the Sakai CLE 2.8.3 release, you need to check out the code from our Subversion repository:

```
svn co https://source.sakaiproject.org/svn/sakai/tags/sakai-2.8.3/
```

### Indie projects

A number of Sakai CLE projects (known collectively as "indie" projects) are currently not included in either the source archive or source check out. Instead, these projects are downloaded, installed in your local .m2 repository and then deployed to Tomcat as \*.zip overlays during the Maven build process. If you need to apply any local customizations to these projects you must check out the code separately.

Indie project teams manage their own release cycles independently of the general Sakai CLE release cycle, permitting more frequent "off-cycle" maintenance releases for key projects such as the Kernel or Test and Quizzes. This means you can upgrade them in your release more frequently, if you desire.

Each Indie project site includes a variety of reports regarding the release, including Javadocs.

CLE Release	Project Site	Version
2.8.3	<a href="#">kernel</a>	1.2.8
2.8.3	<a href="#">basicti</a>	1.3.5
2.8.3	<a href="#">common</a>	1.1.7
2.8.3	<a href="#">content-review</a>	2.8.7
2.8.3	<a href="#">edu-services</a>	1.1.6
2.8.3	<a href="#">emailtemplateservice</a>	0.5.6
2.8.3	<a href="#">entitybroker</a>	1.4.5
2.8.3	<a href="#">jobscheduler</a>	2.8.4
2.8.3	<a href="#">jsf</a>	2.8.5
2.8.3	<a href="#">msgcntr</a>	2.8.4
2.8.3	<a href="#">polls</a>	1.4.5
2.8.3	<a href="#">profile</a>	2.8.5
2.8.3	<a href="#">profile2</a>	1.4.11
2.8.3	<a href="#">samigo</a>	2.8.6
2.8.3	<a href="#">search</a>	1.3.7
2.8.3	<a href="#">sitestats</a>	2.2.4
2.8.3	<a href="#">shortenedurl</a>	1.0.6
2.8.3	<a href="#">webservices</a>	1.0.5

## Installing

### Demo install

[Sakai CLE 2.8 install guide \(demo\)](#) (for 2.8.2 and lower)

### Binary install

[Sakai CLE 2.8 install guide \(binary\)](#) (for 2.8.2 and lower)

### Source install

[Sakai CLE 2.8 install guide \(source\)](#)

## Upgrading

Unable to render {include} The included page could not be found.





## Configuring




Unable to render {include} The included page could not be found.

## New properties, permissions

### 1.0 Property additions/changes

Release	Tool /Service	Property	Default	Ticket
2.8.0	account	user.recaptcha.enabled #user.recaptcha.public-key # user.recaptcha.private-key	false	<a href="#">SAK-12489</a> - Getting issue details... STATUS, <a href="#">SAK-19267</a> - Getting issue details... ST
2.8.0	assignments	assignment. letterGradeOptions		<a href="#">SAK-18752</a> - Getting issue details... STATUS
2.8.0	basiclti	basiclti.outcomes.enabled	false	<a href="#">BLTI-85</a> - Getting issue details... STATUS
2.8.0	basiclti	basiclti.roster.enabled	false	<a href="#">BLTI-88</a> - Getting issue details... STATUS
2.8.0	basiclti	basiclti.contentlink.enabled	false	<a href="#">BLTI-89</a> - Getting issue details... STATUS

2.8.0	common	profile.autoCleanUp	true	<p>type key summary assignee reporter priority status</p> <div style="border: 1px solid orange; padding: 5px;">  Jira project doesn't exist or you don't have permission to view it.  <a href="#">View these issues in Jira</a> </div>
2.8.0	editor	wysiwyg.editor		<p>type key summary assignee reporter priority status</p> <div style="border: 1px solid orange; padding: 5px;">  Jira project doesn't exist or you don't have permission to view it.  <a href="#">View these issues in Jira</a> </div>
2.8.0	entity broker	entitybroker.maxJSONLevel	7	<p>SAK-18643 - Getting issue details... <span>STATUS</span></p>
1.2.1	kernel	promoteUsersToProvided@org.sakaiproject.authz.api.AuthzGroupService	true	<p>KNL-499 - Getting issue details... <span>STATUS</span></p>
1.2.1	kernel	mail.*.sendpartial	true	<p>KNL-570 - Getting issue details... <span>STATUS</span></p>
1.2.1	kernel	sakai.X-UA-Compatible	IE=EmulateIE8	<p>KNL-697 - Getting issue details... <span>STATUS</span></p>
1.2.1	kernel	load.bundles.from.db	false	<p>KNL-563 - Getting issue details... <span>STATUS</span></p>
1.2.1	kernel	load.bundles.from.db.timeout	30000	<p>KNL-563 - Getting issue details... <span>STATUS</span></p>
2.8.0	login	login.k2.authentication.autoProvisionUser #top.login = false #container.login = true #login.k2.authentication = true # login.k2.authentication.vaildateUri = <a href="http://localhost:8080/var/cluster/user.cookie.json?c=">http://localhost:8080/var/cluster/user.cookie.json?c=</a>	false	<p>type key summary assignee reporter priority status</p> <div style="border: 1px solid orange; padding: 5px;">  Jira project doesn't exist or you don't have permission to view it.  <a href="#">View these issues in Jira</a> </div> <p>type key summary assignee reporter priority status</p> <div style="border: 1px solid orange; padding: 5px;">  Jira project doesn't exist or you don't have permission to view it.  <a href="#">View these issues in Jira</a> </div>

2.8.0	msgcntr	mc.notificationDefault	1	MSGCNTR-354 - Getting issue details... <span>STATUS</span>														
2.8.0	osp	xslPortal. displayToolCategories	true	SAK-18831 - Getting issue details... <span>STATUS</span>														
2.8.0	portal	display.users.present.iframe	false	SAK-19129 - Getting issue details... <span>STATUS</span>														
2.8.0	portal	timeoutDialogEnabled	true	SAK-19148 - Getting issue details... <span>STATUS</span>														
2.8.0	portal	timeoutDialogWarningSeconds	600	SAK-19148 - Getting issue details... <span>STATUS</span>														
2.8.0	portal	gatewaySiteUrl		SAK-19089 - Getting issue details... <span>STATUS</span>														
2.8.0	portal	portal.allow.minimize.tools	true	SAK-18687 - Getting issue details... <span>STATUS</span>														
2.8.0	portal	portal.allow.minimize. navigation	true	SAK-18687 - Getting issue details... <span>STATUS</span>														
2.8.0	portal	portal.pda.bypass	\\.jpg\$ \\.gif\$ \\.js\$ \\.png\$ \\.jpeg\$ \\.css\$ \\.zip\$ \\.pdf .mov\$  .json\$  .jsonp\$ .xml\$  .ajax\$  .xls  .xlsx  .doc  .docx	SAK-20035 - Getting issue details... <span>STATUS</span>														
2.8.0	portal	portal.add.mobile.link	false	SAK-19787 - Getting issue details... <span>STATUS</span>														
2.8.0	portal	portal.pda.auredirect	true	<table border="1"> <thead> <tr> <th>type</th> <th>key</th> <th>summary</th> <th>assignee</th> <th>reporter</th> <th>priority</th> <th>status</th> </tr> </thead> <tbody> <tr> <td colspan="7" style="text-align: center;">  Jira project doesn't exist or you don't have permission to view it.  <a href="#">View these issues in Jira</a> </td> </tr> </tbody> </table>	type	key	summary	assignee	reporter	priority	status	 Jira project doesn't exist or you don't have permission to view it. <a href="#">View these issues in Jira</a>						
type	key	summary	assignee	reporter	priority	status												
 Jira project doesn't exist or you don't have permission to view it. <a href="#">View these issues in Jira</a>																		
2.8.0	presence	display.users.present. myworkspace	false	SAK-19130 - Getting issue details... <span>STATUS</span>														
2.8.0	profile2	profile2.official.image.enabled	false	PRFL-90 - Getting issue details... <span>STATUS</span>														
2.8.0	profile2	profile2.official.image.source	url	PRFL-90 - Getting issue details... <span>STATUS</span>														

2.8.0	profile2	profile2.official.image.attribute	jpegPhoto	<a href="#">PRFL-90</a> - Getting issue details... <b>STATUS</b>	<a href="#">SAK-17816</a> - Getting issue details... <b>STATUS</b>
2.8.0	quartz scheduler	scheduler.loadjobs	int	<a href="#">SAK-19178</a> - Getting issue details... <b>STATUS</b>	
1.0.1	shortenedurl	shortenedurl.implementation		<a href="#">SHORTURL-10</a> - Getting issue details... <b>STATUS</b>	
2.8.0	site info	siteManage.validateNewUsers	false	<a href="#">SAK-18997</a> - Getting issue details... <b>STATUS</b>	
2.8.0	site info	siteinfo.prohibited_permission_for_joiner_role	site.upd	<a href="#">SAK-18462</a> - Getting issue details... <b>STATUS</b>	
2.8.0	test and quizzes	samigo.canRecordAverage	false	<a href="#">SAM-862</a> - Getting issue details... <b>STATUS</b>	
2.8.0	test and quizzes	samigo.showAssessmentTypes	true	<a href="#">SAM-921</a> - Getting issue details... <b>STATUS</b>	
2.8.0	web content	sakai.iframe.annotatedurl		<a href="#">SAK-19369</a> - Getting issue details... <b>STATUS</b>	

## 2.0 New/changed permissions

Release	Tool /Service	Permission	Notes
2.8.0			

## Database support

The Sakai CLE supports the following production-grade databases:

Database	Driver	Notes
MySQL 5.1.x	<a href="#">MySQL Connector/J 5.1.13+</a>	⊖ Sakai requires transaction support. In the case of MySQL you must implement the InnoDB storage engine to er
MySQL 5.0.x	<a href="#">MySQL Connector/J 5.0.4+</a>	⊖ Sakai requires transaction support. In the case of MySQL you must implement the InnoDB storage engine to er
Oracle 11g	<a href="#">OJDBC</a>	⚠ 2.8 was not tested using Oracle 11g; however, both Virginia Tech and the University of Florida are using Oracle ⚠ Oracle recommends using the latest 11g driver if you are using Java 6 with either 10g or 11g; with Java 6 in c 1.2.1+ (2.8), kernel-1.1.11+ (2.7) or kernel-1.0.x (r87324+) in order to include the fix for <a href="#">KNL-637</a> .
Oracle 10g / 9i	<a href="#">OJDBC</a>	⚠ Both Oracle 10g AND 9i users must use the 10g driver; the latest 10g "Release 2" (10.2.x) or higher is recom ⚠ Oracle recommends using the latest 11g driver if you are using Java 6 with either 10g or 11g; with Java 6 in c 1.2.1+ (2.8), kernel-1.1.11+ (2.7) or kernel-1.0.x (r87324+) in order to include the fix for <a href="#">KNL-637</a> .
<del>DB2</del>		Deprecated

Choose the appropriate MySQL or Oracle JDBC driver (or connector) for your installation. For MySQL, download the \*zip/\*tar.gz archiv  
<version>-bin.jar to \$CATALINA\_HOME/common/lib. For Oracle download the ojdbc14.jar file and copy it to \$CATALINA\_HOME/comm

📌 You will **not** need to create Sakai database objects (tables, indices, etc) when setting up your database. Sakai generates its own da  
the autoDDL setting in sakai.properties.

In actuality, Sakai is not limited to these database choices and integration with other RDBMS systems is not difficult. In the past at lea  
PostgreSQL integration are occasionally raised on the Sakai developers list. However, to date no one in the Sakai Community has step  
prerequisite for adding additional database options to the release.

⊖ Irrespective of whether you utilize MySQL or Oracle, be sure you have configured your database to use the UTF-8 character set. Failure to do so will result in Unicode characters in Sakai. Consult your database documentation or a local DBA for instructions on how to set your database up properly.

If you are uncertain as to how your database is currently configured, you can check with a query. Here is a sample query for checking

```
SQL> select value from nls_database_parameters where parameter = 'NLS_CHARACTERSET';

VALUE
-----
AL32UTF8
```

For MySQL, the command to see what encoding your database is currently set to is "show create database sakai", assuming, of course

```
mysql> show create database sakai;
+-----+-----+
| Database | Create Database |
+-----+-----+
| sakai | CREATE DATABASE `sakai` /*!40100 DEFAULT CHARACTER SET utf8 */ |
+-----+-----+
1 row in set (0.00 sec)
```

Converting a database from one character set to another is a non-trivial operation, particularly if it is a large production database. Be sure to complete the creation and configuration process before deploying Sakai.

### 1.0 Configure the database

By default, all Sakai distributions are configured to use an in-memory version of HSQLDB. HSQLDB is provided for testing/demo purposes.

Whatever database you choose to use you will need to modify at a minimum the following connection settings in `sakai.properties`:

```
url@javax.sql.DataSource
username@javax.sql.DataSource
password@javax.sql.DataSource
```

### 2.0 Set the database username and password

Set your database username and password:

```
# DATABASE CONFIGURATION - make sure to modify details to match your particular setup

# The username and password. The defaults are for the out-of-the-box HSQLDB. Change to match your setup.
username@javax.sql.DataSource=yourDbUserName
password@javax.sql.DataSource=yourDbPassword
```

### 3.0 Set the database connection

#### MySQL Sample Configuration

Locate the MySQL configuration block, uncomment the settings and save your changes. Make sure you modify the data source, username, and password. Do not forget to comment out the HSQLDB and Oracle settings.

```
# MySQL settings - make sure to alter as appropriate
vendor@org.sakaiproject.db.api.SqlService=mysql
driverClassName@javax.sql.DataSource=com.mysql.jdbc.Driver
hibernate.dialect=org.hibernate.dialect.MySQLInnoDBDialect
url@javax.sql.DataSource=jdbc:mysql://127.0.0.1:3306/sakai?useUnicode=true&characterEncoding=UTF-8
validationQuery@javax.sql.DataSource=
defaultTransactionIsolationString@javax.sql.DataSource=TRANSACTION_READ_COMMITTED
```

#### Oracle Sample Configuration

Locate the Oracle configuration block, uncomment the settings and save your changes. Make sure you modify the data source, username, and password. Do not forget to comment out the HSQLDB and MySQL settings.

```
# Oracle settings - make sure to alter as appropriate
vendor@org.sakaiproject.db.api.SqlService=oracle
driverClassName@javax.sql.DataSource=oracle.jdbc.driver.OracleDriver
hibernate.dialect=org.hibernate.dialect.Oracle9iDialect
hibernate.dialect=org.hibernate.dialect.Oracle10gDialect
url@javax.sql.DataSource=jdbc:oracle:thin:@your.oracle.dns:1521:SID
validationQuery@javax.sql.DataSource=select 1 from DUAL
defaultTransactionIsolationString@javax.sql.DataSource=TRANSACTION_READ_COMMITTED
```

⚠ Oracle users may experience performance issues with certain of the SQL settings that work for MySQL. Oracle users can reduce Db

```
# For improved Oracle performance (from the University of Michigan)
#validationQuery@javax.sql.DataSource=
#defaultTransactionIsolationString@javax.sql.DataSource=
#testOnBorrow@javax.sql.DataSource=false
```

#### 4.0 Set `auto.ddl=true`

ℹ On startup, Sakai will generate all database objects (tables, keys, constraints, etc.) automatically, obviating the need to run DDL s

```
# establish auto.ddl - on by default
auto.ddl=true
#auto.ddl=false
```

⚠ Once the database schema is created you should set `auto.ddl=false`.

#### 5.0 Install MySQL 5.1 / 5.0

Configuring the Sakai CLE to use MySQL is an excellent option both for local development and production purposes.

⊖ Sakai **requires transaction support**. In the case of MySQL you must implement the `InnoDB storage engine` to ensure proper transac

⚠ Users upgrading from MySQL 5.0 to MySQL 5.1 on a Mac have reported name comparison problems on startup (for more info see [h /008066.html](http://008066.html)). This issue is solved by specifying the following property in a local `my.cnf` configuration file:

```
lower_case_table_names=1
```

ℹ You will **not** need to create Sakai database objects (tables, indices, etc) when setting up your database. Sakai generates its own da the `autoDDL` setting in `sakai.properties`.

ℹ Case sensitivity. In most varieties of UNIX, MySQL is case sensitive since the underlying operating system determines the case sen running in Windows which is case insensitive. Previous MySQL conversion scripts contained a mixture of upper case and lower case stz we opted for lower case for the syntax while leaving the table and field names upper case. Testing on MySQL 5.1 did not reveal any is

Before installing MySQL, confirm whether or not it is already installed on your system by checking the version from the command line:

```
mysql --version
mysql Ver 14.14 Distrib 5.1.52, for apple-darwin10.3.0 (i386) using readline 5.1
```

If MySQL is not installed download MySQL 5.1/5.5 binaries or source from <http://dev.mysql.com/downloads/>. Linux users should insta standard configuration. Windows users should consider installing MySQL as a service. Remember to include MySQL's `/bin` directory in y

MySQL 5.5: <http://dev.mysql.com/downloads/mysql/5.5.html>

MySQL 5.1: <http://dev.mysql.com/downloads/mysql/5.1.html>

Assign a password for the root account:

```
mysql -u root -pmysqlpassword
```

#### 5.1 Set MySQL environment variables



## MYSQL\_HOME

Set the `MYSQL_HOME` environment variable to point to the base directory of your MySQL installation. In the example below, the path installation directory. You can create a symbolic link ("sym link") in Unix using the `ln -s` command (e.g., `ln -s mysql-5.1.46-osx10.6-`

Unix/Mac:

```
export MYSQL_HOME=/usr/local/mysql
```

Windows:

```
set MYSQL_HOME=C:\mysql
```

## PATH

Add MySQL's `/bin` directory to your `PATH` variable.

Unix/Mac:

```
export PATH=$PATH:$CATALINA_HOME/bin:$JAVA_HOME/bin:$M2_HOME/bin:$MYSQL_HOME/bin:$PHP_HOME/bin:$SUBVERSION_HOME/
```

Windows:

```
;C:\mysql\bin
```


## 5.2 Create a `my.cnf`/`my.ini` configuration file

You can configure MySQL to read a wide variety of startup options from a file named `my.cnf`. Settings are scoped and can be overridden

Scope	Location	Override
global	<code>/etc/my.cnf</code>	
server-specific	binary install: <code>/usr/local/mysql/data/my.cnf</code> ; source install: <code>/usr/local/var/my.cnf</code>	global
user	<code>~/my.cnf</code>	global, server-specific

Below is a minimalist MySQL 5.1 configuration file for a development laptop `/etc/my.cnf`:

```
[mysqld]
default-storage-engine=InnoDB
lower_case_table_names=1
```

 Restart MySQL in order for the new settings to take effect.

## 5.3 Create a "sakai" database and user account

Unable to render {include} The included page could not be found.

## Deprecations, removals

Release	Capability	Status	Notes
2.8.0	Blogger	retired	Removed from the build.
2.8.0	Reports	retired	Removed from the build.
2.8.0	WAS	depreca d	The Websphere WAS integration project has been deprecated due to lack of community support. It is anticipated that the WA the project.
2.8.0	DB2	depreca d	The DB2 conversion scripts have been deprecated due to lack of community support. The scripts are currently incomplete and if community support is not forthcoming.

## Known issues

### Open 2.8-related tickets with a priority of critical or higher.

For a listing of all open 2.8 related tickets with a priority of critical or higher, see:

<https://jira.sakaiproject.org/secure/IssueNavigator.jspx?mode=hide&requestId=13390>

### Open 2.x tickets

For listings of all open 2x-related issues see:

[Blocker Critical Major Minor, trivial](#)

## Indie Projects

A number of Sakai CLE projects (known collectively as "indie" projects) are currently not included in either the source archive or source your local .m2 repository and then deployed to Tomcat as \*.zip overlays during the Maven build process. If you need to apply any local separately.

Indie project teams manage their own release cycles independently of the general Sakai CLE release cycle, permitting more frequent " or Test and Quizzes. This means you can upgrade them in your release more frequently, if you desire.

Each Indie project site includes a variety of reports regarding the release, including Javadocs.

CLE Release	Project Site	Version
2.8.3	<a href="#">kernel</a>	1.2.8
2.8.3	<a href="#">basiciti</a>	1.3.5
2.8.3	<a href="#">common</a>	1.1.7
2.8.3	<a href="#">content-review</a>	2.8.7
2.8.3	<a href="#">edu-services</a>	1.1.6
2.8.3	<a href="#">emailtemplateservice</a>	0.5.6
2.8.3	<a href="#">entitybroker</a>	1.4.5
2.8.3	<a href="#">jobscheduler</a>	2.8.4
2.8.3	<a href="#">jsf</a>	2.8.5
2.8.3	<a href="#">msgcntr</a>	2.8.4
2.8.3	<a href="#">polls</a>	1.4.5
2.8.3	<a href="#">profile</a>	2.8.5
2.8.3	<a href="#">profile2</a>	1.4.11
2.8.3	<a href="#">samigo</a>	2.8.6
2.8.3	<a href="#">search</a>	1.3.7
2.8.3	<a href="#">sitestats</a>	2.2.4
2.8.3	<a href="#">shortenedurl</a>	1.0.6
2.8.3	<a href="#">webservices</a>	1.0.5

## Older Releases

**The Sakai CLE 2.6 series is now unsupported.** The release of Sakai CLE 2.8.0 marks the end of official community support for the Sakai versions) are strongly encouraged to upgrade in order to take advantage of continued maintenance support. Note also that with the re

## License

The Sakai CLE 2.8 series is licensed under the [Educational Community License version 2.0](#).