The Sakai Framework
A Quick Guide

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The Sakai Framework is organized into a few modules with many projects. This document describes this organization.

`kernel` Module

The kernel of the framework is in the module `kernel` in the sakai2 cvs. It is composed of projects that support the following features:

- ID generation
- Current (ThreadLocal) Support
- Developer Logging
- Components
- Tools
- Sessions
- Request Conditioning

The kernel also provides standard components implementing the kernel APIs. These are packaged into a components package by another kernel module project.

ID Generation

The kernel supports the UUID generation needs for Sakai. This is done using the IdManager. A standard component of the IdManager is provided that produces IEFT V4 UUIDs using the Apache Commons Id package.

Projects:

Project Name	Description
id	Id API
id-component	IETF UUID Version 4 Apache Commons Id based implementation of the Id API

Artifacts:

Project Name	Artifact Name	Type	Deployment
id	sakai2-id	jar	shared
id-component	sakai2-id-component	jar	kernel-components

Current (Thread Local) Support

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35 The CurrentManager helps code access data bound to the current request processing
36 thread, using a "thread local" like mechanism. Data can be cached for the current request
37 here. APIs can support their "current" access (such as the SessionManager's
38 getCurrentSession) by using the CurrentManager.
39
40 The CurrentManager is supported by the RequestFilter, to assure that all values bound to
41 the current request processing thread are cleaned up when the thread is complete.
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43 Projects:

Project Name	Description
current	Current API
current-component	Standard implementation of the Current API

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45 Artifacts:

Project Name	Artifact Name	Type	Deployment
current	sakai2-current	jar	shared
current-component	sakai2-current-component	jar	kernel-components

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Developer Logging

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48 Support for runtime message logging to capture normal and unusual and error
49 programming conditions is provided by the LogManager. The kernel also provisions the
50 environment to support Apache Commons logging and Log4J logging.
51
52 http://collab.sakaiproject.org/access/content/group/1097928811887-22636/Architecture
53 Docs/Sakai 2/sakai_logging.pdf
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55 Projects:

Project Name	Description
log	Log API
log-component	Standard implementation of the Log API
log-configure	Log4J configuration for Sakai

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57 Artifacts:

Project Name	Artifact Name	Type	Deployment
log	sakai2-log	jar	shared
log-component	sakai2-log-component	jar	kernel-components
log-configure	sakai2-log-configure	jar	common

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Components

60 Sakai supports API programming practices by providing a dynamic binding component
61 loading, injection and discovery system. The kernel also provisions the environment to
62 support direct use of the SpringFramework's component management.

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64 http://collab.sakaiproject.org/access/content/group/1097928811887-22636/Architecture
65 Docs/Sakai 2/sakai_component.pdf

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67 Projects:

Project Name	Description
component	Component API **and** implementation
components-loader	Components Package loader utility, used by the Component API implementation

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69 Artifacts:

Project Name	Artifact Name	Type	Deployment
component	sakai2-component	jar	shared
components-loader	sakai2-components-loader	jar	shared

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Tools

72 Support for Sakai tools is provided in the kernel. Tools are registered and invoked with
73 kernel support. Tools may be used by dispatchers, navigators, portals, and aggregators,
74 and by other tools in a helper mode.

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76 The ActiveTool API and component support the invocation of Tools – this is dependent
77 on the Servlet API. The Tool API supports the registration and discovery of tools and
78 tool configuration and other meta-data. This is not dependent on the Servlet API.

79

80 http://collab.sakaiproject.org/access/content/group/1097928811887-22636/Architecture
81 Docs/Sakai 2/sakai_tool.pdf

82

83 Projects:

Project Name	Description
tool	Tool API
active-tool	ActiveTool API
tool-component	Standard implementation of the Tool API
active-tool-component	Standard implementation of the ActiveTool API
tool-registration	Tool registration Servlet Context Listener

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87 Artifacts:

Project Name	Artifact Name	Type	Deployment
`tool`	sakai2-tool	jar	shared
`active-tool`	sakai2-active-tool	jar	shared
`tool-component`	sakai2-tool-component	jar	kernel-components
`active-tool-component`	sakai2-active-tool-component	jar	kernel-components
`tool-registration`	sakai2-tool-registration	jar	shared

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Session

90 Sakai supports a Sakai-wide http-like Session, ToolSessions scoped for each tool
91 placement, and a synthetic HttpSession.

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93 http://collab.sakaiproject.org/access/content/group/1097928811887-22636/Architecture
94 Docs/Sakai 2/sakai_sessions.pdf

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96 Projects:

Project Name	Description
`session`	Session API
`session-component`	Standard implementation of the Session API

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98 Artifacts:

Project Name	Artifact Name	Type	Deployment
`session`	sakai2-session	jar	shared
`session-component`	sakai2-session-component	jar	kernel-components

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Request

101 The kernel provides support to condition each http request in the form of a Servlet Filter
102 that is used in front of all Sakai Servlet technology tool implementations.

103

104 http://collab.sakaiproject.org/access/content/group/1097928811887-22636/Architecture
105 Docs/Sakai 2/sakai_request.pdf

106

107 Projects:

Project Name	Description
`request`	Request processing Servlet Filter utility

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109 Artifacts:

Project Name	Artifact Name	Type	Deployment
`request`	sakai2-request	jar	shared

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Standard Components

The kernel provides standard implementations of the Kernel APIs and packages them into a components package.

Projects:

Project Name	Description
kernel-components	Components Package for the kernel components

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Artifacts:

Project Name	Artifact Name	Type	Deployment
kernel-components	sakai2-kernel-components	war	components packages

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`jsf` Module

The integration support for JavaServer Faces (JSF) is provided by the projects in the module `jsf` in the sakai2 cvs.

`jsf` Projects

tbd.

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`common` Module

The common APIs of the framework is in the module `common` in the sakai2 cvs.

`common` Projects

tbd.

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`edu` Module

The common educational APIs of the framework is in the module `edu` in the sakai2 cvs.

`edu` Projects

tbd.

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