

Centrally-Hosted Bamboo Services - Development-Deployment-Invocation

Bamboo's centrally-hosted services include an IAM (Identity and Access Management) suite, Collection Interoperability Hub, and proxy services to remotely-hosted tools for scholarship. This set of services runs on [FUSE ESB](#), an enterprise distribution of Apache's open-source [ServiceMix](#) (acquired in 2012 by RedHat). A number of additional, open-source technologies are required to support these services, including Apache Web Server ([httpd](#)), and [Grouper](#).

Information on the centrally-hosted services' architectural overview; a service developer "workbench" environment in which to extend or develop services; sys admin documentation for deployment of additional technologies in support of services; and the services' API are organized in this section of the Bamboo documentation, as follows:

- **Overview:** [Architectural Overview of the Bamboo Services Platform](#)
- **Service Developer Workbench:** [Developer Workbench Environment for BSP Service Developers](#)
- **Additional technology installation instructions:** see table, below
- **Service APIs:** [Service APIs - Centrally-Hosted Bamboo Services](#)
- **Other service APIs:** [Service APIs - Other Services](#)

Installing and Configuring technology components

Technology Component(s)	Documentation Link(s)	Notes
Developer toolkit	Developer Workbench Environment for BSP Service Developers	Java, Maven, Eclipse and IDE plugins, required filesystem directories, required environment variables
FUSE ESB	Developer Workbench Environment for BSP Service Developers	Core element of Bamboo Services Platform (BSP, the deployment container for centrally-hosted services whose APIs are linked from Service APIs - Centrally-Hosted Bamboo Services)
PostgreSQL database	Developer Workbench Environment for BSP Service Developers	Relational database providing persistence for BSP-deployed services
Core BSP-deployed services	Developer Workbench Environment for BSP Service Developers	Core services, including those that support IAM
Apache Web Server (httpd)	Configure Apache Web Server for Client Auth	httpd supports client auth (authenticating trusted client applications), as well as proxy-forwarding over AJP of BSP services
Grouper	Grouper Install - Configure - Populate	Grouper provides persistence for the "Application Catalog" (known/trusted client applications in the Bamboo Trust Federation); as well as for user-created and -managed groups
Application Catalog data	Maintaining Application Catalog Data for Trusted Clients	For an application to be trusted (a key element of gaining permission to invoke services protected by policies that restrict access), Application Catalog data must be maintained.
Trust Federation metadata	Maintaining SAML Metadata that establishes a Trust Federation	Identity providers and service providers trusted within the Bamboo Trust Federation must be identified with SAML metadata.
Social/SAML Gateway	Social/SAML Gateway to enable social media identity provision	A Social/SAML gateway must be a part of the Authentication 'machinery' if social media Identity Providers (e.g., Google) are to be used for user logins.

Clients	<ul style="list-style-type: none">• Shibboleth SP Installation and Configuration for Bamboo Trust Federation Clients• Configure Apache Web Server for Client Auth (<i>Certificate Exchange</i> section)	<p>When policies in effect restrict access to anonymous users or anonymous applications, only "Trusted Applications" can succeed in invoking the affected services. Only "Trusted Applications" can assert the identity of a user to BSP-deployed services (anonymous client apps imply anonymous users).</p> <ul style="list-style-type: none">• Clients acting as a "Trusted Application" generally do so by functioning with an authentication context backed by Shibboleth SP (Shibboleth Service Provider). Note install and configure document linked from column at left.• In addition, exchange of certificates and metadata are necessary for a client application to act as a "Trusted Application" in the Bamboo Trust Federation (this includes simple web service clients such as Firefox Poster or curl). Note Client Auth document linked from column at left, particularly the <i>Certificate Exchange</i> section of that page..• In addition to the installation and configuration documentation linked from the column at left, see the <i>Client responsibilities for implementing the conventions</i> section of the page <i>Conventions for representing Identity Providers in the Bamboo Trust Federation</i>.
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