

9.x Administrator Guide

Understanding the Platform



Notices

For details, see the following topics:

- Notices
- Third-party acknowledgments

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Aurea global support

If you encounter a problem while using an Aurea product or require assistance with downloading the software or upgrading a product release, please, try to:

- Search the articles on the Aurea Knowledge Base for solutions to your issues.
- Search the product documentation and other product-related information that are also available on Support Central.

If you still cannot find a solution, open a ticket on Aurea Support Central. Information about the support organization is available on Support Portal as well.

You can also find the setup files on Support Portal.

For information about purchasing an upgrade or professional services, contact your account executive. If you do not know who your account executive is, or for other queries, contact us through our website.

1 Understanding Jive platform

Learn about the components of the platform and how they work together.

For details, see the following topics:

- Platform architecture
- Services layer
- Understanding Jive Search

Platform architecture

There are several components of a Jive platform.

The web application layer requires at least two servers. Here's an illustration of the platform (click the image to enlarge it):



Jive Development Stack

Services layer

Between the web application nodes and the database nodes are a number of services that are critical to Jive.

Caching service

The caching service provides object caching for the web application nodes, dramatically reducing the load on the database nodes. Use cache when starting or enabling this service in the Jive command-line interface (CLI). For more information about how caching works in a high-availability system, see Configuring Cache servers for high-availability.

Activity Engine service

The Activity Engine nodes provide specialized functionality for attention streams, recommendations, and personalized Inbox. Use eae when starting or enabling this service in the Jive CLI.

Search service

The search nodes offload a significant amount of overhead from the web application nodes, providing personalized, contextual search results for content. Use search when starting or enabling this service in the Jive CLI.

Note: In an high-availability (HA) configuration, you also need two Ingress Replicator nodes for the Ingress Replicator service. Use ingress-replicator when starting or enabling this service in the Jive CLI. For more information, see Required nodes for an On-Premise HA Search service.

Document Conversion service

The document conversion service enables rich previews and collaboration around Microsoft Office and PDF documents without having to open up a desktop client. Use docconverter when starting or enabling this service in the Jive CLI.

Storage service

The storage layer dramatically reduces the amount of load on the database nodes. For an illustration of a basic deployment, see Jive Enterprise architecture.

Understanding Jive Search

Here you can find information about the Jive Cloud and On-Premise Search services, how they work, and how to choose one of them for your community.

Search services deployment options

You have the option to connect your instance to the Jive Cloud Search service or to install your own copy of the On-Premise Search service.

The Cloud Search service is hosted in Jive data centers and provides infinite scaling, continuous improvements, and social search relevance. For more information, see Cloud Search service on page 9.

The infrastructure of the On-Premise Search is embedded inside the Jive Core application and can be used if you cannot use Cloud Search. For more information, see On-Premise Search service on page 17.

Cloud Search service

The Jive Cloud Search service enhances Jive search with infinite scale, continuous improvements, and the advanced social context. Here you can find how Jive Cloud search works. Jive Cloud Search service is available whether you are using the Jive Cloud or installing Jive On-Premise.

About Cloud Search service

If you are installing Jive as an on-premise solution and you want to use Jive Cloud Search instead of the On-Premise Search, you should file a support case so we can whitelist your IP addresses to allow you through the firewall. For more information, see List of required ports and domains.

The Cloud Search service follows best practices for data separation. All data is written, stored and accessed with a tenant-ID unique to the owner of the data and no access to data for a given tenant-ID is permitted unless a client also presents a secret key for verification in accordance with OAuth. All communication is over HTTPS.

Cloud Search benefits

Cloud Search provides the following benefits:

Infinite scale	By leveraging a cloud-based Big Data infrastructure, the search service can scale to any level while providing full redundancy.
Continuous improvement	Because search is deployed as a separate service, it can be improved at any time without disrupting other Jive functionality. Just as with familiar web search tools, the relevance of Jive search results gets better over time.
Social relevance	By fusing dynamic data into search rankings, Jive search service incorporates social information for improved search

relevance. For more information, see **Social score** on page 16 in **Content search** on page 11.

Basic search algorithm

Cloud Search uses "OR" search by default, meaning that it finds results if at least one of the words in the search phrase exists in them. In other words, results don't have to include every word in the search query. The algorithm also searches all included text, including attachments and comments — not just the initial blog post, document, or discussion.

Users can apply special modifiers, such as quotes or keywords, to make search phrases more specific. For more information, see Search overview in the User Guide.

The results depend on what users are searching for: content, people, or places. For more information, see Content search on page 11 and Non-content search on page 16.

Spotlight search and Advanced search

The Spotlight search appears at the top of each page. It's intended as the "quick and easy" search feature, with only a few options to narrow your search. It also adds a wildcard (*) to the end of your search term, since it searches as you type and expects that you may not have finished typing yet. This means that it anticipates what you're searching for; if you're searching for "Library of Congress" and pause while typing "Librar", it searches for "library", "libraries", and other words with the same stem, not just "librar". Also, the Spotlight search searches for tags.

Advanced search takes place on the main search page after pressing Enter in the Spotlight search box. It offers many more options to refine your search and does not apply the wildcard, as it expects you to provide all of your detailed criteria for the most specific results.

An important difference is that in the Advanced Search page there are many facets the user can imply while in the Spotlight search there are just a couple of options.

For more information, see Search and browse features and Using Spotlight search in the User Guide.

@Mentions

When you start to @mention someone or something, Jive searched similarly to the Spotlight search. The search algorithm takes what you've typed in so far and adds a wildcard (*) to it. This means that no stemming is done with this search.

The main difference from the Spotlight search is that @mentioning only searches the title of content or place and username, name, and email of a user.

For more information, see **Search overview** in the User Guide.

Search configuration

For more information about configuring search, see Managing search.

Content search

Here you can find how the Jive Cloud Search service searches for content.

When searching for content, Jive searches in content items available for users as follows:

- Subject: Title field of content items
- Body: Content of content items
- Tags: Tags added to content items

The results are then ordered by the relevancy score the items gain when users search for a specific search phrase.

Search relevancy

The relevancy rank is calculated as follows:

```
Rank = (SimilarityScore + ProximityScore) * OutcomeType * ObjectType * Recency *
SocialScore
```

These parameters are explained in detail in Search relevancy on page 12.

Searchable content types

The system searches for the search phrase in all of these content types:

- Direct message
- Poll
- Blog post
- Idea
- Announcement
- Document
- Question
- Discussion
- File
- Photo
- Status update
- Task
- Event
- Video
- External activity
- Comments on content

Users can limit the results to a specific content type by using filters.

Synonyms

You can define common synonyms for terms that are relevant for your particular system. For example, "docs" and "documentation" may be equal when searching. For more information, see Configuring search synonyms for content items.

You can define common synonyms for user names and terms that are relevant for your particular system. For example, "docs" and "documentation" may be equal when searching. For more information, see Configuring search synonyms for content items.

Search relevancy

Getting the relevant results is critical for the success of the community. Here you can what parameters impact the relevancy score for a piece of content and the rank it will get when you search for a specific search phrase.

The relevancy rank is calculated as follows:

```
Rank = (SimilarityScore + ProximityScore) * OutcomeType * ObjectType * Recency * SocialScore
```

These parameters impact the rank of a content item and can provide a boost to get it to the top of the search results:

- Similarity score on page 12
- Proximity score on page 13
- Outcome type on page 14
- Object type on page 14
- Recency on page 15
- Social score on page 16

Similarity score

When searching for a phrase the system looks at each word in the phrase and checks the match type and place of match for this work. Each match type and place has its own boost score. The default settings are listed in Table 1 on page 13.

The boost score is normalized with the number of times the searched term appears in the given content (the more it appears the better), as well as with the number of times this term appears in the search index (the more common the term is, the less impact it has on the rank).

Match types that Cloud Search employes:

- Raw: Exact matches of the search term.
- **Analyzed**: Matches that are created by language analyzer. In this case, *stemming* is used, that is, looking for the root of the word. For example, "focusing" will also find "focus", "focused", and other related words with the same stem.
- Edgengram: Partial match, used for wildcard search matches and matches in search-as-you-type queries.

Places of matches that Cloud Search employes:

- Subject: Title field of content items
- Body: Content of content items
- **Tags**: Tags added to content items

Table 1: Similarity boosts

Matchtype	Match place			
	Sub- ject	Body	Tags	
Raw	1.0	0.1	0.5	
Analyzed	1.0	0.1		
Edgengram	1.0	0.1	0.5	

Proximity score

The proximity score checks how close is the term the user searches for to what appears in the content. When a user searches for a phrase built from several words, this phrase may appear exactly the same way in the content or it may appear in the content in a slightly different way. For example, content with the term "product one-pager brochure" is an approximate match when searching for "product brochure".

Types of proximity boosts:

- Exact match: When all the search terms appear in the content next to each other
- **Proximity match**: When all the search terms appear less than three words apart from each other

The proximity score is also used to boost more relevant results. Exact matches get boosted more than proximity matches. The default settings are listed in Table 2 on page 13.

Place	Proximity boost	Exact match boost
Sub- ject	0.5	1.6
Body	0.5	1.0
Tags*	0.1	1.0

Table 2: Proximity and exact match boosts

* Having proximity score on Tags is unlikely to happen.

Additionally, frequency is taken into account. The score has a lot to do with how many occurrences of the word user is searching for exists in the field. For example, if a 20,000-word essay makes a single reference to the movie "Finding Nemo" somewhere in the document and another document in the system has only 50 words and includes "Finding Nemo", the latter is counted more relevant to a query for "nemo".

Outcome type

Content in Jive can be marked with structured outcomes. The search results are boosted based on outcome type.

The boosts given to content according to outcome type are listed in Table 3 on page 14.

 Table 3: Outcome boosts

Outcome	Boost	Outcome	Boost
Finalized	1.4	Official	2.0
Outdated	0.1	Default	1.0

This score is being multiplied by the boosts above.

Note that a higher boost results in that content being ranked higher in the search results, so the 0.1 score for outdated documents significantly reduces its rank.

Object type

Similarly to outcome boost, there is a boost for ranks based on the type of content used. Documents and blogs are ranked higher in the search results as these are usually used for more comprehensive content that may be more relevant for the searching user. The settings are listed in Table 4 on page 14.

Table 4: Object boosts

Object	Boost	Object	Boost
Document	1.4	Poll	1.0
blog	1.4	Idea	1.0
Discussion	1.0	Video	1.0
Question	1.0	Status Update	1.0

Recency

Recency (or time decay) lowers the score for older content. The impact of content can be seen this way:

Figure 1: Recency boost by default



Recency score calculation is based on the following parameters:

Parameter	Description	Default
Drop speed	Determines how fast the algorithm re- duces the content score by age	50
Max value	Determines the latest period the content from which has the same score without decay	4 weeks
Minimum score	Determines the score difference of a very old document and a just created one as 2 times as maximum. It is set so that even the oldest relevant content can be found but allows preference for fresh content.	0.9

Table 5:	Recency	parameters	for	calculations
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Social score

The Jive R2E2 service calculates a social score for the search phrase based on given user activities, follows, and other behavioral connections.

The R2E2 service (previously Jive Find) provides improved search relevance by incorporating social information into search. Search rankings are tailored for individuals based on dynamic signals derived from activity within Jive. As users use Jive, data is generated about activities, such as views, creates, responses, and likes. These activities are processed in the Jive Recommender service and summarized into a form that can be used by Jive Search to enhance the relevance of the search results. When a user searches for content or places, items that are considered *close* to the user (based on the activities performed by the user or other individuals connected to the user) are given a boost in the search rankings. This personalizes search results for each user.

The details of how user activity translates into levels of boost change over time as the system is optimized.

Non-content search

In addition to searching for content, you can also search for users and places (such as spaces and groups). There are some important differences in these types of search.

@Mentions

When you start to @mention someone or something, Jive searched similarly to the Spotlight search. The search algorithm takes what you've typed in so far and adds a wildcard (*) to it. This means that no stemming is done with this search.

The main difference from the Spotlight search is that @mentioning only searches the title of content or place and username, name, and email of a user.

For more information, see Search overview in the User Guide.

User search

You can search for users both from the user interface and from the Admin Console.

When searching for users, the system uses the phrases and searches for them in each of the profile fields that user performing the search has access to (according to the user settings). However, you can't search for a user according to a specific profile field.

You can define common synonyms for user names that are relevant for your particular system. For example, "Robert" may be equal to "Rob" and "Bob". For more information, see Configuring search synonyms for content items.

Places search

When searching for places, such as spaces, groups, or projects, the system searches the title, the description, and the tags.

The search algorithm is similar to content search: a field that contains 5 words, one of which is a match, receives a higher score than a field that contains 25 words, one of which is a match. To make a place more easy to search, you can use the search term in the title, description, and tag fields as many times as possible, with as few other words as possible.

The following types of places can be searched for:

- Space
- Group
- Project
- Personal blog

On-Premise Search service

The Jive On-Premise Search service is available for Jive On-Premise installations if you don't want to use Jive Cloud search.

If you are installing Jive as an on-premise solution, and you want to use Jive's On-Premise Search instead of Jive Cloud Search, then you need to install Search on its own node as described in Installation overview. On-Premise Search is an alternative for those whose environment or policies prevent them from using the Jive Cloud Search.

On-Premise Search does not incorporate social data in search rankings and is not undergoing the constant improvements that Jive Cloud Search sees.

For more information about configuring search, see Managing search.

Basic search algorithm

On-Premise Search uses "AND" search on content (that means that all terms must be present) and "OR" search on users (that means that at least one term must be present). The algorithm also searches all included text, including attachments and comments — not just the initial blog post, document, or discussion.

Users can apply special modifiers, such as quotes or keywords, to make search phrases more specific. For more information, see **Search overview** in the User Guide.

The results depend on what users are searching for: content, people, or places. For more information, see **Content search** on page 18 and **Non-content search** on page 21.

Spotlight search and Advanced search

The spotlight search appears at the top of each page. It's intended as the "quick and easy" search feature, with only a few options to narrow your search. It also adds a wildcard (*) to the end of your search term, since it searches as you type and expects that you may not have finished typing yet. This means that it anticipates what you're searching for; if you're searching for "Library of Congress" and pause while typing "Librar", it searches for "library", "libraries", and other words with the same stem, not just "librar".

Advanced search takes place on the main search page after pressing Enter in the Spotlight search box. It offers many more options to refine your search and does not apply the wildcard, as it expects you to provide all of your detailed criteria for the most specific results.

An important difference is that in the Advanced Search page there are many facets the user can imply while in the Spotlight search there are just a couple of options. Also, the Spotlight search does not search for tags.

For more information, see Search and browse features and Using Spotlight search in the User Guide.

@Mentions

When you start to @mention someone or something, Jive searched similarly to the Spotlight search. The search algorithm takes what you've typed in so far and adds a wildcard (*) to it. This means that no stemming is done with this search.

The main difference from the Spotlight search is that @mentioning only searches the title of content or place and username, name, and email of a user.

For more information, see **Search overview** in the User Guide.

Search configuration

For more information about configuring search, see Managing search.

Content search

Here you can find how the Jive Cloud Search service searches for content.

Content search

When searching for content, Jive searches in content items available for users in title (or subject) and body of content items, as well as tags, comments, and structured outcomes.

The results are then ordered by the relevancy score the items gain when users search for a specific search phrase. For more information, see Search relevancy on page 19.

Searchable content types

The system searches for the search phrase in all of these content types:

- Document
- Discussion
- Blog post
- Status update
- Files of the following types: .html, .rtf, .txt, .pdf, .ppt, .pptx, .doc, .docx, .xls, .xlsx, .odt, .ods, and .odp (OpenOffice formats). The application also searches the contents of .zip files
- External content
- Comments on content

Users can limit the results to a specific content type by using filters.

Synonyms

You can define common synonyms for user names and terms that are relevant for your particular system. For example, "docs" and "documentation" may be equal when searching. For more information, see Configuring search synonyms for content items.

Search relevancy

Getting the relevant results is critical for the success of the community. Here you can what parameters impact the relevancy score for a piece of content and the rank it will get when you search for a specific search phrase.

The relevancy rank is calculated as follows:

Rank = type_weight * recency_weight * outcome_weight

The parameters that impact the rank of a content item are described below.

Object type (type_weight)

Object type boost is based on the type of content used. Documents and blogs are ranked higher in the search results as these are usually used for more comprehensive content that may be more relevant for the searching user. The settings are listed in Table 6 on page 19.

Table 6: Object boosts

Object	Boost
Document	1.3
Blog	1.4
Other types	1.0

Recency (recency_weight)

Recency (or time decay) lowers the score for older content. The impact is described in Table 7 on page 20.

Table 7: Recency boosts

Period	Boost	
Less than 9 weeks ago	1.0	
9-55 weeks ago	0.75 + (0.25 * (56 - <week_number>)/48)</week_number>	
56-223 weeks ago	0.5 + (0.25 * (224 - <week_number>)/168)</week_number>	
More than 223 weeks ago	0.5	

Outcome type (outcome_weight)

Content in Jive can be marked with structured outcomes. These outcomes impact the score of that content in the search results, results are boosted based on outcome type.

The boosts given to content according to outcome type are listed in Table 8 on page 20.

Table 8: Outcome boosts

Outcome	Boost	Outcome	Boost
Default	1.0	Official	Default*1.6
Finalized	Default*1.4	Outdated	Default*0.1

This score is being multiplied by the number of boosts as follows: base*(1+0.01*<number_of_outcomes>)

Note that a higher boost results in that content being ranked higher in the search results, so the 0.1 score for outdated documents significantly reduces its rank.

Rank count examples

For example, the rank may be counted as follows:

Туре	Age	Outcome	Rank
Blog	3 days	None	1.4
1.4	1.0	1.0	
Blog	10 weeks	None	1.38
1.4	0.98	1.0	
Document	10 weeks	None	1.27
1.3	0.98	1.0	

Туре	Age	Outcome	Rank
Document	56 weeks 0.75	Official 1.61	1.56
Document	256 weeks 0.5	Official, Final- ized	1.46
Question	3 weeks 1.0	None 1.0	1.0
Event	10 weeks 0.98	None 1.0	0.98
Discus- sion 1.0	56 weeks 0.5	None 1.0	0.5

Additional considerations

- The boosts cannot be changed with normal methods.
- Social scoring and personalized results are not available in On-Premise Search service.

Non-content search

In addition to searching for content, you can also search for users and places (such as spaces and groups). There are some important differences in these types of search.

@Mentions

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The main difference from the Spotlight search is that @mentioning only searches the title of content or place and username, name, and email of a user.

For more information, see Search overview in the User Guide.

User search

You can search for users both from the user interface and from the Admin Console.

When searching for users, the system uses the phrases and searches for them in each of the profile fields that user performing the search has access to (according to the user settings).

Synonyms for user names	You can define common synonyms for user names and terms that are relevant for your particular system. For example, "docs" and "documentation" may be equal when searching, or "Robert", "Rob", and "Bob". For more information, see Config- uring search synonyms for content items.	
Field format is not recognized	Jive does not understand the format of particular fields. For example, each of the following is a valid representations of a US phone number, however, no search string can return each case:	
	• (503) 555-1212	
	• 503-555-1212	
	• 503.555.1212	
	• +15035551212	
	If the user profile comes from an external system, then the format may be consistent. If not, then the best practice is to encourage users to create consistent phone numbers.	
Searching for deactivated users from UI	Only community managers can search for deactivated users from the Advanced Search when setting Deactivated Users to Show and from the user search in the Admin Console. Regular users cannot see and use this option when searching.	

Places search

When searching for places, such as spaces, groups, or projects, the system searches the title, the description, and the tags.

The following types of places can be searched for:

- Space
- Group
- Project
- Personal blog

How On-Premise Search works

As of Jive 6.0, the application includes a search service for Content and Places that reduces the amount of disk I/O, memory, and storage on each of the individual web application nodes.

The On-Premise Search service is composed of several sub-services:

- Ingress The Ingress Service receives creates, modifies, and moves activities from the web application and delivers them to the Indexer Service.
- **Search** The Search Service interacts with the Indexer Service to handle ingress and search requests from the web app.

- **Rebuild** The Rebuild Service allows a second index to be built while the Indexer and Search Service continue to handle ingress and search requests.
- Manage The Manage Service allows the web application to manage the Search Service and Indexer.
- Service The Service Directory Service allows configuration of what host Directory and port pairs will be used for all of the other services. This is a key feature in supporting an HA deployment of search. For more information, see Configuring On-Premise Search service for highavailability.

On-prem Search

