

Apache Solr Server Installation Steps

1. Update System

```
$ sudo apt-get update  
$ apt-get upgrade -y
```

2. Setting up the Java Runtime Environment

```
$ sudo apt-get install python-software-properties [ to install Python Software properties in order to install the latest Java 8 ]
```

```
$ sudo add-apt-repository ppa:webupd8team/java [ add the webupd8team Java PPA repository in your system ]
```

```
$ sudo apt-get update
```

```
$ sudo apt-get install oracle-java8-installer [ install the latest version of Oracle Java 8]
```

```
$ java -version [ check the version of Java installed]
```

3. Installing the Solr application

```
$ cd /tmp  
$ wget http://mirror.fibergrid.in/apache/lucene/solr/6.5.0/solr-6.5.0.tgz [ downloading the Solr distribution ]
```

```
$ tar xzf solr-6.5.0.tgz solr-6.5.0/bin/install_solr_service.sh --strip-components=2 [ extract the service installation file]
```

```
$ sudo ./install_solr_service.sh solr-6.5.0.tgz [ install Solr service ]
```

4. Create solr search collection

```
$ sudo su - solr -c "/opt/solr/bin/solr create -c edxsolr -n data_driven_schema_configs"
```

You can see created core for solr search server by visiting link :

<http://localhost:8983/solr/>

Solr Search API Installation

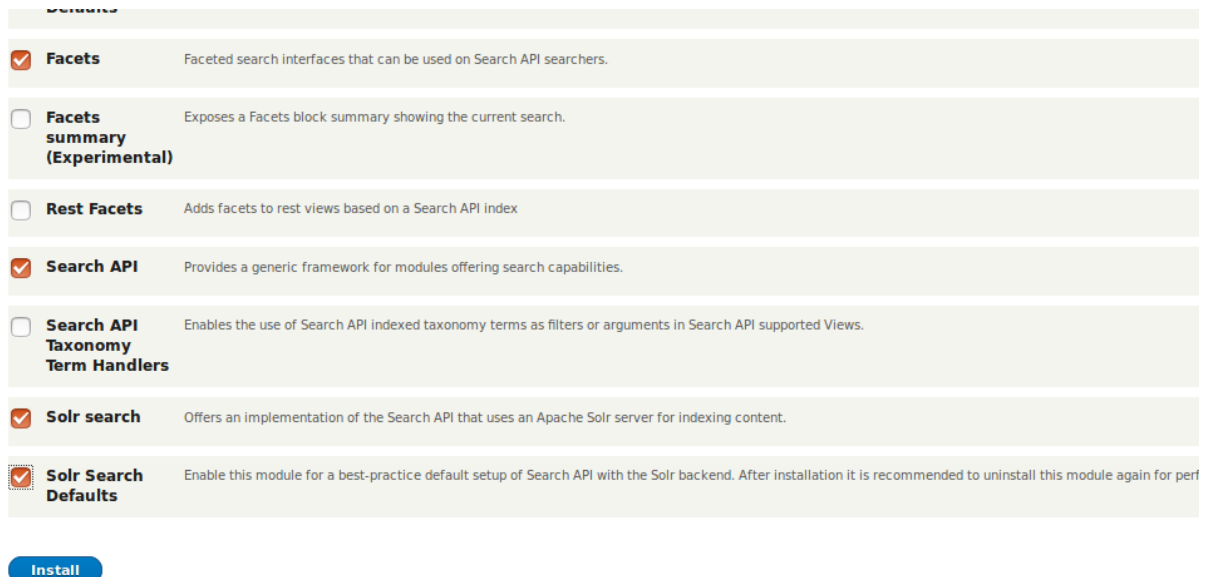
```
$ sudo composer config repositories.drupal composer https://packagist.org
```

```
$ sudo composer require "drupal/search_api_solr"
```

```
$ sudo composer require "drupal/facets:^1.0"
```

1. Extend following modules

.Facets
.Search API
.Solr search
.Solr Search Defaults



The screenshot shows the Drupal module selection interface. It lists several modules with checkboxes indicating their selection status:

- ☒ **Facets** Faceted search interfaces that can be used on Search API searchers.
- ☐ **Facets summary (Experimental)** Exposes a Facets block summary showing the current search.
- ☐ **Rest Facets** Adds facets to rest views based on a Search API index
- ☒ **Search API** Provides a generic framework for modules offering search capabilities.
- ☐ **Search API Taxonomy Term Handlers** Enables the use of Search API indexed taxonomy terms as filters or arguments in Search API supported Views.
- ☒ **Solr search** Offers an implementation of the Search API that uses an Apache Solr server for indexing content.
- ☒ **Solr Search Defaults** Enable this module for a best-practice default setup of Search API with the Solr backend. After installation it is recommended to uninstall this module again for perf

At the bottom, there is a blue button labeled "Install".

2. Copy config files from module to solr core conf folder

```
$ sudo su - solr -c "cp /var/www/html/iitbombay/modules/contrib/search_api_solr/solr-conf/6.x/* /var/solr/data/edxsolr/conf"
```

```
$ sudo service solr restart
```

Configure the Solr server

Admin >> Configuration >> Search Api >> Server >> Edit

Search API ☆

Home » Administration » Configuration » Search and metadata

Below is a list of indexes grouped by the server they are associated with. A server is the definition of the actual indexing, querying and storage engine (for example, an Apache Solr server, the database, ...). An index defines the indexed content (for example, all content and all comments on "Article" posts).

The default Drupal core Search module is still enabled. If you are using Search API, you probably want to [uninstall](#) the Search module for performance reasons. For more information see [the Search API handbook](#).

[+ Add server](#) [+ Add index](#)

TYPE	NAME	STATUS	OPERATIONS
Server	Solr Server Default Solr server created by the Solr Search Defaults module	✓	Edit
Index	Default Solr content index Default content index created by the Solr Search Defaults module	✓	Edit ID: default_solr_server

Change 'Solr core' to edxsolr [your core] (default is d8) and save.

CONFIGURE STANDARD SOLR CONNECTOR
A standard connector usable for local installations of the standard Solr distribution.

HTTP protocol

http

The HTTP protocol to use for sending queries.

Solr host *

localhost

The host name or IP of your Solr server, e.g. localhost or www.example.com.

Solr port *

8983

The Jetty example server is at port 8983, while Tomcat uses 8080 by default.

Solr path

/solr

The path that identifies the Solr instance to use on the server.

Solr core

edxsolr

The name that identifies the Solr core to use on the server.

On same page in 'view' tab , you should see a message "The Solr server could be reached" and "The Solr core could be accessed":

Solr server URI	http://10.129.103.23:8983/solr/
Solr core URI	http://10.129.103.23:8983/solr/#/edxsolr
Server Connection	The Solr server could be reached.
Core Connection	The Solr core could be accessed (latency: 3.0780301818848 ms).
Configured Solr Version	6.5.0

Uninstall 'Solr Search Defaults'

☒ **Solr Search Defaults** Enable this module for a best-practice default setup of Search API with the Solr backend. After installation it is recommended to uninstall this module again for performance reasons. The provided configuration will not be removed.

[Uninstall](#)

Configure the Solr index

The 'Solr Search Defaults' module creates a default content index and view 'Solr search content' containing all published nodes on the website.

The concept of storing multiple Search API indexes in one Solr core is bad practice and randomly breaks a lot of advanced features like spell checking, suggestions, autocomplete and others. Create a second core within your Solr server and assign this "index" to that core.

Add search index ☆

[Home](#) » [Administration](#) » [Configuration](#) » [Search and metadata](#) » [Search API](#)

✖ The concept of storing multiple "virtual" Search API indexes in one Solr index (aka core) is bad practice and randomly breaks a lot of advanced features like spell checking, suggestions, autocomplete and others. Create a second core within your Solr server and assign this "index" to that core.

1. Add new core to solr server named 'edxcourse'

```
$ sudo su - solr -c "/opt/solr/bin/solr create -c edxcourse -n data_driven_schema_configs"
```

```
$ sudo su - solr -c "cp /var/www/html/iitbombay/modules/contrib/search_api_solr/solr-conf/6.x/* /var/solr/data/edxcourse/conf"
```

2. Add new search server 'Course Search Server'

Admin >> Configuration >> Search Api >> Server

+ Add server + Add index			
TYPE	NAME	STATUS	OPERATIONS
Server	Course Search Server	✓	Edit ▾
Index	Front Course Index	✓	Edit ▾
Server	Solr Server Default Solr server created by the Solr Search Defaults module	✓	Edit ▾

Solr Connector *
☒ Standard
☐ Basic Auth
Choose a connector to use for this Solr server.

CONFIGURE STANDARD SOLR CONNECTOR
A standard connector usable for local installations of the standard Solr distribution.
HTTP protocol

The HTTP protocol to use for sending queries.
Solr host *

The host name or IP of your Solr server, e.g. localhost or www.example.com.
Solr port *

The Jetty example server is at port 8983, while Tomcat uses 8080 by default.
Solr path

The path that identifies the Solr instance to use on the server.

3. Add New Index

Search API ☆

[Home](#) » [Administration](#) » [Configuration](#) » [Search and metadata](#)

Below is a list of indexes grouped by the server they are associated with. A server is the definition of the actual indexing, querying and storage engine (for example, an Apache Solr server, the database, ...). An index defines the indexed content (for example, all content and all comments on "Article" posts).

The default Drupal core Search module is still enabled. If you are using Search API, you probably want to [uninstall](#) the Search module for performance reasons. For more information see [the Search API handbook](#).

[+ Add server](#)

[+ Add index](#)

Index name : Front Course Index

Data Sources : content

Bundles: None except thoses selected (select course)

Server: Course Search Server

4. Add Fields to Index.

Manage fields for search index *Front Course Index* ☆

[View](#)

[Edit](#)

[Fields](#)

[Processors](#)

[Home](#) » [Administration](#) » [Configuration](#) » [Search and metadata](#) » [Search API](#) » [Front Course Index](#)

[+ Add fields](#)

The data type of a field determines how it can be used for searching and filtering. The boost is used to give additional weight to certain fields, for example titles or tags.

For information about the data types available for indexing, see the [data types table](#) at the bottom of the page.

CONTENT

LABEL	MACHINE NAME	PROPERTY PATH	TYPE	BOOST	OPERATIONS
<input type="text" value="Name"/>	<input type="text" value="field_course_name"/>	field_course_name	<input type="text" value="String"/>		Remove
<input type="text" value="Course Link"/>	<input type="text" value="field_course_link"/>	field_course_link	<input type="text" value="String"/>		Remove
<input type="text" value="Subjects"/>	<input type="text" value="field_course_subjects"/>	field_course_subjects	<input type="text" value="Integer"/>		Remove
<input type="text" value="Public Info"/>	<input type="text" value="field_public_info"/>	field_public_info	<input type="text" value="Fulltext"/>	<input type="text" value="1.0"/>	Remove
<input type="text" value="Organisation"/>	<input type="text" value="field_organisation"/>	field_organisation	<input type="text" value="Integer"/>		Remove

DATA TYPES

[Save changes](#)

Go to view Tab and Reindex all.

5. Create new view to display indexed search result. As a block / page

Title : Inner Course List

Show: Renderd Entity (Index Front Course Index)

Path: [/all_courses](#)

Pager : Infinite Scroll

Inner Course List (Index Front Course Index) ☆

[Edit](#) [Translate view](#)

[Home](#) » [Administration](#) » [Structure](#) » [Views](#)

✓ Event kernel.request thrown by Subscriber in module get_language.

Displays

Page [+ Add](#) [Edit view name/description](#)

Display name: Page [View Page](#)

TITLE Title: Inner Course List	PAGE SETTINGS Path: /all_courses Menu: No menu Access: None	ADVANCED
FORMAT Format: Unformatted list Settings Show: Rendered entity Settings	HEADER Add	
FIELDS The selected style or row format does not use fields.	FOOTER Add	
FILTER CRITERIA Add	NO RESULTS BEHAVIOR Add	
SORT CRITERIA Add	PAGER Use pager: Infinite Scroll Automatic infinite scroll, 12 items More link: No	

6. Create facet

Admin >> Configuration >> Facets >> Add facets

Add facet ☆

[Home](#) » [Administration](#) » [Configuration](#) » [Search and metadata](#) » [Facets](#)

✓ Event kernel.request thrown by Subscriber in module get_language.

Facet source *

View Inner Course List , display Page

The source where this facet can find its fields.

✓ Event kernel.request thrown by Subscriber in module get_language.

Field *

Subjects (field_course_subjects)

The field from the selected facet source which contains the data to build a facet for.
The field types supported are **boolean**, **date**, **decimal**, **integer** and **string**.

Name *

Subjects Machine name: subjects [\[Edit\]](#)

The administrative name used for this facet.

[Save](#)

Facet Source : View we have just created (View Inner Course List)

Fields : Select index field with which we are going to create Facet. e.g Subject

7. Add facets and search view block to region.