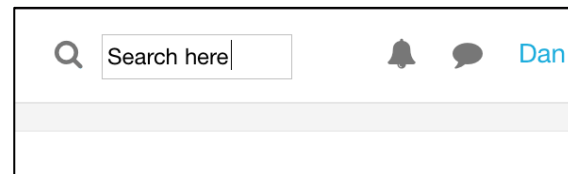# Adding global search to your Moodle

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Global Search

- Available in Moodle 3.1 and later
- Search across Moodle content
- Moodle handles access control
- Search is handled by a 'search engine' plugin
- Moodle core comes with support for Apache Solr

Considerations

- Content
  - Core plugins have good search coverage
  - Third party plugins need to add support for Search API
- Setup
  - Apache Solr is a non-trivial dependency
  - Requires system administration work
  - Future plugin planned to support smaller sites (MDL-53226)

Why Solr?

- Enterprise search server from Apache Foundation
- Open source
- Fast, scalable
- Indexes rich files including Microsoft Office, PDF etc
- Natural language & advanced querying operations (AND, OR, *)

Setup Steps

1. Enable Solr PHP extension
2. Setup Solr Server
3. Configure Solr connection
4. Create Solr schema
5. Initial Index of Moodle content

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1.Enable Solr PHP Extension

- Solr PHP needs to be installed on Moodle web server
- Install the PECL extension
    - https://pecl.php.net/package/solr
- Don't forget to restart web server

https://docs.moodle.org/32/en/Global_search#How_to_install_Solr

2. Setup Solr Server

- Moodle requires Solr version 4
  - Solr 5.x or 6.x is highly recommended
- Solr requires Java 8 (or OpenJDK 1.8)
- Package manager (apt/yum) installation of Solr is fine
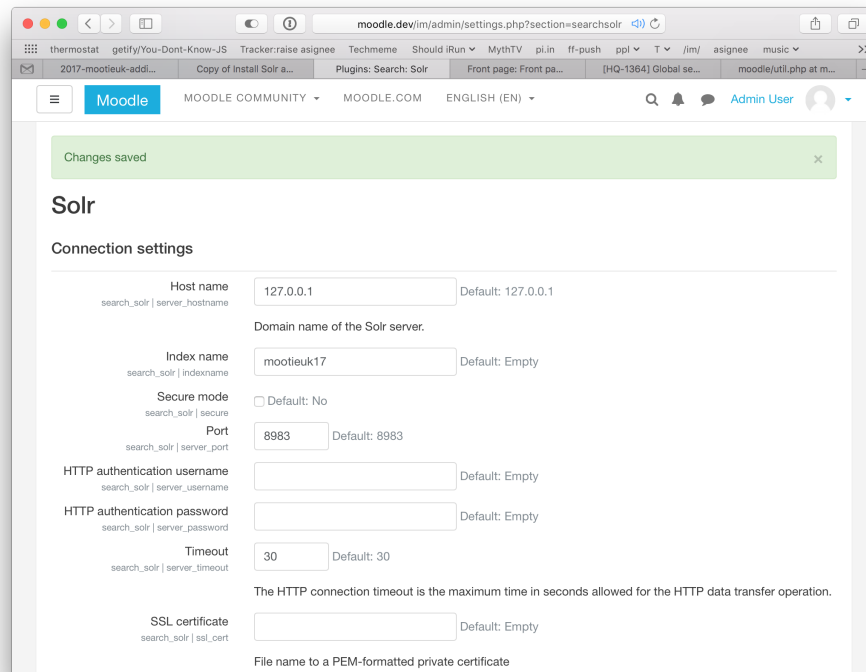
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2. Setup Solr Server

- Consider security
    - Protect like database server
- Solr is RAM hungry
    - Uni-size deployments reported to use 10-20GB
    - Disable file indexing to reduce requirements
- Clustering solutions available

- Possible for multiple Moodle sites to shared a single Solr install
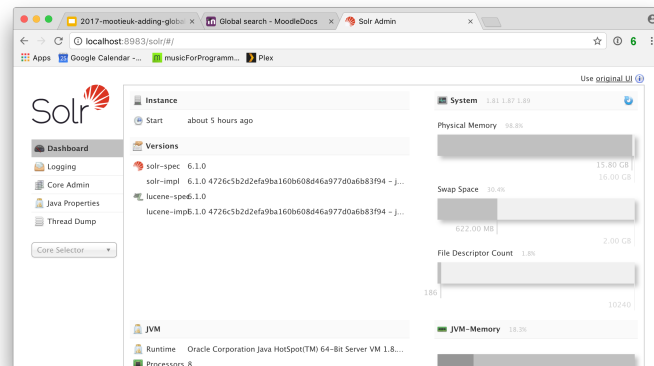
3. Configure Solr Server

- Configured in:
  Site administration >
  Plugins >
  Search > Solr
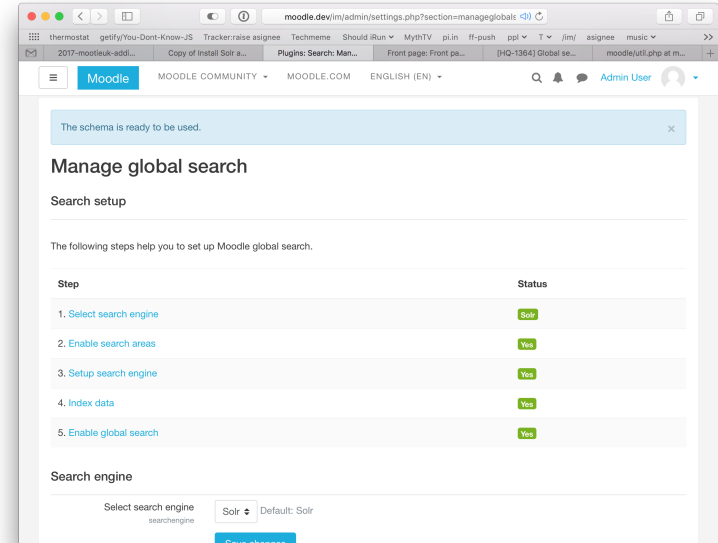- Options for http
  authentication and SSL
  certificates

4. Create Solr Schema

- Solr 5 and above
  - Automatic
  - Visit manage page

- Solr 4
  - Requires manual setup
  - https://docs.moodle.org/32/en/Global_search#Solr_4_schema_setup

5. Initial Index

- Can take a significant amount of time on large sites
  - Up to 12 hours on large sites
- Recommended approach:
  - Leave global search disabled
  - Run indexer script from command line:

    ```
    php search/cli/indexer.php --force
    ```
  - Enable global search

Setup Complete

- Enable global search
- Search bar in site header
- Advanced search form
- New content will be indexed periodically by scheduled task
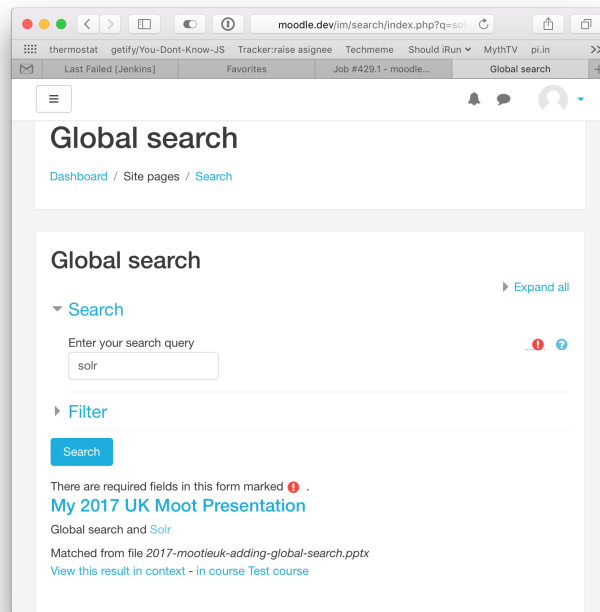
Search Areas

- All plugins enabled by default
- Can be changed at any time
- May wish to disable some for institutional reasons

Search area	Enable	Newest document indexed	Last run (time, # docs, # records, # ignores)	Index actions
Assignment - activity information	👁	Thursday, 5 January 2017, 2:03 pm	0 , 0 , 0 , 0	Delete index
Book - resource information	👁	Never	0 , 0 , 0 , 0	Delete index
Book - chapters	👁	Never	0 , 0 , 0 , 0	Delete index
Chat - activity information	👁	Monday, 14 November 2016, 11:04 am	0 , 0 , 0 , 0	Delete index
Choice - activity information	👁	Wednesday, 20 April 2016, 2:17 pm	0 , 0 , 0 , 0	Delete index
Database - activity information	👁	Thursday, 25 August 2016, 11:12 am	0 , 0 , 0 , 0	Delete index
Database - entries	👁	Thursday, 25 August 2016, 11:21 am	0 , 0 , 0 , 0	Delete index
Feedback - activity information	👁	Tuesday, 28 March 2017, 3:55 pm	0 , 0 , 0 , 0	Delete index

Setup Areas & Hit Ratio

- Some search areas may provide results which few users can see
- Can be costly to such search areas enabled
- Future improvement planned to expose these search areas automatically:
  - https://tracker.moodle.org/browse/MDL-55063

Questions?

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