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Requirements

This documentation is only based on a fresh minimal installation of Debian 13.

System installation

- Update the aptitude cache

```
apt update
```

- Install Apache2 and PHP

```
apt install -y apache2 libapache2-mod-php8.4 \
    php8.4-bz2 php8.4-curl php8.4-gd php8.4-intl php8.4-mbstring \
    php8.4-mysql php8.4-tidy php8.4-xml php8.4-zip
```

- Install MariaDB

```
apt install -y mariadb-server mariadb-client
```

- Install Java

```
apt install -y openjdk-21-jre-headless
```

- Install some needed other tools

```
apt install -y sudo python3 imagemagick ghostscript poppler-utils
```

Configure Apache2 virtual host

- Delete existing sample configuration

```
rm /etc/apache2/sites-enable/000-default.conf
```

- Create BlueSpice configuration

```
vi /etc/apache2/sites-available/bluespice.conf
```

- Copy and paste the configuration you can find on the related page (https://en.wiki4.bluespice.com/w/n_sfr_img_auth.php/3004/b/bb/apache_vhost_bluespice_free.txt), configure related parts to match your system and save the file
- Enable the new vHost

```
a2ensite bluespice
```

- Enable the rewrite module

```
a2enmod rewrite
```

- Restart the apache2 webserver

```
systemctl restart apache2
```

Download resources

- Just download the sources from github

```
cd /root  
git clone --branch=5.1.3 https://github.com/freesoft-official/bluespice-free.git
```

Extract resources

- Extract the downloaded sources

```
cd /root/bluespice-free  
tar xzf bluespice-free-resources-<VERSION>.tar.gz
```

Define some random passwords temporarily

- For the installation process just create some randomly passwords and define it as environment variables

These are example passwords! Please replace it by yourself!

```
export PWD_DB=DtSQHvxSXCwrb7Yuh6hRyq2 # for the later needed BlueSpice database user  
export PWD_OS=ktGN5NLB47UZtYdyKxU5HbF # initial password for the OpenSearch installation
```

- Document your passwords for purposes if you need it later

Install Html2PDF

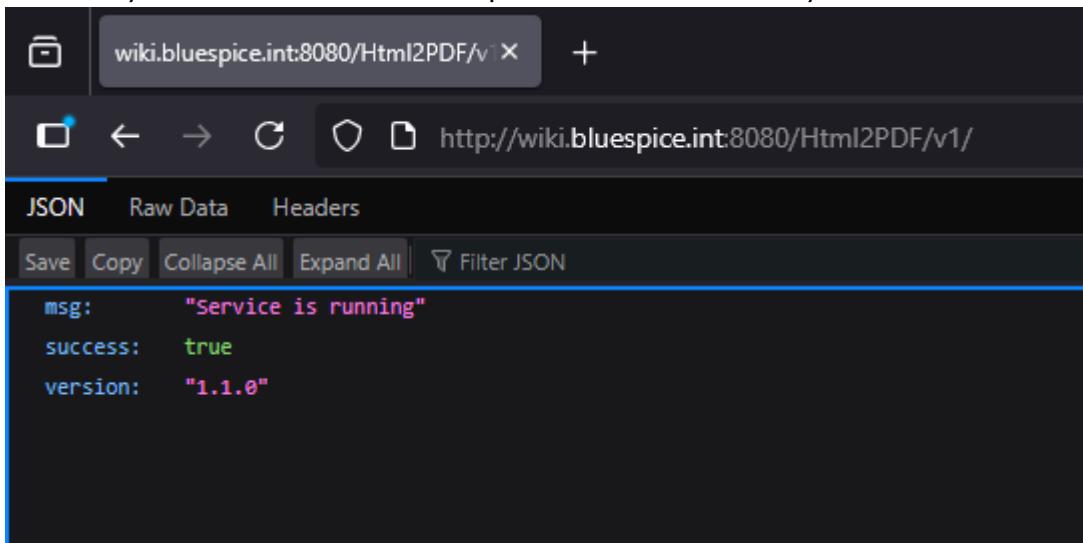
- Move Html2PDF app to /opt

```
mv /root/bluespice-free/bluespice-free-resources/html2pdf /opt
```

- Run the Html2PDF service

```
/usr/bin/java -jar /opt/html2pdf/html2pdf.jar
```

- Check at your browser if it works: http://<IP-or-hostname-of-your-server>:8080/Html2PDF/v1



- Interrupt the service at the console by pressing Ctrl+C
- Open a new text file to create a system service

```
vi /etc/systemd/system/html2pdf.service
```

Copy & paste the following content into it

```
[Unit]  
Description=Html2PDF for BlueSpice  
After=network.target  
  
[Service]  
Type=simple  
Restart=always  
ExecStart=/usr/bin/java -jar /opt/html2pdf/html2pdf.jar  
  
[Install]  
WantedBy=multi-user.target
```

- Save and leave this file
- Reload daemon configuration

```
systemctl daemon-reload
```

- Start service

```
systemctl start html2pdf
```

- Check at your browser if it works: <http://<IP-or-hostname-of-your-server>:8080/Html2PDF/v1>

- Stop service

```
systemctl stop html2pdf
```

- Enable service

```
systemctl enable html2pdf
```

- Start service

```
systemctl start html2pdf
```

- Check at your browser if it works: <http://<IP-or-hostname-of-your-server>:8080/Html2PDF/v1>

Install OpenSearch

- Install needed tools

```
apt -y install lsb-release ca-certificates curl gnupg2
```

- Add OpenSearch public key to your keyring

```
curl -fsSL https://artifacts.opensearch.org/publickeys/opensearch-release.gpg | \
gpg --dearmor -o /etc/apt/keyrings/opensearch.gpg
```

- Add OpenSearch sources to your aptitude repository

```
echo "deb [signed-by=/etc/apt/keyrings/opensearch.gpg] https://artifacts.opensearch.org/releases/bundle/
opensearch/3.x/apt stable main" | \
tee /etc/apt/sources.list.d/opensearch-3.x.list
```

- Update the aptitude cache

```
apt update
```

- Install OpenSearch

```
env OPENSEARCH_INITIAL_ADMIN_PASSWORD=$PWD_OS apt install -y opensearch
```

- Remove the plugin opensearch-security

```
rm -rf /usr/share/opensearch/plugins/opensearch-security
```

- Comment or delete all *plugins.security.** entries at /etc/opensearch/opensearch.yml

```
##### Start OpenSearch Security Demo Configuration #####
# WARNING: revise all the lines below before you go into production
#plugins.security.ssl.transport.pemcert_filepath: esnode.pem
#plugins.security.ssl.transport.pemkey_filepath: esnode-key.pem
#plugins.security.ssl.transport.pemtrustedcas_filepath: root-ca.pem
#plugins.security.ssl.transport.enforce_hostname_verification: false
#plugins.security.ssl.http.enabled: true
#plugins.security.ssl.http.pemcert_filepath: esnode.pem
#plugins.security.ssl.http.pemkey_filepath: esnode-key.pem
#plugins.security.ssl.http.pemtrustedcas_filepath: root-ca.pem
#plugins.security.allow_unsafe_demo_certificates: true
#plugins.security.allow_default_init_securityindex: true
#plugins.security.authcz.admin_dn: ['CN=kirk,OU=client,O=client,L=test,C=de']
#plugins.security.audit.type: internal_opensearch
#plugins.security.enable_snapshot_restore_privilege: true
#plugins.security.check_snapshot_restore_write_privileges: true
#plugins.security.restapi.roles_enabled: [all_access, security_rest_api_access]
#plugins.security.system_indices.enabled: true
#plugins.security.system_indices.indices: [.plugins-ml-agent, .plugins-ml-config, .plugins-ml-connector,
#  .plugins-ml-controller, .plugins-ml-model-group, .plugins-ml-model, .plugins-ml-task,
#  .plugins-ml-conversation-meta, .plugins-ml-conversation-interactions, .plugins-ml-memory-meta,
#  .plugins-ml-memory-message, .plugins-ml-stop-words, .opendistro-alerting-config,
#  .opendistro-alerting-alert*, .opendistro-anomaly-results*, .opendistro-anomaly-detector*,
#  .opendistro-anomaly-checkpoints, .opendistro-anomaly-detection-state, .opendistro-reports-*, 
#  .opensearch-notifications-*, .opensearch-notebooks, .opensearch-observability, .ql-dataSources,
#  .opendistro-asynchronous-search-response*, .replication-metadata-store, .opensearch-knn-models,
#  .geospatial-ip2geo-data*, .plugins-flow-framework-config, .plugins-flow-framework-templates,
#  .plugins-flow-framework-state, .plugins-search-relevance-experiment, .plugins-search-relevance-judgment-cache]
node.max_local_storage_nodes: 3
##### End OpenSearch Security Demo Configuration #####
~
```

- Reload daemon configuration

```
systemctl daemon-reload
```

- Enable service

```
systemctl enable opensearch
```

- Start service

```
systemctl start opensearch
```

- Install plugin ingest-attachment

```
/usr/share/opensearch/bin/opensearch-plugin install -b ingest-attachment
```

- Restart service

```
systemctl restart opensearch
```

- Check the service

```
curl -X GET http://localhost:9200
```

Please note

If your OpenSearch installation will be updated to a newer version caused by a general system update or something else you have to check if the plugin opensearch-security has bin always kept deleted and commented at opensearch.yml and you have to reinstall ingest-attachment

```
/usr/share/opensearch/bin/opensearch-plugin remove ingest-attachment  
/usr/share/opensearch/bin/opensearch-plugin install -b ingest-attachment
```

Optional: Secure system with iptables firewall

It is recommended to secure system services needed only by internal communication by closing their ports using iptables. Be careful at this point and do this steps only if you know what you are doing. The following steps are not commented at this documentation and maybe you have to change attributes regarding to your own system.

```
apt install -y iptables
```

```
iptables -i enp0s3 -A INPUT -p icmp -j ACCEPT \  
iptables -i enp0s3 -A INPUT -p tcp --dport 22 -j ACCEPT \  
iptables -i enp0s3 -A INPUT -p tcp --dport 80 -j ACCEPT \  
iptables -i enp0s3 -A INPUT -p tcp --dport 443 -j ACCEPT \  
iptables -i lo -A INPUT -j ACCEPT \  
iptables -A OUTPUT -j ACCEPT \  
iptables -A INPUT -j DROP
```

```
apt install -y iptables-persistent
```

Installation of MediaWiki

The first step will be the installation MediaWiki based on the first release version of the LTS version BlueSpice is based on. At the moment it is 1.43.0 which is also bundled at your bluespice-free-resources you already downloaded.

- The first step is to create a database user for the BlueSpice database. We will use the password \$PWD_DB (see above).

```
mysql -e "GRANT ALL ON bluespice.* TO 'bluespice'@'127.0.0.1' IDENTIFIED BY '$PWD_DB';"
```

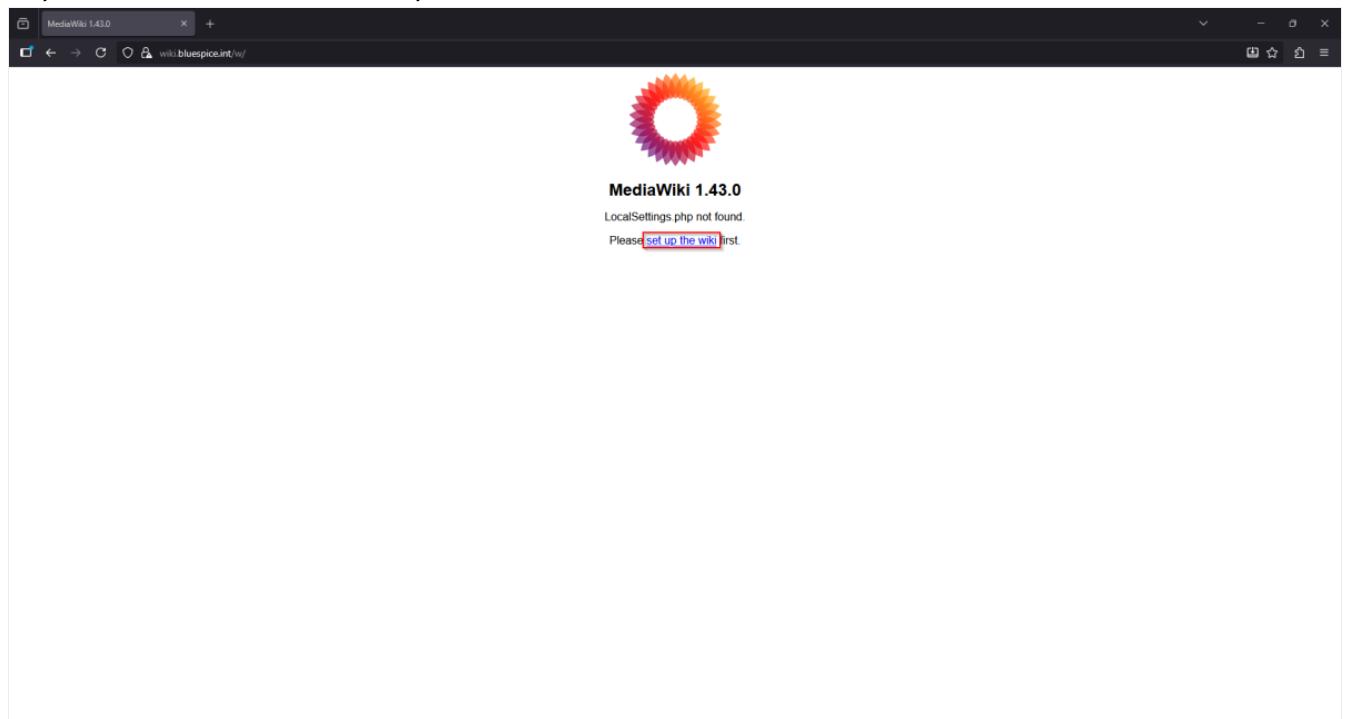
- Create the BlueSpice WWW directory which was configured at apache2 (DocumentRoot) and copy the source of mediawiki into it

```
mkdir -p /var/www/bluespice \  
cp -a /root/bluespice-free/bluespice-free-resources/mediawiki/ /var/www/bluespice/w
```

- Start the BlueSpice installation at your browser opening <http://<IP-or-hostname-of-your-server>/w> and follow all standard steps using default values. The configuration will be done later by the BlueSpice standards.
- Now the download of the file LocalSettings.php will start. Copy it to the server and place it into /var/

www/bluespice/w.

- In your browser click on "enter your wiki"



MediaWiki 1.43.0 installation

Language

Your language:

en - English

Wiki language:

en - English

[Continue →](#)

- Language
- Existing wiki
- Welcome to MediaWiki!
- Connect to database
- Upgrade existing installation
- Database settings
- Name
- Options
- Install
- Complete!

[Restart installation](#)

MediaWiki 1.43.0 installation

Welcome to MediaWiki!

MediaWiki is a free and open-source wiki software package written in PHP. It serves as the platform for Wikipedia and the other Wikimedia projects, used by hundreds of millions of people each month. MediaWiki is localised in over 350 languages and its reliability and robust feature set have earned it a large and vibrant community of third-party users and developers.

Environmental checks

Basic checks will now be performed to see if this environment is suitable for MediaWiki installation. Remember to include this information if you seek support on how to complete the installation.

ⓘ PHP 8.4.11 is installed.

ⓘ ICU 76.1 is installed (supports Unicode 16.0.0).

ⓘ **Warning:** Could not find APCu.

Object caching is not enabled.

ⓘ Found GD graphics library built-in.

Image thumbnailing will be enabled if you enable uploads.

ⓘ Git version control software not found. You can ignore this for now. Note Special:Version will not display commit hashes.

ⓘ Using server name "https://wiki.bluespice.int".

ⓘ Using server URL "https://wiki.bluespice.int/w".

ⓘ **Warning:** Because of a connection error, it was not possibly to verify that images in your uploads directory, respond with the HTTP header x-Content-Type-Options: nosniff to protect browsers from potentially unsafe files.

It is highly recommended to [configure appropriate response headers on your webserver](#) before enabling uploads.

✓ The environment has been checked. You can install MediaWiki.

- Language
- Existing wiki
- **Welcome to MediaWiki!**
- Connect to database
- Upgrade existing installation
- Database settings
- Name
- Options
- Install
- Complete!

[Restart installation](#)

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MediaWiki 1.43.0 installation

Connect to database

Information

MediaWiki supports the following database systems:

- **MariaDB** is the primary target for MediaWiki and is best supported. MediaWiki also works with [MySQL](#) and [Percona Server](#), which are MariaDB compatible. ([How to compile PHP with MySQL support](#))
- **PostgreSQL** is a popular open source database system as an alternative to MySQL. ([How to compile PHP with PostgreSQL support](#))
- **SQLite** is a lightweight database system that is very well supported. ([How to compile PHP with SQLite support](#), uses PDO)

If you do not see the database system you are trying to use listed below, then follow the instructions linked above to enable support.

Database type: MariaDB, MySQL, or compatible

MariaDB/MySQL settings

Database host:

Connect over SSL

Identify this wiki

Database name (no hyphens):

Database table prefix (no hyphens):

User account for installation

Database username:

Database password: Content of PWD_DB from your installation documentation

[-- Back](#) **Continue →**

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- Welcome to MediaWiki
- **Connect to database**
- Upgrade existing installation
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MediaWiki 1.43.0 installation

Database settings

Database account for web access

Use the same account as for installation

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- **Connect to database**
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- **Database settings**
- Name
- Options
- Install
- Complete!

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MediaWiki 1.43.0 installation

Name

Name of wiki:
 [help](#)

Project namespace:
 [help](#)

Project
 Other (specify)

Administrator account

Your username:
 [help](#)

Password:
 [help](#)

Password again:
 [help](#)

Email address:
 [help](#)

Subscribe to the [release announcements mailing list](#)
[help](#)

Share data about this installation with MediaWiki developers. [Privacy policy](#).
[help](#)

Information
You are almost done! You can now skip the remaining configuration and install the wiki right now.

Ask me more questions.
 I'm bored already, just install the wiki.

[-- Back](#) [Continue --](#)

[Restart installation](#)

MediaWiki 1.43.0 installation

Install

Information
By pressing "Continue →", you will begin the installation of MediaWiki. If you still want to make changes, press "← Back".

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MediaWiki 1.43.0 installation

Install

- Setting up database... done
- Creating tables, step one... done
- Creating database user... done
- Populating default interwiki table... done
- Initializing statistics... done
- Generating secret keys... done
- Prevent running unneeded updates... done
- Restoring MediaWiki services... done
- Creating administrator user account... done
- Creating main page with default content... done

Database was successfully set up

Continue →

Language
• Existing wiki
• Welcome to MediaWiki!
• Connect to database
• Upgrade existing installation
• Database settings
• Name
• Options
• **Install**
• Complete!

[Restart installation](#)

MediaWiki 1.43.0 installation

Complete!

Information

Congratulations! You have installed MediaWiki.

The installer has generated a `LocalSettings.php` file. It contains all your configuration.

You will need to download it and put it in the base of your wiki installation (the same directory as `index.php`). The download should have started automatically.

If the download was not offered, or if you cancelled it, you can restart the download by clicking the link below:

[Download LocalSettings.php](#)

Note: If you do not do this now, this generated configuration file will not be available to you later if you exit the installation without downloading it.

When that has been done, you can [enter your wiki](#)

Information

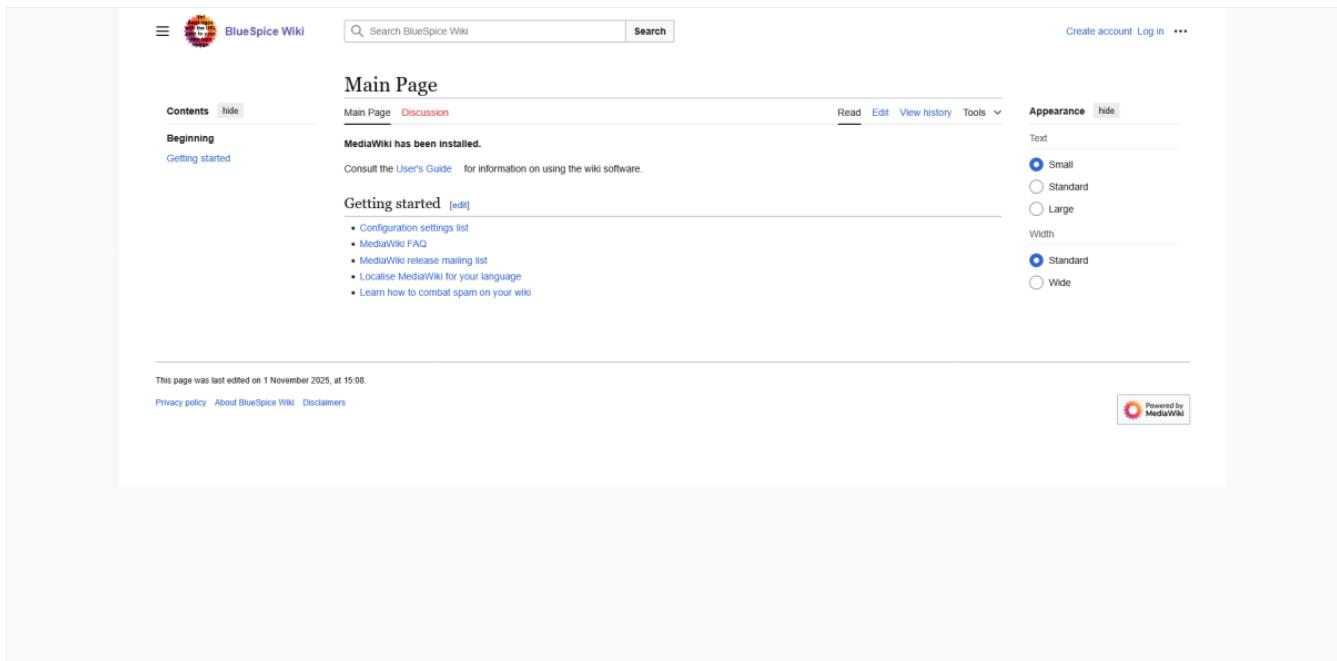
Did you know that your wiki supports [extensions](#)?

You can browse [extensions by category](#)

Language
• Existing wiki
• Welcome to MediaWiki!
• Connect to database
• Upgrade existing installation
• Database settings
• Name
• Options
• **Install**
• **Complete!**

[Restart installation](#)

- Welcome to your MediaWiki base installation!



Installation of BlueSpice

- Replace the MediaWiki source with the BlueSpice source which contains the bundled version of MediaWiki and Bluespice. You already downloaded it.

```
cp -a /root/bluespice-free/bluespice-free-resources/bluespice/w/ /var/www/bluespice/
```

- Open the file LocalSettings.php for editing

```
vi /var/www/bluespice/w/LocalSettings.php
```

- Add BlueSpice at the end of the file

```
vi /var/www/bluespice/w/LocalSettings.php
```

- Save and close the file
- Open a new file called LocalSettings.local.php for editing

```
vi /var/www/bluespice/w/LocalSettings.local.php
```

- Add the following content

```
<?php  
  
$GLOBALS['wgArticlePath'] = "/wiki/$1";  
$GLOBALS['wgUploadPath'] = $GLOBALS['wgScriptPath'] . "/img_auth.php";  
$GLOBALS['bsgESBackendTransport'] = "http";  
$GLOBALS['wgEnableUploads'] = true;  
$GLOBALS['wgUseImageMagick'] = true;  
$GLOBALS['wgImageMagickConvertCommand'] = "/usr/bin/convert";
```

- Save and close the file

- Change some file permissions

```
chown -R www-data:www-data /var/www/bluespice
find /var/www/bluespice -type d -exec chmod 0755 {} \;
find /var/www/bluespice -type f -exec chmod 0644 {} \;
find /var/www/bluespice/w/extensions -iname 'create_pygmentize_bundle' -type f -exec chmod +x {} \;
find /var/www/bluespice/w/extensions -iname 'pygmentize' -type f -exec chmod +x {} \;
find /var/www/bluespice/w/extensions -name 'lua' -type f -exec chmod +x {} \;
```

- Run the installation of the BlueSpice extensions

```
php /var/www/bluespice/w/maintenance/run.php /var/www/bluespice/w/maintenance/update.php --quick
```

- Initialize OpenSearch and build the index

```
php /var/www/bluespice/w/maintenance/run.php /var/www/bluespice/w/extensions/BlueSpiceExtendedSearch/
maintenance/initBackends.php --quick
php /var/www/bluespice/w/maintenance/run.php /var/www/bluespice/w/extensions/BlueSpiceExtendedSearch/
maintenance/rebuildIndex.php --quick
```

- Run the runJobs.php maintenance script to update the search engine

```
php /var/www/bluespice/w/maintenance/run.php /var/www/bluespice/w/maintenance/runJobs.php
```

- Open your cronjob system configuration

```
crontab -e
```

- At the end add a line for the runJobs.php

```
*/10 * * * * sudo -u www-data -g www-data php /var/www/bluespice/w/maintenance/run.php /var/www/bluespice/w/
maintenance/runJobs.php
```

- Save and leave this file
- Open your browser and go to <http://<IP-or-hostname-of-your-server>>
- Welcome to your BlueSpice installation!

Login required - BlueSpice Wiki +

wiki.bluespice.int/wiki/Main_Page

BlueSpice 5

Your search term

Special Badtitle

Login required

Please log in to view other pages.

MediaWiki BlueSpice

This screenshot shows a web browser window with a single tab titled "Login required - BlueSpice Wiki". The URL in the address bar is "wiki.bluespice.int/wiki/Main_Page". The page content is a standard "Login required" message from MediaWiki, stating "Please log in to view other pages." There is a "Special" link in the top left corner. A search bar at the top right contains the placeholder "Your search term". In the bottom right corner of the main content area, there are two small buttons: one for "MediaWiki" and one for "BlueSpice". The browser interface includes standard controls like back, forward, and search buttons, along with a title bar and status bar.