

DSpace installation

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Context

This presentation assumes that the organisation wants to install and maintain their own institutional repository hosted on the institution network infrastructure.

This usually happens with an organization that has institutional policies about publications and/or data management and who have determined that the digital outputs of research must be self archived and preserved as a **top priority**.

Best practices

It is good best practice to **develop installation skills** on a test server first, before doing a production server installation.

Our installation instructions apply best Unix system administration practice and therefore differ from the official DSpace instructions.

In order to make the use of DSpace systems, simpler, more reliable and standardised it is proposed that the DSpace community adopt a [reference architecture](#) approach to DSpace.

It is strongly recommended that you follow our installation procedure which is specifically designed for a [production optimised installation](#) of DSpace.

Requirements

People

Network

Hardware

Software

Requirements - People

- A person (role) is required to install the software and maintain the server in the long term. This role is usually performed by a system administrator.
- A person (role) is required to modify and maintain the server software. This role is usually performed by a web programmer.
- The persons with these skills can be hired full time or consulted depending on the amount of resources available to you.
- These roles can be performed by the same person

Requirements - Network - Infrastructure

The network includes the following:

1. Institutional internet connection usually provided by a national REN ([Research and Education Network](#))
2. Internet [DNS](#) and [DHCP](#) services for the institution maintained by the institution itself.
3. Internet [firewall](#) between the campus and the greater internet.

Requirements - Network - Link persistence

Try to avoid using "dspace", "space", "ir", "repository" or e-something in the URL selection because the connotation is confusing to current users and will be for future users when DSpace no longer exists or the "new" concept of an "institutional repository".

The software and IR concept are only the vehicles for the repository and should not define it's URL.

You have to decide what the function of the repository is, before naming it.

Keep the hostname (URL) short, easy to remember and persistent!

Requirements - Hardware

This depends on the budget available to buy a server or buy a cloud server.

The recommended minimum specifications for a server, be it in the cloud or a bought machine from DELL or Hewlett Packard:

1. 1TB disk space
2. 12GB RAM
3. 12 Virtual CPU's

Requirements - Software

1. Ubuntu 14.04 LTS Server
2. Java Development Kit (JDK) not JRE
3. SQL Database Server - e.g. PostgreSQL
4. Java Webapp Server (servlet container) - e.g. Tomcat
5. Email Server - Postfix
6. Perl 5 (only required [dspace]/dspace-info.pl)

Requirements - Software (used for building DSpace)

1. Apache Maven
2. Apache Ant

Installation

The installation involves three procedures, namely;

1. Install the server operating system.
2. Prepare the server with the required software for DSpace.
3. Install DSpace.

Installation (1) Install server operating system

The installation of an Ubuntu LTS server operating system is fairly simple. The following are the important issues to consider before and during the installation.

1. Hostname (the internet name for the server)
2. Partition management (how to slice up the disk space for best availability and performance)
3. Default DSpace user account and “home” folder

Installation (2) Prepare server operating system

The following are usually required for the DSpace installation later.

1. Java Development Kit (OpenJDK)
2. Java Webapp Server (Tomcat)
3. SQL Database (PostgreSQL)
4. Email server (Postfix)
5. Apache Maven
6. Apache Ant

Installation (3) Install DSpace

The following are the common steps to install DSpace.

1. Get DSpace software
2. Unpack the DSpace software
3. Configure the DSpace software
4. Compile/build the DSpace software
5. Deploy the appropriate Webapps
6. Test the major DSpace components

Post Installation

It is recommended that the following are completed as soon as possible after the initial installation.

1. Regular tasks (daily admin)
2. Handle server
3. Secure logins
4. Custom default submission licence
5. Custom email templates
6. Disaster recovery (backups)

References

<http://bit.ly/goodir>

<http://bit.ly/garpir>

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