What is Cloud Computing

Cloud computing is a technology that uses the internet and central remote servers to maintain data and applications. Cloud computing allows consumers and businesses to use applications without installation and access their personal files at any computer with internet access. This technology allows for much more efficient computing by centralizing storage, memory, processing and bandwidth.
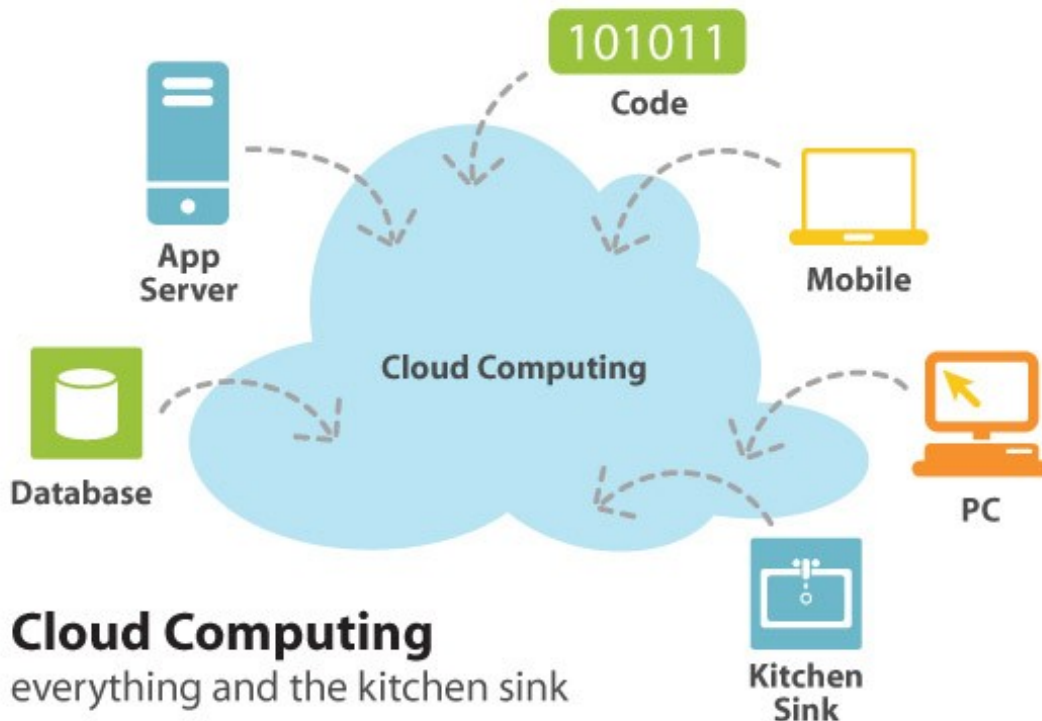

Fig : Depicting the basic of Cloud Computing.

In its simplest form, cloud computing consists of shared computing resources that are virtualized and accessed as a service, through an API. The cloud enables users in an organization to run applications by deploying them to the cloud, a virtual datacenter. The physical resources may reside in a number of locations inside and outside of an organization: on local hardware, in an enterprise data center, or at remote or managed service providers on a pay-to-use basis. Cloud computing resources are offered as a service on an as-needed basis, and delivered by IP-based connectivity, providing highly scalable, reliable on-demand services with agile management capabilities.

E-Gov Stack for Public/Private Clouds

Advantages of Cloud Computing

➢ *Reduced Cost*
Cloud technology is paid incrementally, saving organizations money.

➢ *Increased Storage*

Organizations can store more data than on private computer systems.

➢ *Highly Automated*

No longer do IT personnel need to worry about keeping software up to date.

➢ *Flexibility*

Cloud computing offers much more flexibility than past computing methods.

➢ *More Mobility*

Employees can access information wherever they are, rather than having to remain at their desks.

➢ *Allows IT to Shift Focus*

No longer having to worry about constant server updates and other computing issues, government organizations will be free to concentrate on innovation.

Service Model of the Cloud Computing (Taken from the "An ISACA Emerging Technology White Paper")

Infrastructure as a Service (IaaS)

Capability to provision processing, storage,networks and other fundamental computing resources, offering the customer the ability to deploy and run arbitrary software, which can include operating systems and applications. IaaS puts these IT operations into the hands of a third party.

Options to minimize the impact if the cloud provider has a service interruption

Platform as a Service (PaaS)

Capability to deploy onto the cloud infrastructure customer-created or acquired applications created using programming
languages and tools supported by the provider

• Availability
• Confidentiality
• Privacy and legal liability in the event of a security breach (as databases housing sensitive information will now be hosted offsite)
• Data ownership
• Concerns around e-discovery

Software as a Service (SaaS)

Capability to use the provider's applications running on cloud infrastructure. The applications are accessible from various client devices through a thin client interface such as a web browser (e.g., web-based e-mail).
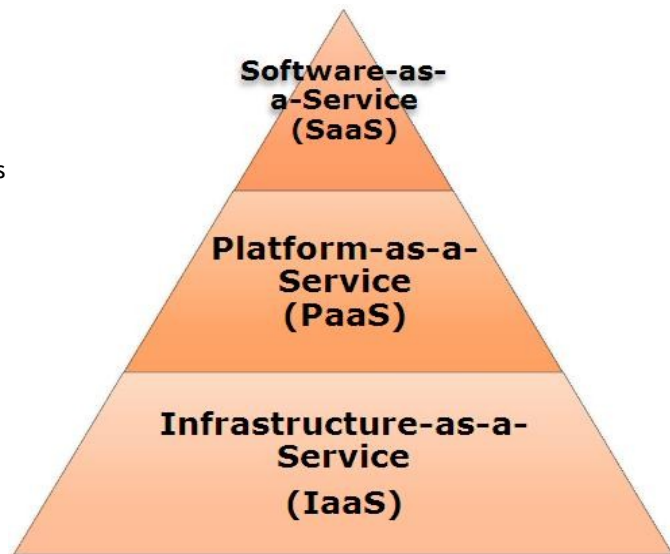
E-Gov Stack for Public/Private Clouds

Types of SaaS

Business Utility SaaS - Applications like Salesforce automation are used by businesses and individuals for managing and collecting data, streamlining collaborative processes and providing actionable analysis. Most popular uses are respectively: Customer Relationship Management (CRM), Human Resources and Accounting.

Social Networking SaaS - Applications like Facebook are used by individuals for networking and sharing information, photos, videos, etc.

Types of PaaS

Not all Platform-as-a-Service (PaaS) solutions are created equal. Choose the platform which suits your needs carefully:

Social Application Platforms - Platforms like Facebook provide APIs so third parties can write new application functionality that is made available to all users.

Computing Platforms - Platforms like Amazon Web services, Rackspace, Opsource and others provide storage, processor, and bandwidth as a service. As a developer you can upload traditional software stack and run applications on their computing infrastructure.

Web Application Platforms – Google Apps provide APIs and functionality for developers to build Web applications that leverage its mapping, calendar, and spreadsheets plus YouTube and other services. More ideal for light weight web applications!

Business Application Platforms - Platforms like WOLF provide a higher layer of abstraction from technical complexities and is specifically geared toward transactional business applications such as database, integration, workflow, and user interface services. Developers & business analyst can develop complex and robust business applications and also create customized user interface – providing higher freedom with lesser efforts.

Types of IaaS

There are also different types of cloud IaaS providers, depending on what you looking for:

- Computing, Storage and Bandwidth
- Development and Test
- High Performance Computing
- Resource Sharing

Classification of the Cloud Deployment Model :

1. As According to the NIST

Private cloud.

The cloud infrastructure is operated solely for an organization. It may be managed by the organization or a third party and may exist on premise or off premise.

Community cloud.

The cloud infrastructure is shared by several organizations and supports a specific community that has shared concerns (e.g., mission, security requirements, policy, and compliance considerations).

Public cloud.

The cloud infrastructure is made available to the general public or a large industry group and is owned by an organization selling cloud services.

Hybrid cloud.

The cloud infrastructure is a composition of two or more clouds (private, community, or public) that remain unique entities but are bound together by standardized or proprietary technology that enables data and application portability (e.g., cloud bursting).

**The comparsion can be depicted better by the following Diagram
(taken from : http://www.rationalsurvivability.com/blog/?p=743)**

	Managed By[1]	Infrastructure Owned By[2]	Infrastructure Located[3]	Accessible and Consumed By[4]
Public	Third Party Provider	Third Party Provider	Off-Premise	Untrusted
Managed	Third Party Provider	Third Party Provider	On-Premise	Trusted & Untrusted
Private	Organization → / Third Party Provider →	→ Organization / → Third Party Provider	On-Premise / Off-Premise	Trusted
Hybrid	Both Organization & Third Party Provider	Both Organization & Third Party Provider	Both On-Premise & Off-Premise	Trusted & Untrusted

[1] *Management includes: operations, security, compliance, etc...*
[2] *Infrastructure implies physical infrastructure such as facilities, compute, network & storage equipment*
[3] *Infrastructure Location is both physical and relative to an Organization's management umbrella*
[4] *Trusted consumers of service are those who are considered part of an organization's legal/contractual umbrella including employees, contractors, & business partners. Untrusted consumers are those that may be authorized to consume some/all services but are not logical extensions of the organization.*

According to CIO In particular, it listed three deployment models for cloud computing:

1. Public clouds. These deliver the best economies of scale, but their shared infrastructure model can limit configuration, security, and SLA specificity, making them a less-than-ideal fit for services using sensitive data that is subject to compliancy or safe harbor regulations.

2. Internal clouds. These sit within your data center and behind company-built protections, but they typically have modest economies of scale due to funding limitations and tend to be less automated.

3. Hosted clouds. Hosted clouds run at a service provider on resources that are walled off with enterprise-class protections but managed as a pool. These fall between the first two options, providing more custom protections like an internal cloud but with the greater economies of scale of being a service from a cloud provider.

Outcome : taken into the above Deployment models it is decided to go for the Private Cloud as in Government offices data security is more important and it is not possible to rely on the third parties for that.

Key features of the cloud Computing

Cost is claimed to be greatly reduced and capital expenditure is converted to operational expenditure.This ostensibly lowers barriers to entry, as infrastructure is typically provided by a third-party and does not need to be purchased for one-time or infrequent intensive computing tasks. Pricing on a utility computing basis is fine-grained with usage-based options and fewer IT skills are required for implementation (in-house).

Device and location independenceenable users to access systems using a web browser regardless of their location or what device they are using (e.g., PC, mobile). As infrastructure is off-site (typically provided by a third-party) and accessed via the Internet, users can connect from anywhere.

Multi-tenancy enables sharing of resources and costs across a large pool of users thus allowing for:

> Centralization of infrastructure in locations with lower costs (such as real estate, electricity, etc.)
> Peak-load capacity increases (users need not engineer for highest possible load-levels)
> Utilization and efficiency improvements for systems that are often only 10-20% utilized.

Reliability is improved if multiple redundant sites are used, which makes well designed cloud computing suitable for business continuity and disaster recovery.Nonetheless, many major cloud computing services have suffered outages, and IT and business managers can at times do little when they are affected.

Scalability via dynamic ("on-demand") provisioning of resources on a fine-grained, self-service basis near real-time, without users having to engineer for peak loads.Performance is monitored, and consistent and loosely coupled architectures are constructed using web services as the system interface.One of the most important new methods for overcoming performance bottlenecks for a large class of applications is data parallel programming on a distributed data grid.

Security could improve due to centralization of data,increased security-focused resources, etc., but concerns can persist about loss of control over certain sensitive data, and the lack of security for stored kernels.Security is often as good as or better than under traditional systems, in part because providers are able to devote resources to solving security issues that many customers cannot afford.Providers typically log accesses, but accessing the audit logs themselves can be difficult or impossible. Furthermore, the complexity of security is greatly increased when data is distributed over a wider area and / or number of devices.

Maintenance cloud computing applications are easier to maintain, since they don't have to be installed on each user's computer. They are easier to support and to improve since the changes reach the clients instantly.

Metering cloud computing resources usage should be measurable and should be metered per client and application on daily, weekly, monthly, and yearly basis.

Open Source Softwares available for the Cloud Deployment are following

Eucalyptus

Eculyptus is an acronym for Elastic Utility Computing Architecture Linking Your Programs To Useful Systems, an open-source software infrastructure for implementing "cloud computing" on clusters. The current interface to Eucalyptus is compatible with Amazon's EC2, S3, and EBS interfaces, but the infrastructure is designed to support multiple client-side interfaces. Eucalyptus is implemented using commonly available Linux tools and basic Web-service technologies making it easy to install and maintain. Eucalyptus Systems provides consulting, training and support services.

OpenNebula

This is perhaps the most interesting and most relevant project of the list for cloud computing, billing itself as the open source tool kit for cloud computing. OpenNebula is a tool that can be used to build any type of Cloud deployment and manage virtual infrastructure in a data-center or cluster or to combine local infrastructure with public cloud-based infrastructure, for highly scalable hosting environments. OpenNebula also supports public clouds by providing cloud interfaces to expose its functionality for virtual machine, storage and network management.

OpenQRM

While OpenQRM is not a tool for public clouds It is geared towards people delivering private virtual clusters or cloud capabilities. openQRM is a single-management console for the complete IT infrastructure and provides a well defined API which can be used to integrate third-party tools as additional plugins. What's really interesting about OpenQRM is that it can suck up physical installations, create an image, write that image to a SAN and then run the virtual instances on demand. I think the opportunity for OpenQRM is to be able to suck those images up and then spit them out to cloud computing resources like EC2, RightScale or Rackspace Cloud.

Outcome : Eucalyptus being easy to deploy and EC2 Compliment it is better then both of other options.

E-Governance Challenges and Cloud Benefits
(from IIIT Whitepaper "CLOUD COMPUTING FOR E-GOVERNANCE" Jan 2010)

Data Scaling
The databases should be scalable, to deal with large data over the years for E-Governance applications. Where relational databases ensure the integrity of data at the lowest level, cloud databases could be scaled and can be used for such type of applications.
Cloud databases available for deployment offer unprecedented level of scaling without compromising on the performance. Cloud databases must be considered if the foremost concern is on-demand, high-end scalability – that is, large scale, distributed scalability, the kind that can't be achieved simply by scaling up.

Auditing and logging
Traceability to any changes to information content in E-Governance services is required. Corruption in government organizations can be controlled by using Information Technology services, by keeping the providers of the services accountable. Process audits, security audits must be done periodically to ensure the security of the system.
Cloud can help in analyzing huge volumes of data and detecting any fraud. It can help in building and placing defense mechanisms to enhance the security, thereby making the applications reliable and available.

Rolling out new Instances, Replication and Migration

Traditionally, applications in E-Governance work for department states and municipalities and hence take more time, effort, resources and budget. This happens for all the instances of these applications. Capabilities must exist to replicate these to include another municipality or e-court as part of E- Governance. Cloud architectures offer excellent features to create an instance of application for rolling out a new municipality. Cloud can reduce the time to deploy new application instances.

Disaster Recovery

Natural disasters like floods, earthquakes, wars and internal disturbances could cause the E-Governance applications not only loose data, but also make services unavailable. Multiple installations in geographically separated locations with complete backup and recovery solutions must exist. This could create huge problems. Disaster recovery procedures must be in place and practiced from time to time. Applications and data must be redundant and should be available on a short notice to switch from one data center to center.

Cloud virtualization technologies allow backups and restoring. It offers application migration seamlessly compared to traditional data center.

Performance and Scalability

The architecture and technology adopted for the E-Governance initiatives should be scalable and common across delivery channels .It is required to meet growing numbers and demands of citizens. If implemented, the E-Governance portals could become the biggest users and beneficiaries of Information Technology. With cloud architectures, scalability is inbuilt. Typically, E-Governance applications can be scaled vertically by moving to a more powerful machine that can offer more memory, CPU, storage. A simpler solution is to cluster the applications and scale horizontally by adding resources.

Reporting and Intelligence (Better governance)

Data center usage (CPU, storage, network etc), peak loads, consumption levels, power usage along with time are some of the factors that needs to be monitored and reported for better utilization of resources. It minimizes costs and plan well. Profiling data enables better visibility into various services provided by the government. Cloud offers better Business Intelligence infrastructure compared to traditional ones because of its sheer size and capabilities. Cloud computing offers seamless integration with frameworks like MapReduce (Apache Hadoop) that fit well in cloud architectures. Applications can mine huge volumes of real time and historic data to make better decisions to offer better services.

Policy management

E-Governance applications have to adhere and implement policies of the governments in terms of dealing with citizens. Along with the infrastructure and data center policies has to be enforced for day to day operations. Cloud architectures help a great deal in implementing policies in data center. Policies with respect to security, application deployment etc can be formalized and enforced in the data center.

Systems Integration and Legacy Software

Not only the applications that are already deployed and providing services are to be moved to the cloud, but also integrate with applications deployed in the cloud. The power of Information Technology comes in co-relating the data across applications and pass messages across different systems to provide faster services to the end users. Cloud is built on SOA principles and can offer excellent solutions for integration of various applications. Also, applications can be seamlessly easily moved into cloud.

Obsolete Technologies and Migration to New Technologies

Technology migration is the biggest challenge. Moving to different versions of software, applying application and security patches is the key to maintaining a secure data center for E-Governance.

Cloud architecture efficiently enables these kinds of requirements, by co-existing and co-locating existing different versions and releases of the software at the same time. Once these applications are tested, they can be migrated into production with ease.

Going green

More emphasis is laid out today in terms of the amount of pollution the data centers can create. The power usage, air electronic waste could create bio-hazard.This could be one of the reasons for moving to cloud architecture for governance. Instead of duplicating these facilities, with cloud, one can offer centralized infrastructure that can be efficiently used to minimize pollution.

Apps For E-Governance

Content Management System

There is a great need of a CMS in a government office , because a lot of information about the department and its working is need to be published by the department so , that general public do not face any difficulty in accessing the information.

Content management system allow the Government offices to have better interoperability of their data.

Also according to the Gerry McGovern

"If you are publishing a lot of content from a number of authors, you should seriously consider a content management system (CMS). A quality CMS can help you streamline your publishing processes. It can allow you to develop an information architecture that is robust, yet flexible. It can allow you to manage your content efficiently and cost-effectively."

Their are several other benefits of having the Content Management System , some of them are namely :

1.A Content Management System allows the editor to interact with the site in several ways. The CMS provides a graphical user interface that allows the editor to create content, add images and multimedia files, create content schedules, and much more.

2.**Decentralized maintenance.**
Based on a common web browser. Editing anywhere, anytime removes bottlenecks.
Designed with non-technical content authors in mind.People with average knowledge of word processing can create the content directly. No HTML knowledge needed.

3.**Configurable access restrictions**.
Users are assigned roles and permissions that prevent them from editing content which they are not authorized to change.

4.**Consistency of design is preserved.**
Because content is stored separate from design, the content from all authors is presented with the same, consistent design.

5.**Navigation is automatically generated and adjusted.**
Menus are typically generated automatically based on the database content and links will not point to non-existing pages.

6.**Content is stored in a database.**
Central storage means that content can be reused in many places on the website and formatted for any device (web browser, mobile phone/WAP, PDA, print).

7.**Dynamic content.**
Extensions like forums, polls, shopping applications, searching, news management are typically modules.

8.**Cooperation.**
Encourages faster updates, generates accountability for authored content (logs) and cooperation between authors.

9.**Content scheduling.**
Content publication can often be time-controlled, hidden for later use or require user login with password.

10.**categorisation** to improve searching and to allow information to be targeted at users according to their interests

11.**enabling organisations to personalise the user experience**

12.**internationalisation** to ensure the appropriate presentation of information on sites spanning economical, political and cultural borders

13.**integration** with other enterprise systems

14.**syndication** of content to sites with similar market interests

15.**simplified application integration** through the use of shared code, delivered via templates, that also enables up-front integration costs to be spread across many web site application implementations.

Why Go for open source in CMS :

1 Vendor independence

In a recent survey by Computer Economics, users named vendor independence as their prime reason for choosing OSS. As the source code is available under public use licences with few restrictions, users aren't locked into vendors, developers, IT partners or costly software upgrade cycles. OSS gives users genuine freedom of choice and more control over their IT environments.

2 Lower TCO

Lower Cost is the second reason why many organisations choose Open Source Software. With no licence cost in most cases, OSS starts with a clear advantage over proprietary software and this has lasting impact on the Total Cost of Ownership (TCO). The adoption of Open Standards can also yield cost benefits; for example, the Dutch government expects to save $8,000,000 a year just by adopting the Open Document Format (ODF), which facilitates document exchangehttp://www.msnbc.msn.com/id/22245923/.

3 Better Fit

Open Source also gives customers the freedom to customise or enhance the code to suit their exact needs. This flexibility is of real value to oganisations with special needs that can't be met using standard software. Many enhancements to Open Source applications have been contributed by customers or their integrators.

4 Tighter security

Open Source Software suffers fewer attacks than the large base of proprietary software, which most malware writers are targeting. Since Open Source code is widely published, many eyes in the OSS network see the code, and potential exposures are spotted and fixed rapidly. That makes OSS inherently more secure than proprietary software.

5 Greater Scalability

Since Open Source Software is hardware-independent by design, applications are highly scalable. A prime example is Linux, which was designed to run on PCs yet is now employed on both business servers and supercomputers. With OSS, scalability is assured and IT systems won't be a barrier to business growth.

6 Easier collaboration

Collaboration was the catalyst for creating OSS and is still one of its key benefits. With no licence restrictions creating major obstacles, collaboration between business partners in the vibrant OSS network is easy, expected and encouraged.

7 Free Exchange

Open source code is designed for others to use, so it is written with modular components that can be easily interchanged. This modular approach fosters wider exchange, provides greater flexibility and enables easier migration to new hardware or operating environments.

8 Open Standards

The Open Systems Initiative publishes, updates and monitors open standards and protocols, from networking to document formats. Open Source Software must comply with published Open Standards so that disparate systems can readily exchange vital information.

9 More Innovation

Free collaboration in a network of talented developers has fostered innovation and close, productive relationships with leading software vendors. The internet is built on Open Source technology, as are Linux, Mozilla FireFox and Apache Web Servers (half the web servers around the world run Apache). Its robust performance has made OSS the preferred software for the world's financial markets and most of its supercomputers.

10 Confidence in numbers

Education and government were the early adopters of Open Source Software. As OSS has matured and grown more feature-rich, commercial organizations have also embraced it. Large corporations like Renault, ABN Amro and UPS have replaced major proprietary systems with Open Source Software. Open Source has truly reached maturity.

<u>**Comparison between various options available in open source :**</u>

There are various Open source CMS available theses days namely , Drupal , Joomla , Typo3 , DjangoCMS among others.Of these only Joomla and Drupal are most widely used and thats why we are only comparing them :

Joomla

Thumbs up:

- Easy deployment
- More intuitive administration user interface
- Editing content is simple
- Lots of polished modules for things like calendars, polls, etc.
- Easy addition of modules
- Versioning is available
- Large community of developers (more than Drupal) for helping with setup and development
- Multi-lingual

Thumbs down:

- 1 installation of the software gives you 1 website
- Categories can only go two levels deep
- Limited roles and permission allowances
- Modules cost you money
- URLs are not search engine friendly (there is a purchasable module)
- Out-of-the-box blogging functionality is mediocre

Drupal

Thumbs up:

- Easy deployment
- Editing tabs integrated into actual pages
- Editing content is simple as well
- Very flexible in its configuration
- Modules are plentiful, free, and suitable for non-profits
- Versioning is available
- Many high profile sites use Drupal (e.g.: MTV UK, BBC, the Onion, Nasa, Greenpeace UK, Kleercut)
- Multiple levels of categories allowed along with easily integrated tagging system
- Human readable URLs which are search engine friendly
- 1 installation allows you to create and manage mulitiple websites (very handy when creating campaign sites)
- Highly configurable user permissions handling

Thumbs down:

- Administration area is clunky, but it's getting better with each version
- Terminology in the administration can be cryptic
- Adding a visual theme to Drupal can be time consuming
- Support for the free modules can be frustrating

E-Gov Stack for Public/Private Clouds

A tabular comparison is here :

Here is a short feature matrix with scores out of 5.

#	function	Drupal	Joomla
1.	ACL	4	2
2.	media capability	3	5
3.	template factors	2	5
4.	plugins	2	5
5.	SEO	4	5
6.	ecommerce	2	4
7.	high traffic	5	4
8.	stability	5	3
9.	high page numbers	4	2
10.	admin usability	3	5
11.	icommerce viability	5	5
12.	security	5	5
	-negatives-		
13.	annoying issues	3	3

Outcome Drupal is selected as the Content Management System.

Customization in the Drupal CMS to make it :

1.[Centralized Authentication System] LDAP Integration.

2.Better Search Plugin

3.Better Navigation.

4.Google Integration

5.Better Google Searching

6.What you is what you Get Editor Integration

7.Better Theme for Greater Manageability

Code : The code Modification for this has been included in the Accompanying CD .

1.[Centralized Authentication System] LDAP Integration.

Once the LDAP Integration module (also referred to as *ldapauth* module) is installed, it's time to enable the module and configure it.

Enable the module

- Proceed to *Administer >> Site building >> Modules*
- Enable the ldapauth module

Configure the module

- Proceed to *Administer >> Site Configuration >> LDAP Integration*
- Click *Configure LDAP Server*

Server Settings

- **Name:** Name of the LDAP Configuration. It must be *unique*
- **LDAP Server:** Hostname of the LDAP Server. For e.g. *ldap.example.com* For Active Directory, this would be the hostname of the AD domain controller. If you have multiple domain controllers, then common practice is to create a DNS Round Robin entry for all of the domain controllers and use that entry (*dc.example.com*).
- **LDAP Port:** Standard LDAP ports are **389** and **636**. 389 is the standard non-secure port where communications occur in cleartext (analogous to HTTP Port 80). 636 is the standard encrypted LDAP port (analogous to HTTP Port 443).
- **Use TLS Encryption:** Often required for Active Directory lookups. For encrypted communications, select this option. (*TLS is the new name for SSL, so if your LDAP server requires "SSL", then you must check this box*)
- **Store passwords in encrypted form:** This option is used by the optional ldapdata module, which allows for changing of passwords using Drupal. Using this option will cause the LDAP data module to perform MD5 encryption of the passwords *before* they are sent to LDAP. If your LDAP server natively performs encryption, then it could cause problems.

Login Procedure

- **Do not store users' passwords during sessions:** If you are going to use the ldapdata module and allow users to modify their LDAP entries, this module will need to store the user password during the session, so that it can have write access to the LDAP directory.

  Physically, these passwords are stored in the Drupal's session table in clear text. If the database is well protected, this should not be a problem, but some admins may feel uneasy about this.

  If you are not going to use the ldapdata module, or you are, but only for read-only access, you can safely check this box and get extra security for your system.

- **When logging in, Drupal will look up for the user in:**
    - **Drupal's own database. If it fails, look in LDAP:** Self-explanatory
    - **LDAP Directory only:** Selecting this option will cause ONLY LDAP accounts to be authenticated and registered, *except for the initial admin user (user with uid=1)*. Drupal's core administration relies on this user, so this user is *NEVER* authenticated with any database other than the local drupal database
- **Base DNs:** In the text area below, enter the *base dn* to search against when authenticating LDAP users. You can enter multiple DNs, one per line. *PHP LDAP performs SUB scope searches by design*. So if all of your users are organized under several sub-containers under say for e.g., cn=Users,dc=example,dc=org, then you only need to enter 1 base dn, cn=Users, dc=example, dc=com
  For OpenLDAP etc, an example would be ou=People,dc=example,dc=com
  For Active Directory, an example would be cn=Users,dc=example,dc=com
- **Username Attribute:** The attribute in the user's object representing the username.
  For Active Directory, it is *sAMAccountName* and for most Unix LDAP environments, it is *uid*

Advanced Configuration

The process of authentication starts by establishing an anonymous connection to the LDAP directory and looking for the user on it. Once this user is found, LDAP authentication is performed on them.

However, some LDAP configurations (especially common in Active Directory setups) restrict anonymous searches.

If your LDAP setup does not allow anonymous searches, or these are restricted in such a way that login names for users

cannot be retrieved as a result of them, then you have to specify here a DN//password pair that will be used for these searches.

For security reasons, this pair should belong to an LDAP account with stripped down permissions. Most LDAP and Active Directories do not allow anonymous binds

- **DN for non-anonymous searches:** Enter the BINDDN of the account used to bind to the LDAP directory, e.g. CN=drupalread,OU=Service Accounts,OU=People,DC=example,DC=com
- **Password for non-anonymous searches:** Enter the BIND password. **Note: This password is stored in cleartext in the Drupal database so you must take steps to protect the database**

Save the Configuration
Save the configuration and you will be re-directed to the LDAP Integration configuration list page. You can have multiple LDAP servers configured and individually active and de-activate them. Deactivating a config will prevent it from being used by any of the LDAP modules.

NOTE: The LDAP Servers will be consulted in the order they are listed. They are listed in the order they are created. Future releases will include an option to re-order them for authentication.

Better Search Plugin :

The search module lets users search for specific content on your site. You can search both for users and for particular words. When you are on the "content" tab of Search, you will be able to search for words appearing in the default rendering of node content on your site, which would include the default rendering of any CCK fields, Location fields, Taxonomy, etc., as well as comments. When you are on the "users" tab of Search, you will be able to search the user names of registered users on your site, and if you have sufficient permissions, also their email addresses.

In Content search, if you enter more than one search term the search module will look for content that has all the terms you've entered. If instead you want either one term or another, join your terms with "or." If you're looking for an exact phrase, enclose it in quotation marks.

With Advanced Search you can also look for "any of these words" or "this phrase," or both, you can rule out words you don't want, and you can choose *content types* within which to confine your search.

You can enable the search module on the *modules* page (*administer >> modules* in Drupal 7; *administer >> site building >> modules* in earlier versions of Drupal).

Note that by default, content search only finds exact matches for the keywords in your content. You can install a contributed stemming or n-gram module to modify this behavior.

Indexing

Drupal's search engine indexes the text content of the nodes on your site. You can tweak the way it does this.

The search engine does its indexing at intervals you choose by setting "cron runs." Cron (which stands for chronograph) is not a part of Drupal. It's a scheduler that resides on your server and runs tasks (called "cron jobs") at intervals, which you specify. The jobs can run weekly, daily, hourly, or whatever you like.

What you want to do is schedule a "cron job" that has a browser on your server regularly visit your "cron page." For instance, if your site were *www.example.com* your cron page would be *http://www.example.com/cron.php in Drupal 6 and earlier versions; in Drupal 7, you need to visit the Status Report to find the exact URL to use on your site for external runs of cron, because there is a suffix on the URL*.

Whenever a visit to the cron URL occurs, the search engine will take up the work of indexing. You need to set up those cron runs before your search engine will work.

For a modest personal site to which you post now and then, you might set up such a cron job to run once a day. For a more active site you'd likely want to run that job more often--perhaps every few hours or every hour.

With Linux or Unix you can schedule your cron jobs by setting up what's called a "crontab." (You might rely on helper programs like C-Panel to make setting up your cron jobs easier.)

On your settings page for Search (*administer >> site configuration >> search settings* in Drupal 6, or *administer >> configuration >> search and metadata >> search settings* in Drupal 7) you can limit how many items should be indexed in a single cron run. This can help keep your system from getting overloaded with work. (If you get a message that cron is timing out or PHP is running out of memory, lower the number of items to index per run.) You also have a few more search settings you can choose.

Reindexing content

Content-related actions on your site (creating, editing, or deleting content and comments) automatically cause affected content items to be marked for indexing or reindexing at the next cron run. When content is marked for reindexing, the previous content remains in the index until cron runs, at which time it is replaced by the new content.

Unlike content-related actions, actions related to the structure of your site do not cause affected content to be marked for reindexing. Examples of structure-related actions that affect content include deleting or editing taxonomy terms, enabling or disabling modules that add text to content (such as Taxonomy, Comment, and field-providing modules), and modifying the fields or display parameters of your content types. If you take one of these actions and you want to ensure that the search index is updated to reflect your changed site structure, you can mark all content for reindexing by clicking the "Re-index site" button on the Search settings page (*administer >> site configuration >> search settings* in Drupal 6, or *administer >> configuration >> search and metadata >> search settings* in Drupal 7).

Accessing Search

If both the search module and the menu module are enabled, from the *menus* page (*administer >> menus*) you can enable on the Navigation Menu the item *Search*. The option to show this menu item may be disabled by default, but you can enable it. (And you can rename "Search" to whatever you wish.)

You can also place a link to *Search* among your site's primary and secondary links, or on any other menu as well. (Click "add menu item," and when you fill in the "path" field on the dialogue page just enter "search.")

On your *blocks* page (*administer >> site building >> blocks* in Drupal 6, and *administer >> structure >> blocks* in Drupal 7) there's also a *Search form* you can enable, and you can choose where you want it to display.

On your *permissions* page (*administer >> user management >> permissions* in Drupal 6, or *People >> Permissions* in Drupal 7) you can decide who can do searches and who can administer the search settings. By default, anonymous users cannot perform searches.

A technical note: To use the search module the database user needs the *create temporary table* permission. If you seem not to have it, ask your systems administrator to make sure it's granted to you.

3.Better Navigation.

This module creates a menu bar that is displayed at the top of every page. The menu bar is fixed in place and uses jQuery to position the bar, along with handling menu effects and adding IE compatibility.

Very useful for themes that don't have a good place to put the navigation menu (although it can be used with any menu.)

4.Google Integration

5.Better Google Searching

This module provides a checklist of good (Search Engine Optimization) best practices. Maximize the presence of your Drupal website in the major search engines like Google, Yahoo, Bing, etc. It provides a checklist that helps you keep track of what needs to be done. First, it will look to see what modules you already have installed. Then, all you have to do is go down the list of unchecked items and do them. When all the items are checked, you're done!

Some have asked me why this is a module instead of just a list on a website somewhere and that's a fair question. The reason is that many Drupal developers (coders, designer, etc.) work on many sites at the same time. It can be difficult to keep up with everything you've done on each site. Many will take over a site that they didn't build and it's time-consuming

to go through and figure out what's been done. So, with this module, all you have to do is use the checklist and you know exactly what was done. Further, it places a date stamp next to each item as you complete it so now you have a complete record that you can show clients or refer to in the future. It's more than just a list of stuff to do - it's a powerful organization tool, as well.

6.What you is what you Get Editor Integration

Allows to use client-side editors to edit content. It simplifies the installation and integration of the editor of your choice. This module replaces all other editor integration modules. No other Drupal module is required.

Wysiwyg module is capable to support any kind of client-side editor. It can be a HTML-editor (a.k.a. WYSIWYG), a pseudo-editor (buttons to insert markup into a textarea), or even Flash-based applications. The editor library needs to be downloaded separately. Various editors are supported (see below).

Wysiwyg module also provides an abstraction layer for other Drupal modules to integrate with any editor. This means that other Drupal modules can expose content-editing functionality, regardless of which editor you have installed.

7.Better Theme for Greater Manageability

Nitobe is a fixed-width, content-first theme based on the 960 Grid System. It supports two or three column layouts in several configurations and a header image area that can be set to a fixed image or selected at random. In addition to the column region, a four region area spanning the width of the layout is provided between the content and footer regions.

The theme includes a default favicon, a custom maintenance page, a default user icon, and a variety of sample header images (940 x 118 pixels).

All default Drupal theme features are available. Nitobe also provides a default theme logo, default favicon, and a default user picture. Additionally, these features are offered:

- Content-first two and three-column layouts are supported. Up to two sidebars may be used, and sidebars may be placed on either side of the content region, both to the right of the content region, or both to the left of the content region. Regardless of sidebar positioning, the content area appears before the sidebars in the code, increasing accessibility and search engine performance.
- You may choose which masthead image(s) appear at the top of the page by either choosing to display a random header image or a specific fixed header image. A number of sample images are provided. The theme will use a sub-theme's header images if they are present.
- Page headers are semantic. When viewing the front page, the site title is the H1 element, but on a node page, the page title is the H1 element, and the site title is a SPAN element.
- Site title color effect. By default, inter-word spacing is removed in the site title, and every other word is given an alternate color. This effect can be disabled in the theme's settings.
- Comments made by a node's author are provided distinct CSS classes in order to clearly differentiate them from other comments.
- The theme has the option to strip "not verified" from the names of commenters who are not logged in. By default, Drupal adds " (not verified)" to the name of a commenter who leaves a name but is not logged into the site. This can be turned off in Nitobe's theme settings. Comments by verified authors are given a CSS class ("commenter-logged-in") indicating they are logged in regardless of this setting.
- The default number of items in the pager control can be set form 3 to 10. Setting a small number here is useful when using a three column layout.

E-Gov Stack for Public/Private Clouds

Collaboration Suite for better manageability of the Government Office

Also for this we will go for the Open source based solution and that will be customized to meet the need of the Indian Governemnt Offices.

Various Options Available are following are :

- ➢ AirSet Personal Information Management and private social network platform
- ➢ Bricolage Content management system
- ➢ Collabtive
- ➢ Dimdim Web meetings
- ➢ DotNetNuke: also known as DNN: module based, evolved from ASP 1.0 demo applications
- ➢ eGroupWare
- ➢ EtherPad Collaborative drafting with chat
- ➢ Feng Office Community Edition
- ➢ Group-Office
- ➢ Horde
- ➢ Jumper 2.0 collaborative search engine and knowledge management platform
- ➢ Kolab (integrated Horde webfrontend)
- ➢ NotePub free online notepad with wiki functionality and privacy settings on a note by note basis.
- ➢ O3spaces crossplatform (Windows, Solaris, Linux, Mac OS X), browser based environment. Free community edition
- ➢ phpGroupWare
- ➢ Simple Groupware
- ➢ SlashCode Software that runs Slashdot
- ➢ Tiki Wiki CMS Groupware. Includes a wiki, forums, a calendar, a ticket system and a workflow engine.
- ➢ Tine 2.0
- ➢ Tonido Workspace Free collaboration software with workspace synchronization as well as Web Access all from your personal desktop. Cross Platform.
- ➢ Wiggio Focused on simplicity - group communication and content management toolkit
- ➢ Zarafa
- ➢ Zimbra

Outcome : Among these Group-office is best and it also offers also best in class features.

Customization :

As far as customization is concerned it doesnot need much customization except the Single Sign On Integration.

E-Gov Stack for Public/Private Clouds

Several Features of the Group-office are following :

Calendar

In a corporate environment a calendar can't be missed. This calendar allows you to plan all sorts of recurring events and set reminders for them. The easy to use interface will never let you miss an event. It's easy to set up multiple calendars and share them with other users. The calendar supports the import and export of the popular iCalendar standard. This makes it possible to synchronise the Group-Office calendar with other calendar software that support the iCalendar protocol.

E-mail

The flexible e-mail module integrates in all other modules. You can access your e-mail everywhere in the world. With the templates you can create professional signatures and send newsletters to keep your customers up-to-date with your latest news!

CRM

Keep in touch with your prospects and customers in an easy way. The addressbook keeps track of all the customers related notes, e-mail, files etc. With the ticket system you will be reminded of important events so you will never forget a customer.

Files

The filesystem module is used to store your personal files online and share them if you want with co-workers or clients. You can easily edit files locally and they will be transfered back to your online disk automatically. You can upload files or even entire folders easily with the Java upload program.

You can also create corporate templates for text documents or any other kind.

Projects

With the projects module you can easily register working hours and keep all related information of a project in one place. You can link files, contacts, e-mails etc. to a project.

Synchronization

Take your office on the road with the Group-Office SyncML and ActiveSync server. Group-Office can synchronize appointments, tasks and contacts with various mobile phones, PDA's and Microsoft Outlook.

Single Sign On Integration on the Group-office :

LDAP authentication

Group-Office 3.01-stable-29 and up can use an LDAP server for authentication. It can also be used in conjunction with the imapauth module so it can automatically create an e-mail account for the user.

To setup LDAP authentication you need to install the "ldapauth" module and add the following configuration parameters to the config.php file:

$config['ldap_host']='localhost';
$config['ldap_port']='389';
$config['ldap_user']='admin';
$config['ldap_pass']='admin';
$config['ldap_basedn']='dc=intermeshdev,dc=nl';
$config['ldap_peopledn']='ou=People,dc=intermeshdev,dc=nl';
$config['ldap_groupsdn']='ou=Groups,dc=intermeshdev,dc=nl';

$config['ldap_tls']=false;

Group-Office will use the following mapping (Only uid, givenname, sn and mail are required at the LDAP server):

```
'username'      => 'uid'
'first_name'    => 'givenname'
'middle_name'   => 'middlename'
'last_name'     => 'sn'
'initials'      => 'initials'
'title' => 'title'
'sex'           => 'gender'
'birthday'      => 'birthday'
'email' => 'mail'
'company'       => 'o'
'department'    => 'ou'
'function'      => 'businessrole'
'home_phone'    => 'homephone'
'work_phone'    => 'telephonenumber'
'fax'           => 'homefacsimiletelephonenumber'
'cellular'      => 'mobile'
'country'       => 'homecountryname'
'state' => 'homestate'
'city'  => 'homelocalityname'
'zip'           => 'homepostalcode'
'address'       => 'homepostaladdress'
'homepage'      => 'homeurl'
'work_address'=> 'postaladdress'
'work_zip'      => 'postalcode'
'work_country'=> 'c'
'work_state'    => 'st'
'work_city'     => 'l'
'work_fax'      => 'facsimiletelephonenumber'
'currency'      => 'gocurrency'
'max_rows_list' => 'gomaxrowslist'
'timezone'      => 'gotimezone'
'start_module'=> 'gostartmodule'
'theme' => 'gotheme'
'language'      => 'golanguage'
```

Autocreating e-mail accounts

If this works you may configure the IMAP authentication module as described below. It's not necessary to install the imapauth module but it is necessary to create the imapauth.config.inc.php file to autocreate e-mail accounts.

For the ldapauth module there is one extra parameter called "ldap_use_email_as_imap_username". Set it to true if you want to use the e-mail address to use as username for the imap server instead of the username.

Blog

Every Government offices has to come up with some notifications as well as Some newsletters these can come through the Blog , which act as place for the interaction between the General Public and the Government offices and this depreciated the condition of chaos between the Employees.

Open Source Options Available :

b2Evolution

bBlog

BLOG:CMS

Blojsom

Blosxom

Expression Engine

MovableType

Nucleus

Pivot

pMachine Pro

Serendipity

SPIP

.Text

TextPattern

WordPress

Outcome : Off these many available solutions , the Wordpress is selected because of the following reasons :

Flexibility and Control

WordPress Community Support

Other Benefits

WordPress is designed to be search engine friendly, meaning extra SEO efforts can be minimal. Also, open source CMS websites are generally easier to integrate with third party sources like YouTube, Flickr, Facebook, Twitter, etc.

Customization done to Blog (Wordpress):

Akismat Spam Controller

SEO Optimization.

Social Network Sharing Facility

Twitter Integration

Customized Easy to navigate theme for better manageability

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Facebook Application Integration.

Feedburner Integration

Tracking Controllers

Integration with facebook , Twitter , Yahoo and Disqus for Commenting System

Google Feedburner Integration

iPhone Integration

Sitemap Plugin

Cache Manager [Large traffic management]

Blog Importer [Portability]

Centralized Authentication System for the Blog

<u>**Akismat Spam Controller**</u>

Akismet checks your comments against the Akismet web service to see if they look like spam or not and lets you review the spam it catches under your blog's "Comments" admin screen.

Akismet web Service checks the spams on the following basis :

- ✔ **Human-posted spam** has been on the rise for some time. Low-paid workers are hired by "SEO" firms to post comments on blogs and forums, advertising their clients' web sites (typically small local businesses). The workers generally operate out of internet cafes and universities, particularly in India, South-East Asia, and Turkey. The quality of comments varies, with the best written spam usually coming from SE Asia. There are now sophisticated marketplaces set up specifically for hiring manual workers to do this kind of spam.

- ✔ Good old-fashioned **pill, porn and malware spam** continues to center around Eastern Europe and the Russian Federation. They have well established willing hosts in the Netherlands, Latvia, Russia, Germany, and the USA, and hacked servers elsewhere.

- ✔ Several Eastern European spammers control **large ranges of IP addresses**. One in particular has dozens of /22 and /21 networks. These are rented out to spammers as a distributed proxy network, or in some cases sold as a hosted spambot service.

- ✔ **Chinese wholesaler spam** is becoming more frequent and organized. In addition to the usual comments and forum posts advertising counterfeit fashion and miscellaneous goods, the spammers are now creating networks of fake blogs and web sites on free hosts including Blogspot.com, Weebly.com, Tumblr.com, Ning.com, and WordPress.com.

- ✔ Other spammers are abusing **proxies at ISPs and universities**, and national censoring proxies such as those in Saudi Arabia and Singapore. They do this to mix their spam with legitimate traffic and thus make IP blacklisting impossible. (Akismet, of course, is *not* a blacklist).

- ✔ **Autoblog pingback spam** is now so bad that many blogs are refusing to accept any pingbacks at all. There's no single source or group behind this – rather, gullible people are following "make money on the internet" instructions that recommend creating fake blogs on discount shared hosts and running ads. They use packages of WordPress plugins that copy content from other blogs or article publishing sites, and send pingbacks to many blogs try to get backlinks and traffic. There are large numbers of people doing this, and most of them have many such blogs. Needless to say it doesn't work — the only people who make any money from autoblogs are the ones who sell the "make money on the internet" scams.

- ✔ Some well-meaning but **careless bloggers** are unwittingly annoying other blogs with large numbers of pingbacks. They're using plugins that add "related links" sections to each post, with an automatically generated list of links to posts on other blogs, and send a pingback to each of them. Unfortunately the plugins usually do a poor job of selecting relevant links, and the recipients of those pingbacks often regard them as spam (which is not unreasonable as the pingback is often totally unrelated, and autoblog spammers use the same plugins). Some bloggers have configured their plugins to include 50, 100 or more of these links in each post, which is further exacerbating people's frustration with pingbacks.

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> (For an example of a related-link plugin that does a *good job* of selecting relevant links and limiting pingbacks to a reasonable number, give [Zemanta](#) a try)

✔ **Trackbacks** have become so unpopular that even many spammers have abandoned them.
✔ **Parasite hosting** – such as hacked wikis, forum profile spam and hijacked blogs – used to be solely the realm of porn/pill/malware spammers. But recently Indian and Asian SEO spammers have adopted the same tactics – so where it used to advertise penis pills or bogus antivirus programs, now it's dentists, roofing, and pet food.

SEO Optimization

Optimizes your WordPress blog for Search Engines (**Search Engine Optimization**).

Some features:

- Support for Custom Post Types
- Advanced Canonical URLs
- Fine tune Page Navigational Links
- Built-in API so other plugins/themes can access and extend functionality
- ONLY plugin to provide SEO Integration for WP e-Commerce sites
- Nonce Security
- Support for CMS-style WordPress installations
- Automatically optimizes your **titles** for search engines
- Generates **META tags automatically**
- Avoids the typical duplicate content found on WordPress blogs
- For beginners, you don't even have to look at the options, it works out-of-the-box. Just install.
- For advanced users, you can fine-tune everything
- You can override any title and set any META description and any META keywords you want.
- Backward-Compatibility with many other plugins, like Auto Meta, Ultimate Tag Warrior and others.

Installation :

You can either use the automatic plugin installer or your FTP program to upload it to your wp-content/plugins directory the top-level folder. Don't just upload all the php files and put them in /wp-content/plugins/.

1. Activate the plugin through the 'Plugins' menu in WordPress
2. Visit your SEO options (*Options - All in One SEO*) for WordPress 2.3.x, (*Settings - All in One SEO*) for WordPress 2.5.x-2.8.x
3. Configure any options as desired, and then enable the plugin
4. That's it!

If you have to upgrade manually simply repeat the installation steps and re-enable the plugin.

Social Network Sharing Facility

Adds an attractive social bookmarking menu to your posts, pages, index, or any combination of the three.

The sole aim was to stray away from the "in the box" thinking behind most social bookmarking plugins, and add a little flair that would entice your readers, rather than deterring them with microscopic icons that get lost in pages heavy laden with content.

Installation :

Upload the extracted archive to wp-content/plugins/

- Activate the plugin through the 'Plugins' menu

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- Open the plugin settings page Settings -> SexyBookmarks
- Adjust settings to your liking

If you would like to insert the menu manually, simply choose "Manual Mode" from the options page, then place the following code into your theme files where you want the menu to appear:

```
<?php if(function_exists('selfserv_sexy')) { selfserv_sexy(); } ?>
```

You can still configure the other options available when inserting manually and they will be passed to the function. This is for those of you who have requested to be able to place the menu anywhere you choose...

Twitter Integration

The Follow Me widget allows you to display links to all your social media profiles in one, easy-to-access button or window.

Installation :

* Extract all files from the zip archive
* Copy the wp-followme folder to wp-content/plugins
* Activate the plugin through the "Plugins" menu in wordpress
* Add your Twitter URL on "Your Twitter URL" text field and configure the other options as desire
* That's it !

Customized Easy to navigate theme for better manageability

This is very simple and easy to navigate theme for wordpress. This theme is actually based on Inova theme for the wordpress.

Facebook Application Integration.

WPBook enables users to add your (self-hosted, not wordpress.com) wordpress blog as a Facebook application. Facebook users will see your posts in a Facebook look and feel, and can leave comments with their Facebook identity.

Comments are shared - meaning comments made by users on your blog at its regular domain and comments made by users inside Facebook are all shown to users of either "view" of your content.

Facebook users can also - at their option - add a profile tab to their profile, using the "add profile tab" button at the top of the default canvas page.

WPBook also post notifications automatically to your wall, or the wall of pages for which you are an admin, to which you've added the app, and for which you've granted stream publish permission, when you write a new post.

(This includes Application Profile pages and group walls, if you are an admin and have enabled fans to write on your walls).

Finally, WPBook can also import comments made on your wall (or the wall of a Fan page) in response to excerpts it has posted, and show those in your WordPress blog as full comments.

Installation :

Copy the entire wpbook directory into your wordpress plugins folder, /wp-content/plugins/

> You should have a directory structure like this: /wp-content/plugins/wpbook/wpbook.php /wp-content/plugins/wpbook/theme/ /wp-content/plugins/wpbook/client/

1. Set up a New Application at http://www.facebook.com/developers/, obtaining a secret and API key.

Set the callback url to your blog url, including a trailing slash. (http://www.yourblogurl.com/) For canvas url, you just need something *all lower case*, unique, with no spaces, and no trailing slash. Remember it.

Set the application type to "website"

Set the application to use an iFrame, not fbml, and to "resizable" (Using iFrames lets you use javascript, objects, and other tags not allowed in FBML inside blog posts)

2. Login to WordPress Admin and activate the plugin

3. Using the WPBook menu, (Dashboard->Settings->WPBook) fill in the appropriate information including Facebook application secret and API keys, as well as your application canvas url.

Feedburner Integration

Redirects the main feed and optionally the comments feed to Feedburner.com. It does this seamlessly without the need to modify templates, setup new hidden feeds, modify .htaccess files, or asking users to migrate to a new feed. All existing feeds simply become Feedburner feeds seamlessly and transparently for all users. Just tell the plugin what your Feedburner feed URL is and you're done.

Installation :

Activate the plugin through the 'Plugins' menu in WordPress

1. Access Wp-Fb settings via the "settings" menu and add your Feedburner Id

2. Your stats should now show up in your Dashboard

Integration with facebook , Twitter , Yahoo and Disqus for Commenting System

Disqus, pronounced "discuss", is a service and tool for web comments and discussions. Disqus makes commenting easier and more interactive, while connecting websites and commenters across a thriving discussion community.

The Disqus for WordPress plugin seamlessly integrates using the Disqus API and by syncing with WordPress comments.

Disqus for WordPress

- Uses the Disqus API
- Comments indexable by search engines (SEO-friendly)
- Support for importing existing comments
- Auto-sync (backup) of comments with Disqus and WordPress database

Disqus Features

- Threaded comments and replies
- Notifications and reply by email
- Subscribe and RSS options
- Aggregated comments and social mentions
- Powerful moderation and admin tools
- Full spam filtering, blacklists and whitelists
- Support for Disqus community widgets
- Connected with a large discussion community
- Increased exposure and readership

Installation :

Unpack archive to this archive to the 'wp-content/plugins/' directory inside of WordPress

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- Maintain the directory structure of the archive (all extracted files should exist in 'wp-content/plugins/disqus/'

1. From your blog administration, click on Comments to change settings (WordPress 2.0 users can find the settings under Options > Disqus.)

Tracking Controllers

The Google Analytics for WordPress plugin allows you to track your blog easily and with lots of metadata.

Installation :

Upload the wp-google-analytics.php file to the /wp-content/plugins/ directory

1. Activate the plugin through the 'Plugins' menu in WordPress

iPhone Integration

WPtouch Pro automatically transforms your WordPress blog into a mobile application experience when viewed from popular touch-based smartphones like iPhone^{TM}, iPod touch^{TM}, Android^{TM}, Palm^{TM} Pre/Pixi, and BlackBerry Storm^{TM}. Over 90% (and growing!) of the mobile-web surfing world will see your incredible mobile website with Wptouch.

Installation :

The best way to use WPtouch on WordPress Multisite Installations is to do so via the "Activate WPtouch Site Wide" link in the plugins area.

- Install WPtouch, either manually or via the "Add New" option in the plugins menu
- Ensure that you have site wide plugins enabled in the Site Admin / Options menu
- On the plugin configuration page activate WPtouch as a site wide plugin by clicking the "Activate WPtouch iPhone Theme Site Wide" link. If WPtouch is already activated, deactivate it first.

Sitemap Plugin

This plugin will generate a special XML sitemap which will help search engines like Google, Bing, Yahoo and Ask.com to better index your blog. With such a sitemap, it's much easier for the crawlers to see the complete structure of your site and retrieve it more efficiently. The plugin supports all kinds of WordPress generated pages as well as custom URLs. Additionally it notifies all major search engines every time you create a post about the new content.

Installation :

Upload the plugin folder to the /wp-content/plugins/ directory

1. Activate the plugin through the 'Plugins' menu in WordPress
2. The plugin will then guide you through the installation process if any manual steps are necessary

Cache Manager [Large traffic management]

WP-Cache is an extremely efficient WordPress page caching system to make your site much faster and responsive. It works by caching Worpress pages and storing them in a static file for serving future requests directly from the file rather than loading and compiling the whole PHP code and then building the page from the database. WP-Cache allows to serve hundred of times more pages per second, and to reduce the response time from several tenths of seconds to less than a

E-Gov Stack for Public/Private Clouds

millisecond.

Installation :

Upload to your plugins folder, usually wp-content/plugins/ and unzip the file, it will create a wp-content/plugins/wp-cache/ directory.

1. If you have Compression turned on under Miscellaneous options, turn it off.

2. Activate the plugin on the plugin screen.

3. Go to "Options" administration menu, select "WP-Cache" from the submenu, the plugin will try to autoconfigure everything. The plugin will try to autoconfigure everything, in case of failure --normally due to the lack of files' permissions-- it tell you and give the instructions to solve the problems.

Blog Importer [Portability]

Import posts, pages, comments, custom fields, categories, and tags from a WordPress export file.

Installation :

Upload the wordpress-importer folder to the /wp-content/plugins/ directory

1. Activate the plugin through the 'Plugins' menu in WordPress
2. Go to the Tools -> Import screen, Click on WordPress

Centralized Authentication System for the Blog

CoSign SSO is a WordPress plugin that provides several alternative authentication methods to WordPress, and it maybe easily extend to support more SSO login methods. CoSign v2 and CoSign v3 are the first two Single Sign-on(SSO) addins, that whay this plugin named. The other login method is just a by-product which provides LDAP authentication.

When this plugin is enabled, and the login method is set to *SSO*, then using a external CoSign single sign-on login service. When user click login, browser will redirect to remote login url, and will redirect back after successful logged in. If set login method to *LDAP*, login with the familiar login screen, but authentication backend changed to LDAP.

Whether using *SSO* or *LDAP* login method, LDAP options must provided to fetch user account information. If the logged in user account does not exists, create it on the fly by default.

Installation :

This section describes how to install the plugin and get it working.

1. Download the archive and expand it.
2. Upload the *cosign-sso* folder into your *wp-content/plugins/* directory
3. In your *WordPress Administration Area*, go to the *Plugins* page and click *Activate* for *CoSign SSO*

Once you have *CoSign SSO* installed and activated you can change it's settings in *Settings > CoSign SSO*.

E-Gov Stack for Public/Private Clouds

Virtual Learning Environment for the Government Offices especially where training is conducted on regular basis.

Open Source options Available :

Moodle

Sakai

Outcome : Moodle is the best Virtual Learning Environment till date .

<u>**Features of Moodle :**</u>

<u>**General features**</u>

   * Overall design of Moodle Resource

   * Site management Resource

   * User management Resource

   * Course management Resource

   * Text Filters (May be applied to any text in a Moodle site)

   * Auto-linking Resource

   * Mathematics notation Resource

   * Media plugins Resource

   * Multi-language content Resource

<u>2 Assignments</u>

   * Assignments allow teachers to grade electronically submitted material or 'offline' submissions such as paper-based assignments or class presentations.

   * An Upload File assignment

   * An Online Text Assignment

   * An Offline assignment

<u>**3 Chats**</u>

   * The Chat module allows participants to have a real-time synchronous discussion via the web. This is a useful way to get a different understanding of each other and the topic being discussed.

   * A repeating chat with public session logs

   * An open chat event

4 Choices

* Here a teacher asks a question and specifies a choice of multiple responses. This can be useful as a quick poll to stimulate thinking about a topic; to allow the class to vote on a direction for the course; or to gather research consent.

* A Choice with anonymous results

* A Choice with non-anonymous results

* A Choice that allows you to update anytime

* A Choice with a limited number of responses allowed

5 Forums

* It is in forums that most discussion takes place. Forums can be structured in different ways, and can include peer rating of each posting. The postings can be viewed in a variety for formats, and can include attachments.

* A Standard forum for general use

* Each person posts one discussion Forum

* A single discussion Forum

6 Glossaries

* This activity allows participants to create and maintain a list of definitions, like a dictionary.The entries can be searched or browsed in many different formats.

* Teacher-Defined Glossary

* Learner-Defined Glossary

* A glossary of common terms

Customization :

Integration with Single Sign on.

Attendance Module

Installation :

These Modules are Installed by default in the installation , no need to install any of them.

Just Update after Installation.

Integrated Library management System

Every Government office either has a Library or document s that the want to archive. Thats why a good Integrated library management is one of the Basic requirement of may government offices.

Available Solutions are following :

1.Koha
2.PMB
3.phpMyLib

Outcome : Best available solution for the Library management Software is the Koha

Features :

A full featured modern integrated library system (ILS).

- Award winning and open source no license fee, ever.
- Linux, Unix, Windows and MacOS platform.
- Web Based.
- We can full integrate it into your website.
- Copy cataloging and z39.50.
- MARC21 and UNIMARC for professional catalogers.
- Tailored catalog module for special libraries.
- Use as a document manager or digital library.
- Manage online and off line resources with the same tool.
- RSS feed of new acquisitions.
- E-mail and/or txt patron's overdues and other notices.
- Print your own barcodes.
- Serials management module.
- Full catalog, circulation and acquisitions system for library stock management.
- Web based OPAC system (allows the public to search the catalog in the library and at home).
- Simple, clear search interface for all users.
- Simple and comprehensive acquisition options.
- Koha is multi-tasking and enables updates of circulation, cataloging and issues to occur simultaneously.

Features Detail

Full Featured ILS

Koha has all the modules you would expect to find in an integrated library management system - online public access catalog (OPAC), acquisitions, cataloging, serials, reporting, stock verification, patrons, system administration and a solid toolkit.

The OPAC catalog search is powered by the sophisticated Zebra search engine. Readers can view content from Google and Amazon. They can reserve books online, subscribe to RSS feeds, share reading lists and view fines, reading history and maintain their personal profile.

The acquisitions modules allows the staff to manage purchase suggestions, donations, budgets and orders.

Via the circulation module staff can issues and returns, inter-library loans and track reserve requests and overdue items.

The Serials module allows staff to track the delivery of serials and manage routing lists.

Via the System Administration screens staff can manage circulation rules, patron and item types, cataloging frameworks

E-Gov Stack for Public/Private Clouds

and more.

The tools section contains useful features including export or import, email notices, news label printing.

Completely Web Based

Both the Online Public Access Catalog (OPAC) and the staff client are completely web based. You don't need to install any software on the user's desktops. Web based system are much easier to manage during installs, software or hardware problems or upgrades.

Koha runs on all browsers including internet exlorer, Mozilla Firefox and Chrome.

Koha also runs windows, Linux and Mac based desktops.

Standards Compliant

Koha is compliant with various library standards like MARC21 for cataloging, Z39.50 for data exchange and SIP/NCIP for RFID based hardware.

Compliance to MARC21 standards makes it easy to migrate, import or export data from or to other library systems. Your publisher may supply MARC21 records that you can import into Koha.

With it's Z39.50 capabilities Koha can be made into a Z39.50 server, so others can search of copy records from your Koha installation. It goes without saying that Koha can consume records from other Z39.50 servers.

With SIP/NCIP compliance Koha becomes easy to integrate with RFID products from any vendor.

Z39.50 Copy Cataloging

You can use Koha's copy cataloging screen to search for and download MARC records from databases like the Library of Congress (LOC) database. There are over 400 such databases available from around the world.

This features saves classification and data entry effort and is particularly useful for libraries that don't have trained catalogers.

Library of Congress records are developed by professional catalogers, and contain detailed information about the material including abstract, subject, keywords, editions and more.

The search in the OPAC functions better as fields like subject and keyword provide more access points to Koha's search engine.

Patron Cards

You can print ready to use patron cards from Koha. Printing can be done in batches as well.

The card can include kind of information - patron number, name, address or expiry. It can also include a bar code to be used in circulation or patron modules.

The layout of the card - size, font, font size, colors, logo can be adjusted quite easily.

Federated Search

Koha includes a federated search engine called Pazpar2.

Pazpar2 can simultaneously search a set of Z39.50 or SRU/W compliant databases and produce a consolidated search result sorted by relevance.

With Pazpar2 it is possible to offer to patrons a simple Google like search screen that can query the Koha data for physical items and several free and paid electronic databases.

From the search results patrons can navigate directly to the content in the case of electronic material or to the description page on Koha in the case of physical items.

Off-line Circulation Tool

Koha includes a circulation tool for use during network or server unavailability. The tool needs to be installed on computers at the circulation desk. The tool stores stores circulation records in a file on the Desktop.

Flexible Reporting

Koha has several pre-defined reports, from overdue reports to patron, acquisition or circulation statistics.

You can also design your own reports using the Guided Reports Wizard, here you can choose the report format, select data to be displayed in row or columns and set selection criteria.

For maximum flexibility you can write your own sql queries and run them directly from the user interface.

Reports data can be saved in text files. You can even schedule the reports to be run at pre-defined intervals.

Export and Import

Koha has excellent tools to import catalog, authorities or patron data.

If you are migrating a large no. of records you can use powerful command line tools. And if you need to import incremental records on an on-going basis you can use easy to use and flexible GUI tools.

Koha allows export of MARC data including biblios and holding in MARC or MARCXML formats.

Enhanced Content

Koha integrates with Google, Amazon and several other web services to display valuable content along with each catalog item.

Book jackets and previews from Google, or reader reviews and similar items lists from Amazon are very popular.

Koha is also able to group results by editions thanks to web services like XISBN.

Readers can also navigate seamlessly to other external database like Worldcat, Google Scholar or BookFinder.com if they need to.

Powerful Catalog Search

Zebra makes Koha's catalog search superior to commercial or open source alternatives.
Zebra can index and serve millions of records really fast.

E-Gov Stack for Public/Private Clouds

You can search in any field - title, author, call no, subject and more, or search for a term in all fields at once. Zebra allows faceted search, sorting and drill down. You can create complex search conditions using AND and OR operators and the system is smart enough to find results for mis-spelled words!

Zebra is UTF-8 compliant, so your catalog records can be in any language.

Web 2.0 features

Koha supports several useful Web 2.0 features.

Use RSS feeds to get informed as new arrivals are added to the catalog.

You can create your own reading lists and share with friends. Library staff can create public reading lists to better serve their patrons.

Staff can publish News items on the OPAC or on the Staff Client for that matter.

We know patrons want to know what other readers think about a particular item. Patrons can submit comments on any item in the catalog. Staff can choose to moderate the comments before they are displayed on the OPAC.

Authority Control

You can create Author, Subject and other types of authority records.

When creating new records, catalogers can pick items from the authority files. This helps ensure consistency and high quality.

Multiple Libraries

With Koha you can setup multiple libraries on branches on the same system.

Patrons of one library can check-out and check-in items at any library.

Koha automatically setup up inter-library transfers.

Multi-Language

The Koha architecture support multi-language screens and catalog.

Due to the efforts of Koha contributors, Koha is available in several languages today including French, Arabic, Hindi, Taiwanese, Urdu and several others.

The Koha community also maintains collaborative translation tools on the web, so number of languages that Koha is available keeps increasing!

Bar coded Spine Labels

Koha comes pre-configured with commonly used layouts and templates. Or you can create your own.

You can search for and add a list of catalog items to be included in a printing batch.

Koha then generates a PDF file with the labels that printed off on any available printer.

Email Overdue & Other Notices

Koha can automatically email overdue or other notices to patrons.

Staff can setup content templates for events like overdues, the system then automatically populates details like patron name or card number and item details like title and author and generates the email.

Flexible Item Types & Digital Content

Koha comes pre-built with several useful item types - Books, Reference, Maps, DVD/CDs etc.

You can create their own item types as well. Once item types are set up you can use them and other attributes like patron type or library name to create granular circulation rules.

Koha can support digital content as well, all you need to do is to store the url of the electronic resource in tag 856 of the Marc record.

Stock-taking

Koha makes stock-taking simple. Library staff need to upload a file with items physically available in the library at a given time. This file can be generated by using bar code or RFID scanners.

Koha can then combine this data with information on items in circulation, or those that are withdrawn or damaged or lost to generate stock-taking reports including those on items that are missing.

Fully RFID Ready

Koha is SIP & NCIP compliant and will work with any compliant RFID hardware. RFID can be used in circulation, stock-taking and security processes.

Z39.50 Database

You can expose your Koha catalog as a Z39.50 source. This way other libraries with Z39.50 compliant clients or Library Management Systems can copy your records with ease.

Customization done is Koha are following :

1.Single Sign on Integration for the Koha

Configuration Changes for the LDAP Integration (Based on the following Configuration of LDAP)

Koha.XML File (After Customization)

```
1
2 <yazgfs>
3 <!-- [scheme:]host[:port][/databaseName] -->
4 <!-- scheme: tcp, ssl, unix, http, sru -->
5 <!-- can run all servers on tcp, but the unix socket is faster -->
6
7 <listen id="biblioserver" >unix:/var/run/koha/zebradb/bibliosocket</listen>
8 <listen id="authorityserver" >unix:/var/run/koha/zebradb/authoritysocket</listen>
9 <!-- public server runs on tcp -->
10 <!-- <listen id="publicserver" >tcp:@:9999</listen> -->
11
12 <!-- Settings for special biblio server instance for PazPar2.
```

```
13      Because PazPar2 only connects to a Z39.50 server using TCP/IP,
14       it cannot use the Unix-domain socket that biblioserver uses.
15       Therefore, a custom server is defined. -->
16 <!--
17 <listen id="mergeserver">tcp:@:11001</listen>
18 <server id="mergeserver"  listenref="mergeserver">
19     <directory>/var/lib/koha/zebradb/biblios</directory>
20     <config>/etc/koha/zebradb/zebra-biblios.cfg</config>
21     <cql2rpn>/etc/koha/zebradb/pqf.properties</cql2rpn>
22 </server>
23 -->
24
25 <!-- BIBLIOGRAPHIC RECORDS -->
26 <server id="biblioserver"  listenref="biblioserver">
27     <directory>/var/lib/koha/zebradb/biblios</directory>
28     <config>/etc/koha/zebradb/zebra-biblios.cfg</config>
29     <cql2rpn>/etc/koha/zebradb/pqf.properties</cql2rpn>
30     <!-- <docpath>xsl</docpath> -->
31     <!-- <stylesheet>xsl/default.xsl</stylesheet> -->
32     <!-- <maximumrecordsize>2000000</maximumrecordsize> -->
33     <retrievalinfo>
34      <retrieval syntax="usmarc" name="F"/>
35      <retrieval syntax="usmarc" name="B"/>
36      <retrieval syntax="xml" name="F"/>
37      <retrieval syntax="xml" name="B"/>
38      <retrieval syntax="xml" name="marcxml"
39              identifier="info:srw/schema/1/marcxml-v1.1">
40        <backend syntax="usmarc" name="F">
41         <marc inputformat="marc" outputformat="marcxml"
42            inputcharset="utf-8"/>
43        </backend>
44      </retrieval>
45      <retrieval syntax="xml" name="dc">
46        <backend syntax="usmarc" name="F">
47         <marc inputformat="marc" outputformat="marcxml"
48            inputcharset="utf-8"/>
49         <xslt stylesheet="/home/gaurav/Desktop/Gaurav/koha/intranet/htdocs/intranet-
tmpl/prog/en/xslt/MARC21slim2DC.xsl"/>
50        </backend>
51      </retrieval>
52      <retrieval syntax="xml" name="mods">
53        <backend syntax="usmarc" name="F">
54         <marc inputformat="marc" outputformat="marcxml"
55            inputcharset="utf-8"/>
56         <xslt stylesheet="/home/gaurav/Desktop/Gaurav/koha/intranet/htdocs/intranet-
tmpl/prog/en/xslt/MARC21slim2MODS.xsl"/>
57        </backend>
58      </retrieval>
59      <retrieval syntax="xml" name="rdfdc">
60        <backend syntax="usmarc" name="F">
61         <marc inputformat="marc" outputformat="marcxml"
62            inputcharset="utf-8"/>
63         <xslt stylesheet="/home/gaurav/Desktop/Gaurav/koha/intranet/htdocs/intranet-
tmpl/prog/en/xslt/MARC21slim2RDFDC.xsl"/>
64        </backend>
65      </retrieval>
66      <retrieval syntax="xml" name="rss2">
67        <backend syntax="usmarc" name="F">
68         <marc inputformat="marc" outputformat="marcxml"
69            inputcharset="utf-8"/>
```

```
 70           <xslt stylesheet="/home/gaurav/Desktop/Gaurav/koha/intranet/htdocs/intranet-
tmpl/prog/en/xslt/MARC21slim2RSS2.xsl"/>
 71          </backend>
 72        </retrieval>
 73        <retrieval syntax="xml" name="utils">
 74         <backend syntax="usmarc" name="F">
 75          <marc inputformat="marc" outputformat="marcxml"
 76               inputcharset="utf-8"/>
 77          <xslt stylesheet="/home/gaurav/Desktop/Gaurav/koha/intranet/htdocs/intranet-
tmpl/prog/en/xslt/MARC21slimUtils.xsl"/>
 78         </backend>
 79        </retrieval>
 80       </retrievalinfo>
 81     <xi:include href="/etc/koha/zebradb/explain-biblios.xml"
 82             xmlns:xi="http://www.w3.org/2001/XInclude">
 83      <xi:fallback>
 84      <explain xmlns="http://explain.z3950.org/dtd/2.0/">
 85         <serverInfo>
 86          <host>gaurav</host>
 87          <port>9998</port>
 88          <database>biblios</database>
 89         </serverInfo>
 90        </explain>
 91       </xi:fallback>
 92     </xi:include>
 93  </server>
 94  <serverinfo id="biblioserver">
 95        <ccl2rpn>/etc/koha/zebradb/ccl.properties</ccl2rpn>
 96        <user>kohauser</user>
 97        <password>zebrastripes</password>
 98  </serverinfo>
 99
100  <!-- AUTHORITY RECORDS -->
101  <server id="authorityserver"  listenref="authorityserver" >
102     <directory>/var/lib/koha/zebradb/authorities</directory>
103     <config>/etc/koha/zebradb/zebra-authorities.cfg</config>
104     <cql2rpn>/etc/koha/zebradb/pqf.properties</cql2rpn>
105     <!-- <docpath>xsl</docpath> -->
106     <!-- <stylesheet>xsl/default.xsl</stylesheet> -->
107     <!-- <maximumrecordsize>2000000</maximumrecordsize> -->
108     <xi:include href="/etc/koha/zebradb/retrieval-info-auth-grs1.xml"
109             xmlns:xi="http://www.w3.org/2001/XInclude">
110      <xi:fallback>
111      <retrievalinfo>
112       <retrieval syntax="usmarc" name="F"/>
113       <retrieval syntax="usmarc" name="B"/>
114       <retrieval syntax="xml" name="marcxml"
115               identifier="info:srw/schema/1/marcxml-v1.1">
116        <backend syntax="usmarc" name="F">
117         <marc inputformat="marc" outputformat="marcxml"
118              inputcharset="utf-8"/>
119        </backend>
120       </retrieval>
121       <retrieval syntax="xml" name="dc">
122        <backend syntax="usmarc" name="F">
123         <marc inputformat="marc" outputformat="marcxml"
124              inputcharset="utf-8"/>
125         <xslt stylesheet="/home/gaurav/Desktop/Gaurav/koha/intranet/htdocs/intranet-
tmpl/prog/en/xslt/MARC21slim2DC.xsl"/>
126         </backend>
```

```
127        </retrieval>
128        <retrieval syntax="xml" name="mods">
129          <backend syntax="usmarc" name="F">
130            <marc inputformat="marc" outputformat="marcxml"
131               inputcharset="utf-8"/>
132            <xslt stylesheet="/home/gaurav/Desktop/Gaurav/koha/intranet/htdocs/intranet-
tmpl/prog/en/xslt/MARC21slim2MODS.xsl"/>
133          </backend>
134        </retrieval>
135        <retrieval syntax="xml" name="rdfdc">
136          <backend syntax="usmarc" name="F">
137            <marc inputformat="marc" outputformat="marcxml"
138               inputcharset="utf-8"/>
139            <xslt stylesheet="/home/gaurav/Desktop/Gaurav/koha/intranet/htdocs/intranet-
tmpl/prog/en/xslt/MARC21slim2RDFDC.xsl"/>
140          </backend>
141        </retrieval>
142        <retrieval syntax="xml" name="utils">
143          <backend syntax="usmarc" name="F">
144            <marc inputformat="marc" outputformat="marcxml"
145               inputcharset="utf-8"/>
146            <xslt stylesheet="/home/gaurav/Desktop/Gaurav/koha/intranet/htdocs/intranet-
tmpl/prog/en/xslt/MARC21slimUtils.xsl"/>
147          </backend>
148        </retrieval>
149      </retrievalinfo>
150      </xi:fallback>
151    </xi:include>
152    <xi:include href="/etc/koha/zebradb/explain-authorities.xml"
153          xmlns:xi="http://www.w3.org/2001/XInclude">
154      <xi:fallback>
155      <explain xmlns="http://explain.z3950.org/dtd/2.0/">
156        <serverInfo>
157          <host>gaurav</host>
158          <port>9999</port>
159          <database>authorities</database>
160        </serverInfo>
161      </explain>
162      </xi:fallback>
163    </xi:include>
164 </server>
165 <serverinfo id="authorityserver">
166    <ccl2rpn>/etc/koha/zebradb/ccl.properties</ccl2rpn>
167    <user>kohauser</user>
168    <password>zebrastripes</password>
169 </serverinfo>
170
171 <!-- ADDITIONAL KOHA CONFIGURATION DIRECTIVE -->
172 <!-- db_scheme should follow the DBD driver name -->
173 <!-- port info: mysql:3306 Pg:5432 (5433 on Debian) -->
174 <config>
175  <db_scheme>mysql</db_scheme>
176  <database>koha</database>
177  <hostname>localhost</hostname>
178  <port>3306</port>
179  <user>root</user>
180  <pass>gaurav</pass>
181  <biblioserver>biblios</biblioserver>
182  <biblioservershadow>1</biblioservershadow>
183  <authorityserver>authorities</authorityserver>
```

```
184  <authorityservershadow>1</authorityservershadow>
185  <intranetdir>/home/gaurav/Desktop/Gaurav/koha/intranet/cgi-bin</intranetdir>
186  <opacdir>/home/gaurav/Desktop/Gaurav/koha/opac/cgi-bin/opac</opacdir>
187  <opachtdocs>/home/gaurav/Desktop/Gaurav/koha/opac/htdocs/opac-tmpl</opachtdocs>
188  <intrahtdocs>/home/gaurav/Desktop/Gaurav/koha/intranet/htdocs/intranet-tmpl</intrahtdocs>
189  <includes>/home/gaurav/Desktop/Gaurav/koha/intranet/htdocs/intranet-tmpl/prog/en/includes/</includes>
190  <logdir>/var/log/koha</logdir>
191  <pazpar2url>http://gaurav:11002/search.pz2</pazpar2url>
192  <install_log>/home/gaurav/Desktop/Gaurav/koha/misc/koha-install-log</install_log>
193  <useldapserver>1</useldapserver>
194  <!-- LDAP SERVER (optional) -->
195  <ldapserver id="ldapserver">
196    <hostname>localhost</hostname>
197    <base>ou=people,dc=paliwal</base>
198    <replicate>1</replicate>
199    <update>1</update>
200    <auth_by_bind>1</auth_by_bind>
201
202    <mapping>
203      <firstname    is="givenname"    ></firstname>
204      <surname      is="sn"           ></surname>
205      <address      is="postaladdress" ></address>
206      <city         is="l"            >Athens, OH</city>
207      <zipcode      is="postalcode"   >110044</zipcode>
208      <branchcode   is="branch"       >CPL</branchcode>
209      <userid       is="uid"          ></userid>
210      <password     is="userpassword" ></password>
211      <email        is="mail"         ></email>
212      <categorycode is="employeetype"  >l</categorycode>
213      <phone        is="telephonenumber"></phone>
214    </mapping>
215  </ldapserver>
216 </config>
217 </yazgfs>
```

LDAP Strucutre for the Above Koha Conf File :

Version: 1

LDIF Export for:

Generated by phpLDAPadmin (http://phpldapadmin.sourceforge.net/) on September 24, 2010 7:08 pm

Server: My LDAP Server (localhost)

Search Scope: sub

Search Filter: (objectClass=*)

Total Entries: 7

dn: dc=paliwal

objectClass: top

objectClass: dcObject

objectClass: organization

o: paliwal

dc: paliwal

dn: cn=admin,dc=paliwal

objectClass: simpleSecurityObject

objectClass: organizationalRole

cn: admin

description: LDAP administrator

userPassword: {crypt}fnoIH.7fR5/pA

dn: ou=people,dc=paliwal

objectClass: organizationalUnit

objectClass: top

ou: people

dn: cn=GauravPaliwal,ou=people,dc=paliwal

objectClass: inetOrgPerson

objectClass: posixAccount

objectClass: top

givenName: Gaurav

sn: Paliwal

uid: gpaliwal

uidNumber: 1000

gidNumber: 1000

homeDirectory: /home/users/gpaliwal

mail: gaurav@gaurav.paliwal

cn: GauravPaliwal

userPassword: gaurav

dn: cn=ppaliwal ppaliwal,ou=people,dc=paliwal

objectClass: inetOrgPerson

objectClass: posixAccount

objectClass: top

givenName: ppaliwal

sn: ppaliwal

cn: ppaliwal ppaliwal

uid: ppaliwal

uidNumber: 1001

gidNumber: 1000

homeDirectory: /home/users/ppaliwal

userPassword: ppaliwal

mail: gaurav.paliwal1989@gmail.com

dn: cn=test_project paliwal,ou=people,dc=paliwal

objectClass: inetOrgPerson

objectClass: posixAccount

objectClass: top

givenName: test_project

sn: paliwal

cn: test_project paliwal

uid: spaliwal

userPassword: {MD5}J6rskiYkAlhMQFsqixbUnQ==

uidNumber: 1002

gidNumber: 1000

homeDirectory: /home/users/spaliwal

mail: gaurav@gaurav.paliwal

dn: cn=user,ou=people,dc=paliwal

objectClass: posixGroup

objectClass: top

cn: user

gidNumber: 1000

**Research Repository For the Government Institute
where research projects are also Involved**

Options Available :

1. DSpace
2. Knowledge Tree
3. Fedora

Outcome :

DSpace is recommended because of better Interoperability.

Unique Features of DSpace are:

1. **Authentication**: The mechanism whereby systems may securely identify their users.
2. **Authorization**: The mechanism by which a system determines what level of access a particular authenticated user should have to secure resources controlled by the system.
3. **Ease Of Access**: The level of effort required in order finding, or gaining access to use it is very minimal by using various Browse options.
4. **Faster Search & Retrieval**: Users can search for any item via a single interface. An Advanced Search tool is also available.
5. **Hierarchy to manage contents** (i.e. Communities, Collections, and Items):
6. **Import & Export**: Allows Import & Export for Communities, Collections and Items.
7. **Statistics**: Provides statistical reports/summary which can be used for perform analysis on repository.
8. **Supports large no. of digital formats**: DSpace accepts any type of digital content, including: Text, Images, Audio and Video.
9. **Customization**: Allows customization to accommodate the multidisciplinary and organizational needs of a large institution.
10. **Standards Compliance**: By Default, Dspace stores item Meta data in the Dublin Core Metadata Schema. This ensures data can be exchanged with other standards compliant system, such as MARC21. MARC is an acronym for MAchine-Readable Cataloging. The five MARC 21 communication formats, Bibliographic Data, Authority Data, Holdings Data, Classification Data, and Community Information, are widely used standards for the representation and exchange of bibliographic, authority, holdings, classification, and community information datain machine-readable form.
11. **Optimized Search**: Dspace uses the open source search engine technology 'Lucene' which makes it very easy for anybody to find any item within a very short span of time

Customization Requirement :

1. Theme Improvement
2. Single Sign On Required.

Theme Improvement are done by rewriting the CSS file from Scratch
Modified CSS for Research Repository

```
A { color: #37376B }
BODY { font-family: "Trebuchet MS", Arial, Helvetica, sans-serif;
    font-size: 9pt;
    font-style: normal;
    color: #000000;
    background: #616B6C;
    margin: 0;
    padding: 0;
    margin-left:0px;
    margin-right:0px;
    margin-top:0px;
    margin-bottom:0px }


H1 { margin-left: 10px;
    margin-right: 10px;
    font-size: 16pt;
    font-weight: bold;
    font-style: normal;
    font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
    color: #336699 }
H2 { margin-left: 10px;
    margin-right: 10px;
    font-size: 11pt;
    font-style: normal;
    font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
    color: #336699 }
H3 { margin-left: 10px;
    margin-right: 10px;
    font-size: 9pt;
    font-weight: bold;
    font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
    color: black }
object { display: inline; }
p { margin-left: 10px;
    margin-right: 10px;
    font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
    font-size: 9pt }



DIV { margin-left: 10px;
    margin-right: 10px;
    margin-bottom: 15px;
    font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
    font-size: 9pt;}
UL { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
    font-size: 9pt }


.standard { margin-left: 10px;
        margin-right: 10px;
        font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt }
.langChangeOff { text-decoration: none;
        color : #bbbbbb;
```

```
        cursor : default;
        font-size: 9pt }
.langChangeOn { text-decoration: underline;
        color: #336699;
        cursor: pointer;
        font-size: 9pt }
.pageBanner { width: 100%;
        border: 0;
        margin: 0;
        background: #ffffff;
        color: #000000;
        padding: 0;
        vertical-align: middle }
.tagLine { vertical-align: bottom;
        padding: 10px;
        border: 0;
        margin: 0;
        background: #ffffff;
        color: #ff6600 }
.tagLineText { background: #ffffff;
        color: #ff6600;
        font-size: 9pt;
        font-weight: bold;
        border: 0;
        margin: 0 }
.stripe { background: #336699 url(stripe.gif) repeat-x;
        vertical-align: top;
        border: 0;
        padding: 0;
        margin: 0;
        color: #ffffff }
.locationBar { font-size: 9pt;
        font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        text-align: left }
.centralPane { margin: 1px;
        vertical-align: top;
        padding: 3px;
        border: 0 }


.pageContents { FONT-FAMILY: "Trebuchet MS", Arial, Helvetica, sans-serif;
        background: white;
        color: black;
        vertical-align: top;
        width: 100% }
.navigationBarTable{ width: 100%;
        padding: 2px;
        margin: 2px;
        border: 0 }
.navigationBar { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt;
        font-style: normal;
        font-weight: bold;
        color: #252645;
        text-decoration: none;
        background: white }
.navigationBarSublabel{ font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt;
        font-style: normal;
        font-weight: bold;
```

```
                color: black;
                text-decoration: none;
                background: white;
                white-space: nowrap }



.navigationBarItem { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
                font-size: 9pt;
                font-style: normal;
                font-weight: normal;
                color: #252645;
                background: #ffffff;
                text-decoration: none;
                vertical-align: middle;
                white-space: nowrap }
.loggedIn { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
            font-size: 9pt;
            font-style: normal;
            font-weight: normal;
            color: #882222;
            background: #ffffff }
.pageFooterBar { width: 100%;
                border: 0;
                margin: 0;
                padding: 0;
                background: #ffffff;
                color: #000000;
                vertical-align: middle }
.pageFootnote { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
                font-size: 9pt;
                font-style: normal;
                font-weight: normal;
                background: #ffffff;
                color: #252645;
                text-decoration: none;
                text-align: left;
                vertical-align: middle;
                margin-left: 10px;
                margin-right: 10px }
.sidebar { background: #ffffff;
          color: #000000 }
.communityLink { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
                font-size: 11pt;
                font-weight: bold }
.communityStrength {
                                font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
                font-size: 9pt;
                font-weight: normal }
.communityDescription { margin-left: 20px;
                    margin-right: 10px;
                    font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
                    font-size: 9pt;
                    font-weight: normal;
                    list-style-type: none }
.collectionListItem { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
                    font-size: 9pt;
                    font-weight: normal }
.collectionDescription { margin-left: 20px;
                    margin-right: 10px;
```

```
                    font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
                    font-size: 9pt;
                        font-weight: normal;
                    list-style-type: none }
    .miscListItem { margin-left: 20px;
            margin-right: 10px;
            font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
            font-size: 9pt;
            list-style-type: none }
    .copyrightText { margin-left: 20px;
            margin-right: 20px;
            text-align: center;
            font-style: italic;
            font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
            font-size: 9pt;
            list-style-type: none }
    .browseBarLabel { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
             font-size: 9pt;
             font-style: normal;
             font-weight: bold;
             color: #000000;
             background: #ffffff;
            vertical-align: middle;
            text-decoration: none }
    .browseBar { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
            font-size: 9pt;
            font-style: normal;
            font-weight: bold;
            background: #ffffff;
            color: #252645;
            vertical-align: middle;
            text-decoration: none }
    .itemListCellOdd { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
            font-size: 9pt;
            font-style: normal;
            font-weight: normal;
            color: #000000;
            vertical-align: middle;
            text-decoration: none;
            background: #ffffff }
    .itemListCellEven { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
             font-size: 9pt;
             font-style: normal;
             font-weight: normal;
             color: #000000;
             vertical-align: middle;
             text-decoration: none;
             background: #eeeeee }
    .itemListCellHilight { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
             font-size: 9pt;
             font-style: normal;
             font-weight: normal;
             color: #000000;
             vertical-align: middle;
             text-decoration: none;
             background: #ddddff }
    .topNavLink { margin-left: 10px;
        margin-right: 10px;
        font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt;
```

```
            text-align: center }
    .submitFormLabel { margin-left: 10px;
        margin-right: 10px;
        font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
            font-weight: bold;
        font-size: 9pt;
        text-align: right;
        vertical-align: top }
    .submitFormHelp { margin-left: 10px;
        margin-right: 10px;
        font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt;
        text-align: center }
    .submitFormWarn { margin-left: 10px;
        margin-right: 10px;
        font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-weight: bold;
        font-size: 9pt;
        color: #ff6600;
        text-align: center }
    .uploadHelp { margin-left: 20px;
            margin-right: 20px;
        font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt;
        text-align: left }
    .submitFormDateLabel { margin-left: 10px;
            margin-right: 10px;
            font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
            font-size: 9pt;
            font-style: italic;
            text-align: center;
            vertical-align: top; }
    .submitProgressTable{ margin: 0;
            padding: 0;
            border: 0;
            vertical-align: top;
            text-align: center;
            white-space: nowrap }
    .submitProgressButton{ border: 0 }
    .submitProgressButtonDone{ border: 0;
            background-image: url(/submit/done.gif);
            background-position: center;
            height: 30px;
              width: 90px;
              font-size: 9pt;
              color: black;
              background-repeat: no-repeat; }
    .submitProgressButtonCurrent{ border: 0;
            background-image: url(/submit/current.gif);
            background-position: center;
            height: 30px;
            width: 90px;
            font-size: 9pt;
            color: white;
            background-repeat: no-repeat; }
    .submitProgressButtonNotDone{ border: 0;
            background-image: url(/submit/notdone.gif);
            background-position: center;
            height: 30px;
            width: 90px;
```

```css
            font-size: 9pt;
            color: black;
            background-repeat: no-repeat; }
.miscTable { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt;
        font-style: normal;
        font-weight: normal;
        color: #000000;
        vertical-align: middle;
        text-decoration: none;
        background: #cccccc }
.miscTableNoColor { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt;
        font-style: normal;
        font-weight: normal;
        color: #000000;
        vertical-align: middle;
        text-decoration: none;
        background: #ffffff }


.oddRowOddCol{ font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt;
        font-style: normal;
        font-weight: normal;
        color: #000000;
        vertical-align: middle;
        text-decoration: none;
        background: #ffffff;
        }
.evenRowOddCol{ font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt;
        font-style: normal;
        font-weight: normal;
        color: #000000;
        vertical-align: middle;
        text-decoration: none;
        background: #eeeeee;
        }
.oddRowEvenCol{ font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt;
        font-style: normal;
        font-weight: normal;
        color: #000000;
        vertical-align: middle;
        text-decoration: none;
        background: #eeeeee;
        }
.evenRowEvenCol{ font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt;
        font-style: normal;
        font-weight: normal;
        color: #000000;
        vertical-align: middle;
        text-decoration: none;
        background: #dddddd;
        }
.highlightRowOddCol{ font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
            font-size: 9pt;
            font-style: normal;
```

```
            font-weight: normal;
            color: #000000;
            vertical-align: middle;
            text-decoration: none;
            background: #ccccee;
            }
.highlightRowEvenCol{ font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
            font-size: 9pt;
            font-style: normal;
            font-weight: normal;
            color: #000000;
            vertical-align: middle;
            text-decoration: none;
            background: #bbbbcc;
            }
.itemDisplayTable{ text-align: center;
            border: 0;
            color: #000000 }
.metadataFieldLabel{ font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
            font-size: 9pt;
            font-style: normal;
            font-weight: bold;
            color: #000000;
            vertical-align: top;
            text-align: right;
            text-decoration: none;
            white-space: nowrap;
            }
.metadataFieldValue{ font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
            font-size: 9pt;
            font-style: normal;
            font-weight: normal;
            color: #000000;
            vertical-align: top;
            text-align: left;
            text-decoration: none;
            }
.recentItem { margin-left: 10px;
            margin-right: 10px;
            font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
            font-size: 9pt }
.searchBox { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
            font-size: 9pt;
            font-style: normal;
            font-weight: bold;
            color: #000000;
            vertical-align: middle;
            text-decoration: none;
            background: #fefecd;
            padding: 0;
            border: 0;
            margin: 0 }
.searchBoxLabel { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
            font-size: 9pt;
            font-style: normal;
            font-weight: bold;
            color: #000000;
            background: #fefecd;
            text-decoration: none;
            vertical-align: middle }
```

```css
.searchBoxLabelSmall { font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt;
        font-style: normal;
        font-weight: bold;
        color: #000000;
        background: #fefecd;
        text-decoration: none;
        vertical-align: middle }
.attentionTable
{
  font-style: normal;
  font-weight: normal;
  color: #000000;
  vertical-align: middle;
  text-decoration: none;
  background: #cc9966;
}
.attentionCell
{
  background: #ffffcc;
  text-align: center;
}
.help {font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
    background: #ffffff;
    margin-left:10px;}
.help h2{text-align:center;
        font-size:19pt;
        color:#000000;}
.help h3{font-weight:bold;
    margin-left:0px;}
.help h4{font-weight:bold;
    font-size: 9pt;
    margin-left:5px;}
.help h5{font-weight:bold;
    margin-left:10px;
    line-height:.5;}
.help p {font-size:9pt;}
.help table{margin-left:8px;
    width:90%;}
.help table.formats{font-size:9pt;}
.help ul {font-size:9pt;}
.help p.bottomLinks {font-size:9pt;

 font-weight:bold;}
.help td.leftAlign{font-size:9pt;}
.help td.rightAlign{text-align:right;
        font-size:9pt;}

ul.controlledvocabulary {
                list-style-type:none; }
.controlledvocabulary ul li ul {
        list-style-type:none;
                display:none; }
input.controlledvocabulary {
                border:0px; }
img.controlledvocabulary {
                margin-right:8px ! important;
                margin-left:11px ! important;
                cursor:hand; }
.submitFormHelpControlledVocabularies {
```

```
                margin-left: 10px;
        margin-right: 10px;
        font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt;
        text-align: left; }
    .controlledVocabularyLink {
        font-family: "Trebuchet MS", "Arial", "Helvetica", sans-serif;
        font-size: 9pt; }
    .browse_buttons
    {
            float: right;
            padding: 1px;
            margin: 1px;
    }
    #browse_navigation
    {
            margin-bottom: 10px;
    }
    #browse_controls
    {
            margin-bottom: 10px;
    }
    .browse_range
    {
            margin-top: 5px;
            margin-bottom: 5px;
    }
```

SSO Configuration for the Dspace based on the following LDAP Scheme

LDAP Strucutre for the Above Koha Conf File :

Version: 1

LDIF Export for:

Generated by phpLDAPadmin (http://phpldapadmin.sourceforge.net/) on September 24, 2010 7:08 pm

Server: My LDAP Server (localhost)

Search Scope: sub

Search Filter: (objectClass=*)

Total Entries: 7

dn: dc=paliwal

objectClass: top

objectClass: dcObject

objectClass: organization

o: paliwal

dc: paliwal

dn: cn=admin,dc=paliwal

objectClass: simpleSecurityObject

objectClass: organizationalRole

cn: admin

description: LDAP administrator

userPassword: {crypt}fnoIH.7fR5/pA

dn: ou=people,dc=paliwal

objectClass: organizationalUnit

objectClass: top

ou: people

dn: cn=GauravPaliwal,ou=people,dc=paliwal

objectClass: inetOrgPerson

objectClass: posixAccount

objectClass: top

givenName: Gaurav

sn: Paliwal

uid: gpaliwal

uidNumber: 1000

gidNumber: 1000

homeDirectory: /home/users/gpaliwal

mail: gaurav@gaurav.paliwal

cn: GauravPaliwal

userPassword: gaurav

dn: cn=ppaliwal ppaliwal,ou=people,dc=paliwal

objectClass: inetOrgPerson

objectClass: posixAccount

objectClass: top

givenName: ppaliwal

sn: ppaliwal

cn: ppaliwal ppaliwal

uid: ppaliwal

uidNumber: 1001

gidNumber: 1000

homeDirectory: /home/users/ppaliwal

userPassword: ppaliwal

mail: gaurav.paliwal1989@gmail.com

dn: cn=test_project paliwal,ou=people,dc=paliwal

objectClass: inetOrgPerson

objectClass: posixAccount

objectClass: top

givenName: test_project

sn: paliwal

cn: test_project paliwal

uid: spaliwal

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userPassword: {MD5}J6rskiYkAlhMQFsqixbUnQ==

uidNumber: 1002

gidNumber: 1000

homeDirectory: /home/users/spaliwal

mail: gaurav@gaurav.paliwal

dn: cn=user,ou=people,dc=paliwal

objectClass: posixGroup

objectClass: top

cn: user

gidNumber: 1000

DSpace Configuration for the Single Sign On :

Configuration to Support SSO

```
#
# DSpace Configuration
#
# NOTE: The DSpace Configuration File is separated into several sections:
#  * General Configurations
#  * JSPUI & XMLUI Configurations
#  * JSPUI Specific Configurations
#  * XMLUI Specific Configurations
#  * OAI-PMH Specific Configurations
#  * SWORD Specific Configurations
#  * OAI Harvesting Configurations
#  * SOLR Statistics Configurations
#
#
#


#------------------------------------------------------------#
#-----------------GENERAL CONFIGURATIONS----------------------#
#------------------------------------------------------------#
# These configs are used by underlying DSpace API, and are      #
# therefore applicable to all interfaces              #
#------------------------------------------------------------#
##### Basic information ######

# DSpace installation directory
dspace.dir = /home/gaurav/Desktop/final/dspace_install
```

```
# DSpace host name - should match base URL.  Do not include port number
dspace.hostname = localhost

# DSpace base host URL.  Include port number etc.
dspace.baseUrl = http://localhost:9999

# DSpace base URL.  Include port number etc., but NOT trailing slash
# Change to xmlui if you wish to use the xmlaui as the default, or remove
# "/jspui" and set webapp of your choice as the "ROOT" webapp in
# the servlet engine.
dspace.url = ${dspace.baseUrl}/xmlui



# The base URL of the OAI webapp (do not include /request).
dspace.oai.url = ${dspace.baseUrl}/oai

# Name of the site
dspace.name = DSpace at My University

##### Database settings #####

# Database name ("oracle", or "postgres")
db.name = postgres


# URL for connecting to database
db.url = jdbc:postgresql://localhost:5432/dspacedemo

# JDBC Driver
db.driver = org.postgresql.Driver

# Database username and password
db.username = gaurav
db.password = ******

# Schema name - if your database contains multiple schemas, you can avoid problems with
# retrieving the definitions of duplicate object names by specifying
# the schema name here that is used for DSpace by uncommenting the following entry
# db.schema =

# Connection pool parameters

# Maximum number of DB connections in pool
db.maxconnections = 30

# Maximum time to wait before giving up if all connections in pool are busy (milliseconds)
db.maxwait = 5000

# Maximum number of idle connections in pool (-1 = unlimited)
db.maxidle = -1

# Determine if prepared statement should be cached. (default is true)
db.statementpool = true

# Specify a name for the connection pool (useful if you have multiple applications sharing Tomcat's dbcp)
# If not specified, defaults to 'dspacepool'
# db.poolname = dspacepool

##### Email settings ######
```

```
# SMTP mail server
mail.server=localhost

# SMTP mail server authentication username and password (if required)
# mail.server.username = myusername
# mail.server.password = mypassword

# SMTP mail server alternate port (defaults to 25)
# mail.server.port = 25

# From address for mail
mail.from.address = gaurav@gaurav.paliwal

# Currently limited to one recipient!
feedback.recipient = gaurav@gaurav.paliwal

# General site administration (Webmaster) e-mail
mail.admin = gaurav@gaurav.paliwal

# Recipient for server errors and alerts
# alert.recipient = gaurav@gaurav.paliwal

# Recipient for new user registration emails
# registration.notify = gaurav@gaurav.paliwal

# Set the default mail character set. This may be over ridden by providing a line
# inside the email template "charset: <encoding>", otherwise this default is used.
#mail.charset = UTF8

# A comma separated list of hostnames that are allowed to refer browsers to email forms.
# Default behaviour is to accept referrals only from dspace.hostname
#mail.allowed.referrers = localhost

# Pass extra settings to the Java mail library. Comma separated, equals sign between
# the key and the value.
#mail.extraproperties = mail.smtp.socketFactory.port=465, \
#                mail.smtp.socketFactory.class=javax.net.ssl.SSLSocketFactory, \
#                mail.smtp.socketFactory.fallback=false

# An option is added to disable the mailserver. By default, this property is set to false
# By setting mail.server.disabled = true, DSpace will not send out emails.
# It will instead log the subject of the email which should have been sent
# This is especially useful for development and test environments where production data is used when testing
functionality.
#mail.server.disabled = false

# Default language for metadata values
default.language = en_US


##### File Storage ######

# Asset (bitstream) store number 0 (zero)
assetstore.dir = ${dspace.dir}/assetstore

# Specify extra asset stores like this, counting from 1 upwards:
# assetstore.dir.1 = /second/assetstore
# assetstore.dir.2 = /third/assetstore
```

Specify the number of the store to use for new bitstreams with this property
The default is 0 (zero) which corresponds to the 'assetstore.dir' above
assetstore.incoming = 1

SRB File Storage

The same 'assetstore.incoming' property is used to support the use of SRB
(Storage Resource Broker - see http://www.sdsc.edu/srb/) as an _optional_
replacement of or supplement to conventional file storage. DSpace will work
with or without SRB and full backward compatibility is maintained.
#
The 'assetstore.incoming' property is an integer that references where _new_
bitstreams will be stored. The default (say the starting reference) is zero.
The value will be used to identify the storage where all new bitstreams will
be stored until this number is changed. This number is stored in the
Bitstream table (store_number column) in the DSpace database, so older
bitstreams that may have been stored when 'asset.incoming' had a different
value can be found.
#
In the simple case in which DSpace uses local (or mounted) storage the
number can refer to different directories (or partitions). This gives DSpace
some level of scalability. The number links to another set of properties
'assetstore.dir', 'assetstore.dir.1' (remember zero is default),
'assetstore.dir.2', etc., where the values are directories.
#
To support the use of SRB DSpace uses this same scheme but broadened to
support:
- using SRB instead of the local filesystem
- using the local filesystem (native DSpace)
- using a mix of SRB and local filesystem
#
In this broadened use the 'asset.incoming' integer will refer one of the
following storage locations
- a local filesystem directory (native DSpace)
- a set of SRB account parameters (host, port, zone, domain, username,
password, home directory, and resource)
#
Should the be any conflict, like '2' refering to a local directory and
to a set of SRB parameters, the program will select the local directory.
#
If SRB is chosen from the first install of DSpace, it is suggested that
'assetstore.dir' (no integer appended) be retained to reference a local
directory (as above under File Storage) because build.xml uses this value
to do a mkdir. In this case, 'assetstore.incoming' can be set to 1 (i.e.
uncomment the line in File Storage above) and the 'assetstore.dir' will not
be used.
#
Here is an example set of SRB parameters:
Assetstore 1 - SRB
#srb.host.1 = mysrbmcathost.myu.edu
#srb.port.1 = 5544
#srb.mcatzone.1 = mysrbzone
#srb.mdasdomainname.1 = mysrbdomain
#srb.defaultstorageresource.1 = mydefaultsrbresource
#srb.username.1 = mysrbuser
#srb.password.1 = mysrbpassword
#srb.homedirectory.1 = /mysrbzone/home/mysrbuser.mysrbdomain
#srb.parentdir.1 = mysrbdspaceassetstore
#

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```
# Assetstore n, n+1, ...
# Follow same pattern as for assetstores above (local or SRB)


##### Logging configuration #####
# These settings are currently NOT used by the XMLUI.
# The XMLUI writes its logs to the '[dspace-xmlui]/WEB-INF/logs/'
# in the actual XMLUI web application.

# Override default log4j configuration
# you may provide your own configuration here, existing
# alternatives are:
# log.init.config = ${dspace.dir}/config/log4j.xml
# log.init.config = ${dspace.dir}/config/log4j-console.properties

log.init.config = ${dspace.dir}/config/log4j.properties

# Where to put the logs (used in configuration only)
log.dir = ${dspace.dir}/log


##### Search settings #####

# Where to put search index files
search.dir = ${dspace.dir}/search

# Higher values of search.max-clauses will enable prefix searches to work on
# large repositories
# search.max-clauses = 2048

# Which Lucene Analyzer implementation to use.  If this is omitted or
# commented out, the standard DSpace analyzer (designed for English)
# is used by default.
# search.analyzer = org.dspace.search.DSAnalyzer

# Chinese analyzer
# search.analyzer = org.apache.lucene.analysis.cn.ChineseAnalyzer

# Boolean search operator to use, current supported values are OR and AND
# If this config item is missing or commented out, OR is used
# AND requires all search terms to be present
# OR requires one or more search terms to be present
search.operator = OR


##### Search indexing settings #####

# Maximum number of terms indexed for a single field in Lucene.
# Default is 10,000 words - often not enough for full-text indexing.
# If you change this, you'll need to re-index for the change
# to take effect on previously added items.
# -1 = unlimited (Integer.MAX_VALUE)
search.maxfieldlength = 10000


##### Fields to Index for Search #####

# DC metadata elements.qualifiers to be indexed for search
# format: - search.index.[number] = [search field]:element.qualifier
#         - * used as wildcard
```

changing these will change your search results,
but will NOT automatically change your search displays

search.index.1 = author:dc.contributor.*
search.index.2 = author:dc.creator.*
search.index.3 = title:dc.title.*
search.index.4 = keyword:dc.subject.*
search.index.5 = abstract:dc.description.abstract
search.index.6 = author:dc.description.statementofresponsibility
search.index.7 = series:dc.relation.ispartofseries
search.index.8 = abstract:dc.description.tableofcontents
search.index.9 = mime:dc.format.mimetype
search.index.10 = sponsor:dc.description.sponsorship
search.index.11 = identifier:dc.identifier.*
search.index.12 = language:dc.language.iso

Handle settings

Canonical Handle URL prefix
#
By default, DSpace is configured to use http://hdl.handle.net/
as the canonical URL prefix when generating dc.identifier.uri
during submission, and in the 'identifier' displayed in JSPUI
item record pages.
#
If you do not subscribe to CNRI's handle service, you can change this
to match the persistent URL service you use, or you can force DSpace
to use your site's URL, eg.
#handle.canonical.prefix = ${dspace.url}/handle/
#
Note that this will not alter dc.identifer.uri metadata for existing
items (only for subsequent submissions), but it will alter the URL
in JSPUI's 'identifier' message on item record pages for existing items.
#
# If omitted, the canonical URL prefix will be http://hdl.handle.net/
handle.canonical.prefix = http://hdl.handle.net/

# CNRI Handle prefix
handle.prefix = 123456789

# Directory for installing Handle server files
handle.dir = ${dspace.dir}/handle-server

Authorization system configuration - Delegate ADMIN

COMMUNITY ADMIN configuration
subcommunities and collections
#core.authorization.community-admin.create-subelement = true
#core.authorization.community-admin.delete-subelement = true
his community
#core.authorization.community-admin.policies = true
#core.authorization.community-admin.admin-group = true
collections in his community
#core.authorization.community-admin.collection.policies = true
#core.authorization.community-admin.collection.template-item = true
#core.authorization.community-admin.collection.submitters = true
#core.authorization.community-admin.collection.workflows = true

```
#core.authorization.community-admin.collection.admin-group = true
# item owned by collections in his community
#core.authorization.community-admin.item.delete = true
#core.authorization.community-admin.item.withdraw = true
#core.authorization.community-admin.item.reinstatiate = true
#core.authorization.community-admin.item.policies = true
# also bundle...
#core.authorization.community-admin.item.create-bitstream = true
#core.authorization.community-admin.item.delete-bitstream = true
#core.authorization.community-admin.item-admin.cc-license = true

# COLLECTION ADMIN
#core.authorization.collection-admin.policies = true
#core.authorization.collection-admin.template-item = true
#core.authorization.collection-admin.submitters = true
#core.authorization.collection-admin.workflows = true
#core.authorization.collection-admin.admin-group = true
# item owned by his collection
#core.authorization.collection-admin.item.delete = true
#core.authorization.collection-admin.item.withdraw = true
#core.authorization.collection-admin.item.reinstatiate = true
#core.authorization.collection-admin.item.policies = true
# also bundle...
#core.authorization.collection-admin.item.create-bitstream = true
#core.authorization.collection-admin.item.delete-bitstream = true
#core.authorization.collection-admin.item-admin.cc-license = true

# ITEM ADMIN
#core.authorization.item-admin.policies = true
# also bundle...
#core.authorization.item-admin.create-bitstream = true
#core.authorization.item-admin.delete-bitstream = true
#core.authorization.item-admin.cc-license = true

#### Stackable Authentication Methods #####

# Stack of authentication methods
#  (See org.dspace.authenticate.AuthenticationManager)
# Example:
# plugin.sequence.org.dspace.authenticate.AuthenticationMethod = \
#      org.dspace.authenticate.ShibAuthentication, \
#      org.dspace.authenticate.PasswordAuthentication
plugin.sequence.org.dspace.authenticate.AuthenticationMethod = \
     org.dspace.authenticate.PasswordAuthentication, \
   org.dspace.authenticate.LDAPAuthentication

#### Shibboleth Authentication Configuration Settings ####
# Check https://mams.melcoe.mq.edu.au/zope/mams/pubs/Installation/dspace15/view
# for installation detail.
#
# DSpace requires email as user's credential. There are 2 ways of providing
# email to DSpace:
# 1) by explicitly specifying to the user which attribute (header)
#    carries the email address.
# 2) by turning on the user-email-using-tomcat=true which means
#    the software will try to acquire the user's email from Tomcat
# The first option takes PRECEDENCE when specified. Both options can
# be enabled to allow fallback.

# this option below specifies that the email comes from the mentioned header.
```

```
# The value is CASE-Sensitive.
authentication.shib.email-header = MAIL

# optional. Specify the header that carries user's first name
# this is going to be used for creation of new-user
authentication.shib.firstname-header = SHIB-EP-GIVENNAME

# optional. Specify the header that carries user's last name
# this is used for creation of new user
authentication.shib.lastname-header = SHIB-EP-SURNAME

# this option below forces the software to acquire the email from Tomcat.
authentication.shib.email-use-tomcat-remote-user = true

# should we allow new users to be registered automtically
# if the IdP provides sufficient info (and user not exists in DSpace)
authentication.shib.autoregister = true

# these two header here specify which attribute that is responsible
# for providing user's roles to DSpace and unscope the attributes if needed.
# When not specified, it is defaulted to 'Shib-EP-UnscopedAffiliation', and
# ignore-scope is defaulted to 'false'.
# The value is specified in AAP.xml (Shib 1.3.x) or
# attribute-filter.xml (Shib 2.x). The value is CASE-Sensitive.
# The values provided in this header are separated by semi-colon or comma.
# If your sp only provides scoped role header, you need to set
# authentication.shib.role-header.ignore-Scope as true.
# for example if you only get Shib-EP-ScopedAffiliation instead of Shib-EP-ScopedAffiliation,
# you have to  make your setting as:
# authentication.shib.role-header = Shib-EP-ScopedAffiliation
# authentication.shib.role-header.ignore-scope = true

# authentication.shib.role-header = Shib-EP-UnscopedAffiliation
authentication.shib.role-header.ignore-scope = false

# when user is fully authN on IdP but would not like to release
# his/her roles to DSpace (for privacy reason?), what should be
# the default roles be given to such users?
# The values are separated by semi-colon or comma
# authentication.shib.default-roles = Staff, Walk-ins

# The following mappings specify role mapping between IdP and Dspace.
# the left side of the entry is IdP's role (prefixed with
# "authentication.shib.role.") which will be mapped to
# the right entry from DSpace. DSpace's group as indicated on the
# right entry has to EXIST in DSpace, otherwise user will be identified
# as 'anonymous'. Multiple values on the right entry should be separated
# by comma. The values are CASE-Sensitive. Heuristic one-to-one mapping
# will be done when the IdP groups entry are not listed below (i.e.
# if "X" group in IdP is not specified here, then it will be mapped
# to "X" group in DSpace if it exists, otherwise it will be mapped
# to simply 'anonymous')
#
# Given sufficient demand, future release could support regex for the mapping
# special characters need to be escaped by \
authentication.shib.role.Senior\ Researcher = Researcher, Staff
authentication.shib.role.Librarian = Administrator

#### PasswordAuthentication options ####
```

Only emails ending in the following domains are allowed to self-register
Example - example.com domain : @example.com
Example - MIT domain and all .ac.uk domains: @mit.edu, .ac.uk
authentication.password.domain.valid = example.com

Password users group

If required, a group name can be given here, and all users who log in
using the DSpace password system will automatically become members of
this group. This is useful if you want a group made up of all internal
authenticated users.
#password.login.specialgroup = group-name

Example of configuring X.509 authentication
(to use add org.dspace.authenticate.X509Authentication to auth stack above)

method 1, using keystore
#authentication.x509.keystore.path = /tomcat/conf/keystore
#authentication.x509.keystore.password = changeit

method 2, using CA certificate
#authentication.x509.ca.cert = ${dspace.dir}/config/MyClientCA.pem

Create e-persons for unknown names in valid certificates?
#authentication.x509.autoregister = true

Allow Certificate auth to show as a choice in chooser
Use Messages.properties key for title
#authentication.x509.chooser.title.key=org.dspace.eperson.X509Authentication.title
#
Identify the location of the Certificate Login Servlet.
#authentication.x509.chooser.uri=/certificate-login

Example of configuring IP-based authentication
(to use, add org.dspace.authenticate.IPAuthentication to auth stack above)
#
authentication.ip.GROUPNAME = iprange[, iprange ...]
#
Note if the Groupname contains blanks you must escape it,
e.g. Department\ of\ Statistics
#
Full, partial IPs; network/netmask; network/CIDR
#
#authentication.ip.MY_UNIVERSITY = 10.1.2.3, \
13.5, \
11.3.4.5/24, \
12.7.8.9/255.255.128.0

LDAP Authentication Configuration Settings
#
If LDAP is enabled, then new users will be able to register
by entering their username and password without being sent the
registration token. If users do not have a username and password,
then they can still register and login with just their email address
the same way they do now.
#
For providing any special privileges to LDAP users,
you will still need to extend the SiteAuthenticator class to

```
# automatically put people who have a netid into a special
# group.  You might also want to give certain email addresses
# special privileges. Refer to the DSpace documentation for more
# information about how to do this.
#
# It may be necessary to obtain the values of these settings from the
# LDAP server administrators as LDAP configuration will vary from server
# to server.

# This setting will enable or disable LDAP authentication in DSpace.
# With the setting off, users will be required to register and login with
# their email address.  With this setting on, users will be able to login
# and register with their LDAP user ids and passwords.
# This setting is only used by the JSPUI.
ldap.enable = true

# This is the url to the institution's ldap server. The /o=myu.edu
# may or may not be required depending on the LDAP server setup.
# A server may also require the ldaps:// protocol.
ldap.provider_url = ldap://localhost:389/

# This is the unique identifier field in the LDAP directory
# where the username is stored.
ldap.id_field = cn

# This is the object context used when authenticating the
# user.  It is appended to the ldap.id_field and username.
# For example uid=username,ou=people,o=myu.edu.  This must match
# the LDAP server configuration.
ldap.object_context = ou=people,dc=paliwal

# This is the search context used when looking up a user's
# LDAP object to retrieve their data for autoregistering.
# With ldap.autoregister turned on, when a user authenticates
# without an EPerson object, a search on the LDAP directory to
# get their name and email address is initiated so that DSpace
# can create a EPerson object for them.  So after we have authenticated against
# uid=username,ou=people,o=byu.edu we now search in ou=people
# for filtering on [uid=username].  Often the
# ldap.search_context is the same as the ldap.object_context
# parameter.  But again this depends on each individual LDAP server
# configuration.
ldap.search_context = ou=people,dc=paliwal

# This is the LDAP object field where the user's email address
# is stored.  "mail" is the default and the most common for
# LDAP servers.  If the mail field is not found the username
# will be used as the email address when creating the eperson
# object.
ldap.email_field = mail

# This is the LDAP object field where the user's last name is
# stored.  "sn" is the default and is the most common for LDAP
# servers.  If the field is not found the field will be left
# blank in the new eperson object.
ldap.surname_field = sn

# This is the LDAP object field where the user's given names
# are stored.  This may not be used or set in all LDAP instances.
# If the field is not found the field will be left blank in the
```

# new eperson object.
ldap.givenname_field = givenName

This is the field where the user's phone number is stored in
the LDAP directory. If the field is not found the field
will be left blank in the new eperson object.
#ldap.phone_field = telephoneNumber

LDAP AutoRegister Settings

# This will turn LDAP autoregistration on or off. With this
# on, a new EPerson object will be created for any user who
# successfully authenticates against the LDAP server when they
# first login. With this setting off, the user
# must first register to get an EPerson object by
# entering their ldap username and password and filling out
# the forms.
webui.ldap.autoregister = true

LDAP users group

If required, a group name can be given here, and all users who log in
to LDAP will automatically become members of this group. This is useful
if you want a group made up of all internal authenticated users.
#ldap.login.specialgroup = group-name

Hierarchical LDAP Settings

If your users are spread out across a hierarchical tree on your
LDAP server, you will need to use the following stackable authentication
class:
plugin.sequence.org.dspace.authenticate.AuthenticationMethod = \
org.dspace.authenticate.LDAPHierarchicalAuthentication
#
You can optionally specify the search scope. If anonymous access is not
enabled on your LDAP server, you will need to specify the full DN and
password of a user that is allowed to bind in order to search for the
users.

This is the search scope value for the LDAP search during
autoregistering. This will depend on your LDAP server setup.
This value must be one of the following integers corresponding
to the following values:
object scope : 0
one level scope : 1
subtree scope : 2
#ldap.search_scope = 2

The full DN and password of a user allowed to connect to the LDAP server
and search for the DN of the user trying to log in. If these are not specified,
the initial bind will be performed anonymously.
#ldap.search.user = cn=admin,ou=people,o=myu.edu
#ldap.search.password = password

If your LDAP server does not hold an email address for a user, you can use
the following field to specify your email domain. This value is appended
to the netid in order to make an email address. E.g. a netid of 'user' and
ldap.netid_email_domain as '@example.com' would set the email of the user

```
# to be 'user@example.com
#ldap.netid_email_domain = @example.com
```

```
#### Restricted item visibilty settings ###
# By default RSS feeds, OAI-PMH and subscription emails will include ALL items
# regardless of permissions set on them.
#
# If you wish to only expose items through these channels where the ANONYMOUS
# user is granted READ permission, then set the following options to false
#
# Warning: In large repositories, setting harvest.includerestricted.oai to false may cause
# performance problems as all items will need to have their authorization permissions checked,
# but because DSpace has not implemented resumption tokens in ListIdentifiers, ALL items will
# need checking whenever a ListIdentifers request is made.
#
#harvest.includerestricted.rss = true
#harvest.includerestricted.oai = true
#harvest.includerestricted.subscription = true
```

```
#### Proxy Settings ######
# uncomment and specify both properties if proxy server required
# proxy server for external http requests - use regular hostname without port number
#http.proxy.host =
```

```
# port number of proxy server
#http.proxy.port =
```

```
#### Media Filter / Format Filter plugins (through PluginManager) ####
# Media/Format Filters help to full-text index content or
# perform automated format conversions
```

```
#Names of the enabled MediaFilter or FormatFilter plugins
filter.plugins = PDF Text Extractor, HTML Text Extractor, \
                 Word Text Extractor, JPEG Thumbnail
# [To enable Branded Preview]: remove last line above, and uncomment 2 lines below
#                Word Text Extractor, JPEG Thumbnail, \
#                Branded Preview JPEG
```

```
#Assign 'human-understandable' names to each filter
plugin.named.org.dspace.app.mediafilter.FormatFilter = \
  org.dspace.app.mediafilter.PDFFilter = PDF Text Extractor, \
  org.dspace.app.mediafilter.HTMLFilter = HTML Text Extractor, \
  org.dspace.app.mediafilter.WordFilter = Word Text Extractor, \
  org.dspace.app.mediafilter.JPEGFilter = JPEG Thumbnail, \
  org.dspace.app.mediafilter.BrandedPreviewJPEGFilter = Branded Preview JPEG
```

```
#Configure each filter's input format(s)
filter.org.dspace.app.mediafilter.PDFFilter.inputFormats = Adobe PDF
filter.org.dspace.app.mediafilter.HTMLFilter.inputFormats = HTML, Text
filter.org.dspace.app.mediafilter.WordFilter.inputFormats = Microsoft Word
filter.org.dspace.app.mediafilter.JPEGFilter.inputFormats = BMP, GIF, JPEG, image/png
filter.org.dspace.app.mediafilter.BrandedPreviewJPEGFilter.inputFormats = BMP, GIF, JPEG, image/png
```

```
#Custom settings for PDFFilter
# If true, all PDF extractions are written to temp files as they are indexed...this
# is slower, but helps ensure that PDFBox software DSpace uses doesn't eat up
# all your memory
```

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```
#pdffilter.largepdfs = true
# If true, PDFs which still result in an Out of Memory error from PDFBox
# are skipped over...these problematic PDFs will never be indexed until
# memory usage can be decreased in the PDFBox software
#pdffilter.skiponmemoryexception = true


#### Crosswalk and Packager Plugin Settings ####

# Configure table-driven MODS dissemination crosswalk
#  (add lower-case name for OAI-PMH)
crosswalk.mods.properties.MODS = crosswalks/mods.properties
crosswalk.mods.properties.mods = crosswalks/mods.properties

# Configure XSLT-driven submission crosswalk for MODS
crosswalk.submission.MODS.stylesheet= crosswalks/mods-submission.xsl

# Configure the QDCCrosswalk dissemination plugin for Qualified DC
#  (add lower-case name for OAI-PMH)
crosswalk.qdc.namespace.QDC.dc = http://purl.org/dc/elements/1.1/
crosswalk.qdc.namespace.QDC.dcterms = http://purl.org/dc/terms/
crosswalk.qdc.schemaLocation.QDC  = \
  http://purl.org/dc/terms/ http://dublincore.org/schemas/xmls/qdc/2006/01/06/dcterms.xsd \
  http://purl.org/dc/elements/1.1/ http://dublincore.org/schemas/xmls/qdc/2006/01/06/dc.xsd
crosswalk.qdc.properties.QDC = crosswalks/QDC.properties

crosswalk.qdc.namespace.qdc.dc = http://purl.org/dc/elements/1.1/
crosswalk.qdc.namespace.qdc.dcterms = http://purl.org/dc/terms/
crosswalk.qdc.schemaLocation.qdc  = \
  http://purl.org/dc/terms/ http://dublincore.org/schemas/xmls/qdc/2006/01/06/dcterms.xsd \
  http://purl.org/dc/elements/1.1/ http://dublincore.org/schemas/xmls/qdc/2006/01/06/dc.xsd
crosswalk.qdc.properties.qdc = crosswalks/QDC.properties

# METS ingester configuration:
# map of metadata type declared in mdWrap to a crosswalk plugin name:
mets.submission.crosswalk.DC = QDC

# Option to save METS manifest in the item: (default is false)
mets.submission.preserveManifest = false

# Option to make use of collection templates when using the METS ingester (default is false)
mets.submission.useCollectionTemplate = false

# Crosswalk Plugins:
plugin.named.org.dspace.content.crosswalk.IngestionCrosswalk = \
  org.dspace.content.crosswalk.PREMISCrosswalk = PREMIS \
  org.dspace.content.crosswalk.OREIngestionCrosswalk = ore \
  org.dspace.content.crosswalk.NullIngestionCrosswalk = NIL \
  org.dspace.content.crosswalk.QDCCrosswalk = qdc \
  org.dspace.content.crosswalk.OAIDCIngestionCrosswalk = dc \
  org.dspace.content.crosswalk.DIMIngestionCrosswalk = dim

plugin.selfnamed.org.dspace.content.crosswalk.IngestionCrosswalk = \
  org.dspace.content.crosswalk.XSLTIngestionCrosswalk

plugin.named.org.dspace.content.crosswalk.DisseminationCrosswalk = \
  org.dspace.content.crosswalk.SimpleDCDisseminationCrosswalk = DC \
  org.dspace.content.crosswalk.SimpleDCDisseminationCrosswalk = dc \
  org.dspace.content.crosswalk.PREMISCrosswalk = PREMIS \
  org.dspace.content.crosswalk.METSDisseminationCrosswalk = METS \
```

```
  org.dspace.content.crosswalk.METSDisseminationCrosswalk = mets \
  org.dspace.content.crosswalk.OREDisseminationCrosswalk = ore \
  org.dspace.content.crosswalk.QDCCrosswalk = qdc \
  org.dspace.content.crosswalk.DIMDisseminationCrosswalk = dim


plugin.selfnamed.org.dspace.content.crosswalk.DisseminationCrosswalk = \
  org.dspace.content.crosswalk.MODSDisseminationCrosswalk , \
  org.dspace.content.crosswalk.XSLTDisseminationCrosswalk, \
  org.dspace.content.crosswalk.QDCCrosswalk, \
  org.dspace.content.crosswalk.XHTMLHeadDisseminationCrosswalk

# Packager Plugins:

plugin.named.org.dspace.content.packager.PackageDisseminator = \
  org.dspace.content.packager.DSpaceMETSDisseminator = METS


plugin.named.org.dspace.content.packager.PackageIngester = \
  org.dspace.content.packager.PDFPackager  = Adobe PDF, PDF, \
  org.dspace.content.packager.DSpaceMETSIngester = METS

#### Event System Configuration ####

# default synchronous dispatcher (same behavior as traditional DSpace)
event.dispatcher.default.class = org.dspace.event.BasicDispatcher
event.dispatcher.default.consumers = search, browse, eperson, harvester

# The noindex dispatcher will not create search or browse indexes (usefull for batch item imports)
event.dispatcher.noindex.class = org.dspace.event.BasicDispatcher
event.dispatcher.noindex.consumers = eperson

# consumer to maintain the search index
event.consumer.search.class = org.dspace.search.SearchConsumer
event.consumer.search.filters = Community|Collection|Item|Bundle+Add|Create|Modify|Modify_Metadata|Delete|
Remove

# consumer to maintain the browse index
event.consumer.browse.class = org.dspace.browse.BrowseConsumer
event.consumer.browse.filters = Community|Collection|Item|Bundle+Add|Create|Modify|Modify_Metadata|Delete|
Remove

# consumer related to EPerson changes
event.consumer.eperson.class = org.dspace.eperson.EPersonConsumer
event.consumer.eperson.filters = EPerson+Create

# consumer to clean up harvesting data
event.consumer.harvester.class = org.dspace.harvest.HarvestConsumer
event.consumer.harvester.filters = Item+Delete

# test consumer for debugging and monitoring
#event.consumer.test.class = org.dspace.event.TestConsumer
#event.consumer.test.filters = All+All

# ...set to true to enable testConsumer messages to standard output
#testConsumer.verbose = true

#### Embargo Settings ####
# DC metadata field to hold the user-supplied embargo terms
embargo.field.terms = SCHEMA.ELEMENT.QUALIFIER
```

# DC metadata field to hold computed "lift date" of embargo
embargo.field.lift = SCHEMA.ELEMENT.QUALIFIER

# string in terms field to indicate indefinite embargo
embargo.terms.open = forever

# implementation of embargo setter plugin - replace with local implementation if applicable
plugin.single.org.dspace.embargo.EmbargoSetter = org.dspace.embargo.DefaultEmbargoSetter

# implementation of embargo lifter plugin - - replace with local implementation if applicable
plugin.single.org.dspace.embargo.EmbargoLifter = org.dspace.embargo.DefaultEmbargoLifter

Checksum Checker Settings
# Default dispatcher in case none specified
plugin.single.org.dspace.checker.BitstreamDispatcher=org.dspace.checker.SimpleDispatcher

# check history retention
checker.retention.default=10y
checker.retention.CHECKSUM_MATCH=8w

Item export and download settings
# The directory where the exports will be done and compressed
org.dspace.app.itemexport.work.dir = ${dspace.dir}/exports

# The directory where the compressed files will reside and be read by the downloader
org.dspace.app.itemexport.download.dir = ${dspace.dir}/exports/download

# The length of time in hours each archive should live for. When new archives are
# created this entry is used to delete old ones
org.dspace.app.itemexport.life.span.hours = 48

# The maximum size in Megabytes the export should be. This is enforced before the
# compression. Each bitstream's size in each item being exported is added up, if their
# cummulative sizes are more than this entry the export is not kicked off
org.dspace.app.itemexport.max.size = 200

For backwards compatability, the subscription emails by default include any modified items
uncomment the following entry for only new items to be emailed
eperson.subscription.onlynew = true

Bulk metadata editor settings
The delimiter used to separate values within a single field (defaults to a double pipe ||)
bulkedit.valueseparator = ||

The delimiter used to serarate fields (defaults to a comma for CSV)
bulkedit.fieldseparator = ,

A hard limit of the number of items allowed to be edited in one go in the UI
(does not apply to the command line version)
bulkedit.gui-item-limit = 20

Metadata elements to exclude when exporting via the user interfaces, or when using the
command line version and not using the -a (all) option.
bulkedit.ignore-on-export = dc.date.accessioned, dc.date.available, \
dc.date.updated, dc.description.provenance

#--#

```
#-------------JSPUI & XMLUI CONFIGURATIONS--------------------#
#------------------------------------------------------------#
# These configs are used by both JSP and XML User Interfaces,   #
# except where explicitly stated otherwise.                     #
#------------------------------------------------------------#
```

Hide Item Metadata Fields
```
# Fields named here are hidden in the following places UNLESS the
# logged-in user is an Administrator:
#  1. XMLUI metadata XML view, and Item splash pages (long and short views).
#  2. JSPUI Item splash pages
#  3. OAI-PMH server, "oai_dc" format.
#      (NOTE: Other formats are _not_ affected.)
# To designate a field as hidden, add a property here in the form:
#    metadata.hide.SCHEMA.ELEMENT.QUALIFIER = true
#
# This default configuration hides the dc.description.provenance field,
# since that usually contains email addresses which ought to be kept
# private and is mainly of interest to administrators:
metadata.hide.dc.description.provenance = true
```

Settings for Submission Process

```
# Should the submit UI block submissions marked as theses?
webui.submit.blocktheses = false
```

```
# Whether or not we REQUIRE that a file be uploaded
# during the 'Upload' step in the submission process
# Defaults to true; If set to 'false', submitter has option to skip upload
#webui.submit.upload.required = true
```

Creative Commons settings
```
# Are Creative Commons licenses used in submission?
webui.submit.enable-cc = false
```

```
# Should a jurisdiction be used? If so, which one?
# See http://creativecommons.org/international/ for a list of possible codes
# (e.g. nz = New Zealand, uk = England and Wales, jp = Japan)
#webui.submit.cc-jurisdiction = nz
```

Settings for Thumbnail creation

```
# whether to display thumbnails on browse and search results pages (1.2+)
# If you have customised the Browse columnlist, then you must also
# include a 'thumbnail' column in your configuration (1.5+)
# (This configuration is not used by XMLUI.  To show thumbnails in the
#  XMLUI, you just need to create a theme which displays them)
webui.browse.thumbnail.show = false
```

```
# max dimensions of the browse/search thumbs. Must be <= thumbnail.maxwidth
# and thumbnail.maxheight. Only need to be set if required to be smaller than
# dimension of thumbnails generated by mediafilter (1.2+)
#webui.browse.thumbnail.maxheight = 80
#webui.browse.thumbnail.maxwidth = 80
```

```
# whether to display the thumb against each bitstream (1.2+)
# (This configuration is not used by XMLUI.  To show thumbnails in the
#  XMLUI, you just need to create a theme which displays them)
webui.item.thumbnail.show = true
```

```
# where should clicking on a thumbnail from browse/search take the user
# Only values currently supported are "item" and "bitstream"
#webui.browse.thumbnail.linkbehaviour = item

# maximum width and height of generated thumbnails
thumbnail.maxwidth  80
thumbnail.maxheight 80


#### Settings for Item Preview ####

webui.preview.enabled = false
# max dimensions of the preview image
webui.preview.maxwidth = 600
webui.preview.maxheight = 600
# the brand text
webui.preview.brand = My Institution Name
# an abbreviated form of the above text, this will be used
# when the preview image cannot fit the normal text
webui.preview.brand.abbrev = MyOrg
# the height of the brand
webui.preview.brand.height = 20
# font settings for the brand text
webui.preview.brand.font = SansSerif
webui.preview.brand.fontpoint = 12
#webui.preview.dc = rights


##### Settings for content count/strength information ####

# whether to display collection and community strengths
# (This configuration is not used by XMLUI.  To show strengths in the
#  XMLUI, you just need to create a theme which displays them)
webui.strengths.show = false

# if showing the strengths, should they be counted in real time or
# fetched from cache?  NOTE: To improve scaling/performance,
# the XMLUI only makes strengths available to themes if they are CACHED!
#
# Counts fetched in real time will perform an actual count of the
# database contents every time a page with this feature is requested,
# which will not scale.  If the below setting is to use the cache, you
# must run the following command periodically to update the count:
#
# [dspace]/bin/itemcounter
#
# The default is to count in real time
#
webui.strengths.cache = false


###### Browse Configuration ######
#
# Use this to configure the browse indices. Each entry will receive a link in the
# navigation. Each entry can be configured in one of two ways. The first is:
#
# webui.browse.index.<n> = <index name=""> : metadata : \
#                                    <schema prefix="">.<element>[.<qualifier>|.*] : \
#                                    (date | title | text) : (asc | desc)
```

```
#
# This form represent a unique index of metadata values from the item.
#
# (date | title | text | <other>) refers to the datatype of the field.
#               date: the index type will be treated as a date object
#               title: the index type will be treated like a title, which will include
#                      a link to the item page
#               text: the index type will be treated as plain text.  If single mode is
#                     specified then this will link to the full mode list
#        <other>: any other datatype will be treated the same as 'text', although
#               it will apply any custom ordering normalisation configured below
#
#   The final part of the configuration is optional, and specifies the default ordering
#   for the index - whether it is ASCending (the default, and best for text indexes), or
#   DESCending (useful for dates - ie. most recent submissions)
#
#   NOTE: the text to render the index will use the <index name=""> parameter to select
#   the message key from Messages.properties using a key of the form:
#
# browse.type.metadata.<index name="">
#
# The other form is for indexes of the items themselves, ie. each entry will be displayed
# according to the configuration of by webui.itemlist.columns:
#
# webui.browse.index.<n> = <index name=""> : item : <sort option="" name=""> : (asc | desc)
#
# sort option name: this is the sorting to be applied to the display. It must match the
#               name given to one of the webui.itemlist.sort-option entries given below.
#
#   The final part of the configuration is optional, and specifies the default ordering
#   for the index - whether it is ASCending (the default, and best for text indexes), or
#   DESCending (useful for dates - ie. most recent submissions)

#   NOTE: the text to render the index will use the <sort option="" name=""> parameter to select
#   the message key from Messages.properties (for JSPUI) using a key of the form:
#
# browse.type.item.<sort option="" name="">
#
# Note: the index numbers <n> must start from 1 and increment continuously by 1
# thereafter.  Deviation from this will cause an error during install or
# configuration update
#
# For compatibility with previous versions:
#
webui.browse.index.1 = dateissued:item:dateissued
webui.browse.index.2 = author:metadata:dc.contributor.*,dc.creator:text
webui.browse.index.3 = title:item:title
webui.browse.index.4 = subject:metadata:dc.subject.*:text
#webui.browse.index.5 = dateaccessioned:item:dateaccessioned

## example of authority-controlled browse category - see authority control config
#webui.browse.index.5 = lcAuthor:metadataAuthority:dc.contributor.author:authority

# Set the options for what can be sorted by
#
# Sort options will be available when browsing a list of items (i.e. an 'item' browse,
# or search results).  You can define an arbitrary number of fields
# to sort on, irrespective of which fields you display using webui.itemlist.columns
#
# the format is:
```

```
#
# webui.itemlist.sort-option.<n> =  :  \
#                                       <schema prefix="">.<element>[.<qualifier>|.*] : \
#                                       (date | text | ...) : (show | hide)
#
# This is defined much the same as above.  The parameter after the metadata
# just lets the sorter know which normalisation to use - standard normalisations are title,
# text or date - however additional normalisations can be defined using the PluginManager.
#
# The final parts of the configuration is optional -  whether to SHOW (the default) or
# HIDE the option from the sorting controls in the user interface. This can be useful if
# you need to define a specific date sort for use by the recent items lists,
# but otherwise don't want users to choose that option.
#
webui.itemlist.sort-option.1 = title:dc.title:title
webui.itemlist.sort-option.2 = dateissued:dc.date.issued:date
webui.itemlist.sort-option.3 = dateaccessioned:dc.date.accessioned:date


# By default, the display of metadata in the browse indexes is case sensitive
# So, you will get seperate entries for the terms
#
#   Olive oil
#   olive oil
#
# However, clicking through from either of these will result in the same set of items
# (ie. any item that contains either representation in the correct field).
#
# Uncommenting the option below will make the metadata items case-insensitive. This will
# result in a single entry in the example above. However the value displayed may be either 'Olive oil'
# or 'olive oil' - depending on what representation was present in the first item indexed.
#
# If you care about the display of the metadata in the browse index - well, you'll have to go and
# fix the metadata in your items.
#
# webui.browse.metadata.case-insensitive = true


# Set the options for the size (number of characters) of the fields stored in the database.
#
# The default is 0, which is unlimited size for fields holding indexed data.  Some
# database implementations (e.g. Oracle) will enforce their own limit on this field
# size. Reducing the field size will decrease the potential size of your database and
# increase the speed of the browse, but it will also increase the chance of
# mis-ordering of similar fields.  Below are commented out, but proposed values for
# reasonably performance versus result quality
#
# Size of field for the browse value (this will affect display, and value sorting)
#
# webui.browse.value_columns.max = 500


# Size of field for hidden sort columns (this will affect only sorting, not display)
#
# webui.browse.sort_columns.max = 200


# Omission mark to place after truncated strings in display.  The default is "..."
#
# webui.browse.value_columns.omission_mark = ...


# Set the options for how the indexes are sorted
#
# All sort normalisations are carried out by the OrderFormatDelegate.
```

The plugin manager can be used to specify your own delegates for each datatype.
#
The default datatypes (and delegates) are:
#
author = org.dspace.sort.OrderFormatAuthor
title = org.dspace.sort.OrderFormatTitle
text   = org.dspace.sort.OrderFormatText
#
If you redefine a default datatype here, the configuration will be used in preference
to the default, however, if you do not explicitly redefine a datatype, then the
default will still be used in addition to the datatypes you do specify.
#
As of 1.5.2, the multi-lingual MARC 21 title ordering is configured as default.
To use the previous title ordering, comment out the configuration below

plugin.named.org.dspace.sort.OrderFormatDelegate= \
        org.dspace.sort.OrderFormatTitleMarc21=title

Set the options for how authors are displayed in the browse listing

Define which field is the author/editor etc listing. This should be listed in the
field webui.itemlist.columns, otherwise it will have no effect.
This cannot be a field already marked out as a title or a date, as this
will also have no effect. This is used in conjunction with the
webui.browse.author-limit field below, to truncate author lists. For
configuring links to author publication lists use webui.browse.link below.
(This setting is not used by the XMLUI as it is controlled by your theme)
#
webui.browse.author-field = dc.contributor.*

define how many authors to display before truncating and completing with "et al"
(or language pack specific alternative)
#
Use -1 for unlimited (which is what will be used if this option
is omitted)
#
webui.browse.author-limit = 3

which fields should link to other browse listings. This should associated
the name of one of the above browse indices with a metadata field listed
in <webui.itemlist.columns> above. The form is:
#
webui.browse.link.<n> = <index name="">:<display column="" metadata="">
#
Note that cross linking will only work for fields other than title.
#
The effect this has is to create links to browse views for the item clicked on.
If it is a "single" type, it will link to a view of all the items which share
that metadata element in common (i.e. all the papers by a single author). If
it is a "full" type, it will link to a view of the standard full browse page,
starting with the value of the link clicked on.
(This setting is not used by the XMLUI, as links are controlled by your theme)
#
The default below defines the authors to link to other publications by that author
#
webui.browse.link.1 = author:dc.contributor.*

Additional configuration for Recent Submissions code

```
# the sort option name (from webui.itemlist.sort-option above) to use for
# displaying recent submissions.  (this
# is used by the Recent Submissions system and any other time based
# browse query such as FeedServlet)
#
recent.submissions.sort-option = dateaccessioned

# how many recent submissions should be displayed at any one time
recent.submissions.count = 5

# tell the community and collection pages that we are using the Recent
# Submissions code
plugin.sequence.org.dspace.plugin.CommunityHomeProcessor = \
      org.dspace.app.webui.components.RecentCommunitySubmissions

plugin.sequence.org.dspace.plugin.CollectionHomeProcessor = \
      org.dspace.app.webui.components.RecentCollectionSubmissions

#### Submission License substitution variables ####
# it is possible include contextual information in the submission license using substitution variables
# the text substitution is driven by a plugin implementation
plugin.named.org.dspace.content.license.LicenseArgumentFormatter = \
   org.dspace.content.license.SimpleDSpaceObjectLicenseFormatter = collection, \
   org.dspace.content.license.SimpleDSpaceObjectLicenseFormatter = item, \
   org.dspace.content.license.SimpleDSpaceObjectLicenseFormatter = eperson

#### Syndication Feed (RSS) Settings ######

# enable syndication feeds - links display on community and collection home pages
# (This setting is not used by XMLUI, as you enable feeds in your theme)
webui.feed.enable = true
# number of DSpace items per feed (the most recent submissions)
webui.feed.items = 4
# maximum number of feeds in memory cache
# value of 0 will disable caching
webui.feed.cache.size = 100
# number of hours to keep cached feeds before checking currency
# value of 0 will force a check with each request
webui.feed.cache.age = 48
# which syndication formats to offer
# use one or more (comma-separated) values from list:
# rss_0.90, rss_0.91, rss_0.92, rss_0.93, rss_0.94, rss_1.0, rss_2.0
webui.feed.formats = rss_1.0,rss_2.0,atom_1.0
# URLs returned by the feed will point at the global handle server (e.g. http://hdl.handle.net/123456789/1)
# Set to true to use local server URLs (i.e. http://myserver.myorg/handle/123456789/1)
webui.feed.localresolve = false

# Customize each single-value field displayed in the
# feed information for each item.  Each of
# the below fields takes a *single* metadata field
#
# The form is <schema prefix="">.<element>[.<qualifier>|.*]
webui.feed.item.title = dc.title
webui.feed.item.date = dc.date.issued

# Customise the metadata fields to show in the feed for each item's description.
# Elements will be displayed in the order that they are specified here.
#
# The form is <schema prefix="">.<element>[.<qualifier>|.*][(date)], ...
```

```
#
# Similar to the item display UI, the name of the field for display
# in the feed will be drawn from the current UI dictionary,
# using the key:
# "metadata.<field>"
#
# e.g.   "metadata.dc.title"
#        "metadata.dc.contributor.author"
#        "metadata.dc.date.issued"
webui.feed.item.description = dc.title, dc.contributor.author, \
                                    dc.contributor.editor, dc.description.abstract, \
                                    dc.description
# name of field to use for authors (Atom only) - repeatable
webui.feed.item.author = dc.contributor.author


# Customize the extra namespaced DC elements added to the item (RSS) or entry
# (Atom) element.  These let you include individual metadata values in a
# structured format for easy extraction by the recipient, instead of (or in
# addition to) appending these values to the Description field.
## dc:creator value(s)
#webui.feed.item.dc.creator = dc.contributor.author
## dc:date value (may be contradicted by webui.feed.item.date)
#webui.feed.item.dc.date = dc.date.issued
## dc:description (e.g. for a distinct field that is ONLY the abstract)
#webui.feed.item.dc.description = dc.description.abstract


# Customize the image icon included with the site-wide feeds:
# Must be an absolute URL, e.g.
## webui.feed.logo.url = ${dspace.url}/themes/mysite/images/mysite-logo.png


#### OpenSearch Settings ####
# NB: for result data formatting, OpenSearch uses Syndication Feed Settings
# so even if Syndication Feeds are not enabled, they must be configured
# enable open search
websvc.opensearch.enable = false
# context for html request URLs - change only for non-standard servlet mapping
websvc.opensearch.uicontext = simple-search
# context for RSS/Atom request URLs - change only for non-standard servlet mapping
websvc.opensearch.svccontext = open-search/
# present autodiscovery link in every page head
websvc.opensearch.autolink = true
# number of hours to retain results before recalculating
websvc.opensearch.validity = 48
# short name used in browsers for search service
# should be 16 or fewer characters
websvc.opensearch.shortname = DSpace
# longer (up to 48 characters) name
websvc.opensearch.longname = ${dspace.name}
# brief service description
websvc.opensearch.description = ${dspace.name} DSpace repository
# location of favicon for service, if any must be 16X16 pixels
websvc.opensearch.faviconurl = http://www.dspace.org/images/favicon.ico
# sample query - should return results
websvc.opensearch.samplequery = photosynthesis
# tags used to describe search service
websvc.opensearch.tags = IR DSpace
# result formats offered - use 1 or more comma-separated from: html,atom,rss
# NB: html is required for autodiscovery in browsers to function,
# and must be the first in the list if present
websvc.opensearch.formats = html,atom,rss
```

Content Inline Disposition Threshold
#
# Set the max size of a bitstream that can be served inline
# Use -1 to force all bitstream to be served inline
# The 'webui.*' setting is for the JSPUI, and
# the 'xmlui.*' setting is for the XMLUI
webui.content_disposition_threshold = 8388608
xmlui.content_disposition_threshold = 8388608

Multi-file HTML document/site settings
#
When serving up composite HTML items, how deep can the request be for us to
serve up a file with the same name?
#
e.g. if we receive a request for "foo/bar/index.html"
and we have a bitstream called just "index.html"
we will serve up that bitstream for the request if webui.html.max-depth-guess
is 2 or greater. If webui.html.max-depth-guess is 1 or less, we would not
serve that bitstream, as the depth of the file is greater.
#
If webui.html.max-depth-guess is zero, the request filename and path must
always exactly match the bitstream name. Default value is 3.
#
The 'webui.*' setting is for the JSPUI, and
the 'xmlui.*' setting is for the XMLUI
#
webui.html.max-depth-guess = 3
xmlui.html.max-depth-guess = 3

Sitemap settings
# the directory where the generated sitemaps are stored
sitemap.dir = ${dspace.dir}/sitemaps

#
Comma-separated list of search engine URLs to 'ping' when a new Sitemap has
been created. Include everything except the Sitemap URL itself (which will
be URL-encoded and appended to form the actual URL 'pinged').
#
sitemap.engineurls = http://www.google.com/webmasters/sitemaps/ping?sitemap=

Add this to the above parameter if you have an application ID with Yahoo
(Replace REPLACE_ME with your application ID)
http://search.yahooapis.com/SiteExplorerService/V1/updateNotification?appid=REPLACE_ME&url=
#
No known Sitemap 'ping' URL for MSN/Live search

Authority Control Settings

#plugin.named.org.dspace.content.authority.ChoiceAuthority = \
org.dspace.content.authority.SampleAuthority = Sample, \
org.dspace.content.authority.LCNameAuthority = LCNameAuthority, \
org.dspace.content.authority.SHERPARoMEOPublisher = SRPublisher, \
org.dspace.content.authority.SHERPARoMEOJournalTitle = SRJournalTitle

This ChoiceAuthority plugin is automatically configured with every

```
## value-pairs element in input-forms.xml, namely:
##   common_identifiers, common_types, common_iso_languages
#plugin.selfnamed.org.dspace.content.authority.ChoiceAuthority = \
# org.dspace.content.authority.DCInputAuthority

## configure LC Names plugin
#lcname.url = http://alcme.oclc.org/srw/search/lcnaf

## configure SHERPA/RoMEO authority plugin
#sherpa.romeo.url = http://www.sherpa.ac.uk/romeo/api24.php

##
## This sets the default lowest confidence level at which a metadata value is included
## in an authority-controlled browse (and search) index.  It is a symbolic
## keyword, one of the following values (listed in descending order):
##    accepted
##    uncertain
##    ambiguous
##    notfound
##    failed
##    rejected
##    novalue
##    unset
## See manual or org.dspace.content.authority.Choices source for descriptions.
authority.minconfidence = ambiguous

## demo: use LC plugin for author
#choices.plugin.dc.contributor.author =  LCNameAuthority
#choices.presentation.dc.contributor.author = lookup
#authority.controlled.dc.contributor.author = true
##
## This sets the lowest confidence level at which a metadata value is included
## in an authority-controlled browse (and search) index.  It is a symbolic
## keyword from the same set as for the default "authority.minconfidence"
#authority.minconfidence.dc.contributor.author = accepted


## Demo: publisher name lookup through SHERPA/RoMEO:
#choices.plugin.dc.publisher = SRPublisher
#choices.presentation.dc.publisher = suggest

## demo: journal title lookup, with ISSN as authority
#choices.plugin.dc.title.alternative = SRJournalTitle
#choices.presentation.dc.title.alternative = suggest
#authority.controlled.dc.title.alternative = true

## demo: use choice authority (without authority-control) to restrict dc.type on EditItemMetadata page
# choices.plugin.dc.type = common_types
# choices.presentation.dc.type = select

## demo: same idea for dc.language.iso
# choices.plugin.dc.language.iso = common_iso_languages
# choices.presentation.dc.language.iso = select

# Change number of choices shown in the select in Choices lookup popup
#xmlui.lookup.select.size = 12


#-----------------------------------------------------------#
#-------------JSPUI SPECIFIC CONFIGURATIONS-------------------#
```

E-Gov Stack for Public/Private Clouds

```
#--------------------------------------------------------------#
# These configs are only used by the JSP User Interface        #
#--------------------------------------------------------------#
```

Upload File settings

```
# Where to temporarily store uploaded files
upload.temp.dir = ${dspace.dir}/upload
```

```
# Maximum size of uploaded files in bytes, negative setting will result in no limit being set
# 512Mb
upload.max = 536870912
```

Statistical Report Configuration Settings

```
# should the stats be publicly available?  should be set to false if you only
# want administrators to access the stats, or you do not intend to generate
# any
report.public = false
```

```
# directory where live reports are stored
report.dir = ${dspace.dir}/reports/
```

Web Interface Settings

```
# whether to display the contents of the licence bundle (often just the deposit
# licence in standard DSpace installation
webui.licence_bundle.show = false
```

```
# Customise the DC metadata fields to show in the default simple item view.
#
# The form is <schema prefix="">.<element>[.<qualifier>|.*][(date)|(link)], ...
#
# For example:
#   dc.title            = Dublin Core element 'title' (unqualified)
#   dc.title.alternative   = DC element 'title', qualifier 'alternative'
#   dc.title.*          = All fields with Dublin Core element 'title'
#                       (any or no qualifier)
#   dc.identifier.uri(link) = DC identifier.uri, render as a link
#   dc.date.issued(date)   = DC date.issued, render as a date
#
# If an item has no value for a particular field, it won't be displayed.
# The name of the field for display will be drawn from the current UI
# dictionary, using the key:
#
#
```

"metadata.<style></style></qualifier></element></schema></field></qualifier></element></schema></qualifier></element></schema></display></index></n></webui.itemlist.columns></qualifier></element></schema></n></n></sort></sort></sort></index></n></index></index></other></other></qualifier></element></schema></index></n></encoding>

Benefits of the Ubuntu Enterprise Clouds (For Private Clouds)

Private clouds gives flexible power in your own IT infrastructure. With Ubuntu Enterprise Cloud, you get the benefits of cloud computing behind the security of your firewall. Deploy workloads and have them running immediately. Grow or shrink computing capacity to meet your application's needs.

Immediacy

Provides a self-service IT capability that enables new applications to be rapidly deployed whenever needed.

Elasticity

Demand for resources is met dynamically, with computing power flexing to meet users' needs swiftly and seamlessly.

Compatible technology

Ubuntu Enterprise Cloud offers the same Application Programming Interfaces (APIs) as Amazon EC2, so you can build your applications to run on both platforms.

Rapid deployment

Create your initial cloud infrastructure in minutes and grow it over time. The current cloud creation speed record stands at 25 minutes.

Security

Because data is kept behind the firewall on your company's infrastructure, fewer changes to existing governance, security and audit procedures are needed.

Optimise resources

Make the most of your existing hardware and network infrastructure by building a private cloud. You get the benefits of a cloud while maximising return on existing investments.

Trust

Uses Ubuntu's trusted, stable and lean operating system within the cloud environment.

Follow the given instructions to install the UEC [All in one Controller /*NOT RECOMMENED FOR PRODUCTION USE*/]:

STEP 1: Prerequisites
To deploy a minimal cloud infrastructure, you'll need at least two dedicated systems:

- a front end
- one or more node(s)

The following are recommendations, rather than fixed requirements. However, our experience in developing this documentation indicated the following suggestions.

Front End
Use the following table for a system that will run one or more of:

- the cloud controller (clc)
- the cluster controller (cc)
- walrus (the S3-like storage service)
- the storage controller (sc)

Hardware	Minimum	Suggested	Notes
CPU	1GHz	2 x 2GHz	for an all-in-one front end, it helps to have at least a dual core processor
Memory	2GB	4GB	the Java web front end benefits from lots of available memory
Disk	5400rpm IDE	7200rpm SATA	slower disks will work, but will yield much longer instance startup times
Disk Space	40GB	200GB	40GB is only enough space for only a single image, cache, etc., Eucalyptus does *not* like to run out of disk space
Networking	100Mbps	1000Mbps	machine images are hundreds of MB, and need to be copied over the network to nodes

Node(s)
The other system(s) are nodes, which will run:

- the node controller (nc)

These systems will actually run the instances. You will need one or more systems with:

Hardware	Minimum	Suggested	Notes
CPU	VT extensions	VT, 64-bit, Multicore	64-bit can run both i386, and amd64 instances; by default, Eucalyptus will only run 1 VM per CPU core on a Node
Memory	1GB	4GB	additional memory means more, and larger guests
Disk	5400rpm IDE	7200rpm SATA or SCSI	Eucalyptus nodes are disk-intensive; I/O wait will likely be the performance bottleneck
Disk Space	40GB	100GB	images will be cached locally, Eucalyptus does *not* like to run out of disk space
Networking	100Mbps	1000Mbps	machine images are hundreds of MB, and need to be copied over the network to nodes

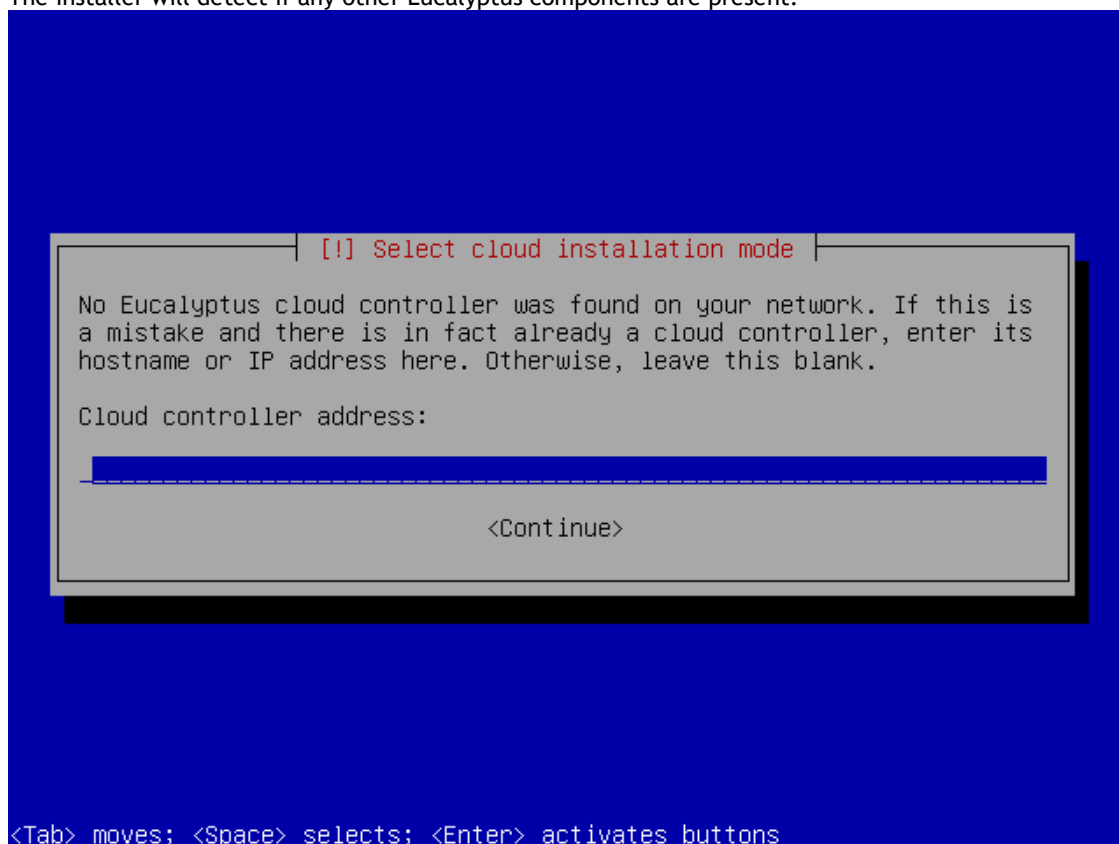STEP 2: Install the Cloud/Cluster/Storage/Walrus Front End Server
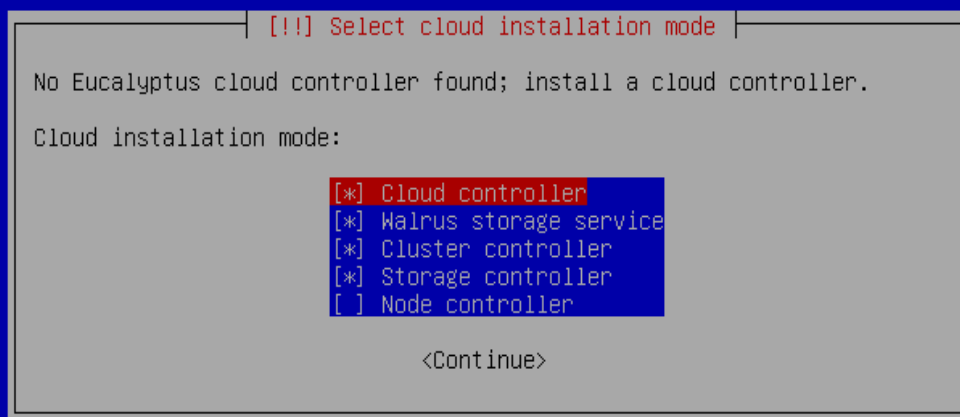1. Download the 10.04 Server ISO

2. When you boot, select "Install Ubuntu Enterprise Cloud".
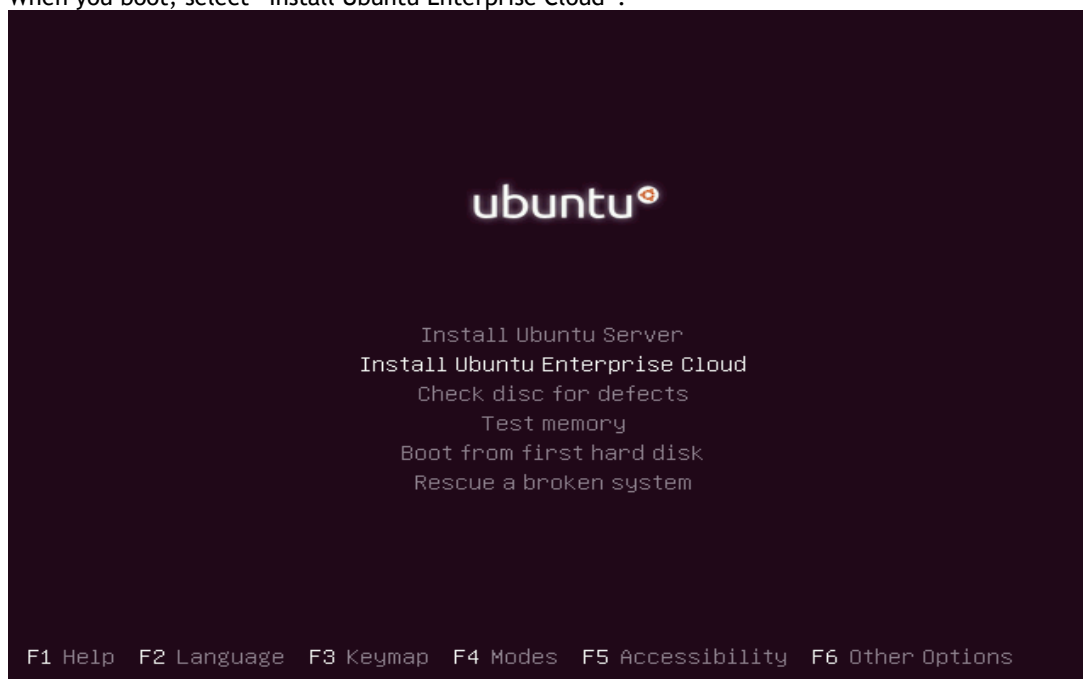
3. The installer will detect if any other Eucalyptus components are present.
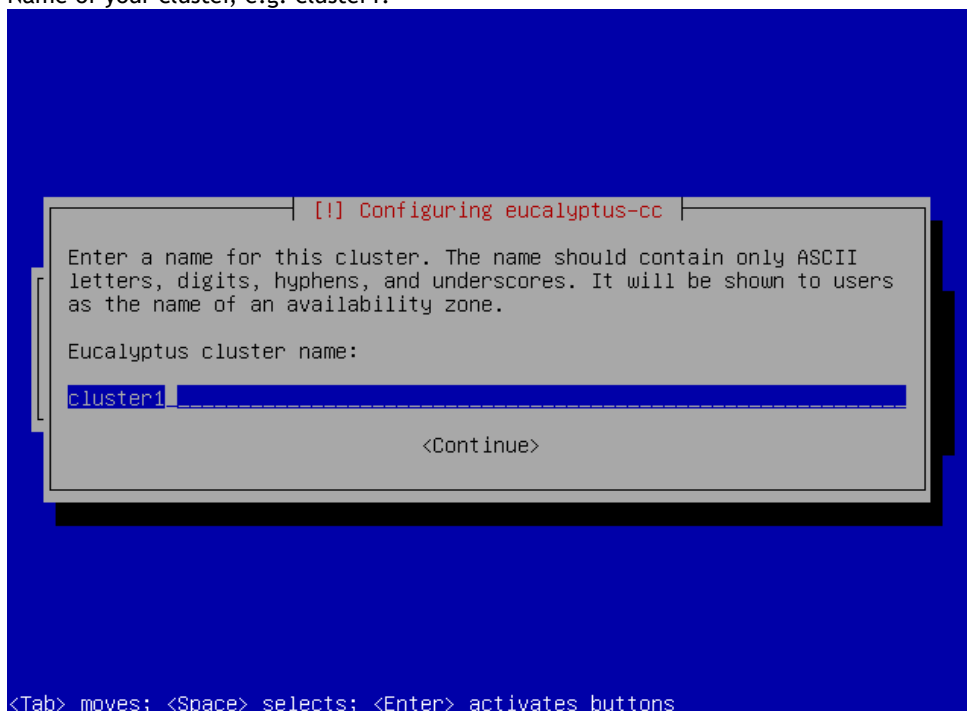
4. You can then choose which components to install, based on your chosen topology.

```
┤ [!!] Select cloud installation mode ├

No Eucalyptus cloud controller found; install a cloud controller.

Cloud installation mode:

            [*] Cloud controller
            [*] Walrus storage service
            [*] Cluster controller
            [*] Storage controller
            [ ] Node controller

                   <Continue>



<Tab> moves; <Space> selects; <Enter> activates buttons
```

5. It will ask two other cloud-specific questions during the course of the install:
   1. Name of your cluster, e.g. cluster1.

```
┤ [!] Configuring eucalyptus-cc ├

Enter a name for this cluster. The name should contain only ASCII
letters, digits, hyphens, and underscores. It will be shown to users
as the name of an availability zone.

Eucalyptus cluster name:

cluster1_____

                   <Continue>



<Tab> moves; <Space> selects; <Enter> activates buttons
```

2. A range of public IP addresses on the LAN that the cloud can allocate to instances, e.g. 192.168.1.200-192.168.1.249.

```
┌───────────────┤ [!] Configuring eucalyptus-cc ├───────────────┐
│                                                                │
│  Eucalyptus requires a pool of IP addresses that can be     ↑  │
│  dynamically assigned as the "public" IPs of virtual        ▮  │
│  machines. These IPs must be unused within their Class C       │
│  subnet, this system must have an interface configured         │
│  with an address on this subnet, and your prospective          │
│  users must be able to connect to these IPs from wherever      │
│  they run the client tools.                                    │
│                                                                │
│  Please specify one or more ranges of IP addresses, e.g.:      │
│    192.168.1.100-192.168.1.199                                 │
│  or                                                            │
│    192.168.2.50-192.168.2.99 192.168.2.150-192.168.2.199       │
│                                                                │
│                                                                │
│  You may leave this blank if you have no IP addresses          │
│  available, BUT you and your users must then request the       │
│  private addressing scheme when starting a virtual machine     │
│  instance. For ec2-run-instances and euca-run-instances,       │
│  this is done with the option "--addressing private".          ↓ │
│                                                                │
│  _____  │
│                                                                │
│                          <Continue>                            │
│                                                                │
└────────────────────────────────────────────────────────────────┘
 <Tab> moves; <Space> selects; <Enter> activates buttons
```

STEP 3: Install the Node Controller(s)

The node controller install is even simpler. Just make sure that you are connected to the network on which the cloud/cluster controller is already running.

1. Boot from the same ISO on the node(s)
2. Select "Install Ubuntu Enterprise Cloud"
3. It should detect the Cluster and preselect "Node" install for you
4. Confirm the partitioning scheme
5. The rest of the installation should proceed uninterrupted; complete the installation and reboot the node

STEP 4: Register the Node(s)

As of Ubuntu 10.04 LTS, all component registration should be automatic, assuming:

a. Public SSH keys have been exchanged properly
b. The services are configured properly
c. The services are publishing their existence
d. The appropriate uec-component-listener is running
e. Verify Registration.

Exchange Public SSH Keys

The Cloud Controller's *eucalyptus* user needs to have SSH access to the Walrus Controller, Cluster Controller, and Storage Controller as the *eucalyptus* user.

Install the Cloud Controller's eucalyptus user's public ssh key by:

•   On the target controller, temporarily set a password for the eucalyptus user:

    sudo passwd eucalyptus

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- Then, on the Cloud Controller:

  sudo -u eucalyptus ssh-copy-id -i ~eucalyptus/.ssh/id_rsa.pub eucalyptus@<IP_OF_NODE>

- You can now remove the password of the eucalyptus account on the target controller, if you wish:

- sudo passwd -d eucalyptus

b.Configure the Services

On the Cloud Controller:

- For the Cluster Controller Registration:
  - Define the shell variable CC_NAME in /etc/eucalyptus/eucalyptus-cc.conf
  - Define the shell variable CC_IP_ADDR in /etc/eucalyptus/eucalyptus-ipaddr.conf, as a space separated list of one or more IP addresses.
- For the Walrus Controller Registration:
  - Define the shell variable WALRUS_IP_ADDR in /etc/eucalyptus/eucalyptus-ipaddr.conf, as a single IP address.

On the Cluster Controller:

- For Storage Controller Registration:
  - Define the cluster name in the shell variable CC_NAME in /etc/eucalyptus/eucalyptus-cc.conf
  - Define the shell variable SC_IP_ADDR in /etc/eucalyptus/eucalyptus-ipaddr.conf, as a space separated list of one or more IP addresses.

c.Publish

Now start the publication services.

- Walrus Controller:

  sudo start eucalyptus-walrus-publication

- Cluster Controller:

  sudo start eucalyptus-cc-publication

- Storage Controller:

  sudo start eucalyptus-sc-publication

- Node Controller

  sudo start eucalyptus-nc-publication

d.Start the Listener

On the Cloud Controller and the Cluster Controller(s), run:

sudo start uec-component-listener

e.

Verify Registration
cat /var/log/eucalyptus/registration.log
2010-04-08 15:46:36-05:00 | 24243 -> Calling node cluster1 node 10.1.1.75
2010-04-08 15:46:36-05:00 | 24243 -> euca_conf --register-nodes returned 0

```
2010-04-08 15:48:47-05:00 | 25858 -> Calling walrus Walrus 10.1.1.71
2010-04-08 15:48:51-05:00 | 25858 -> euca_conf --register-walrus returned 0
2010-04-08 15:49:04-05:00 | 26237 -> Calling cluster cluster1 10.1.1.71
2010-04-08 15:49:08-05:00 | 26237 -> euca_conf --register-cluster returned 0
2010-04-08 15:49:17-05:00 | 26644 -> Calling storage cluster1 storage 10.1.1.71
2010-04-08 15:49:18-05:00 | 26644 -> euca_conf --register-sc returned 0
```

STEP 5: Obtain Credentials
After installing and booting the Cloud Controller, users of the cloud will need to retrieve their *credentials*. This can be done either through a web browser, or at the command line.

From a Web Browser
1. From your web browser (either remotely or on your Ubuntu server) access the following URL:

   ```
   https://<cloud-controller-ip-address>:8443/
   ```

   Important! You must use a secure connection, so make sure you use "https" not "http" in your URL. You will get a security certificate warning. You will have to add an exception to view the page. If you do not accept it you will not be able to view the Eucalyptus configuration page.
2. Use username 'admin' and password 'admin' for the first time login (you will be prompted to change your password).
3. Then follow the on-screen instructions to update the admin password and email address.
4. Once the first time configuration process is completed, click the 'credentials' tab located in the top-left portion of the screen.

5. Click the 'Download Credentials' button to get your certificates
6. Save them to ~/.euca

7. Unzip the downloaded zipfile into a safe location (~/.euca)

   ```
   unzip -d ~/.euca mycreds.zip
   ```

From a Command Line
1. Alternatively, if you are on the command line of the Cloud Controller, you can run:

   ```
   mkdir -p ~/.euca
   chmod 700 ~/.euca
   cd ~/.euca
   sudo euca_conf --get-credentials mycreds.zip
   unzip mycreds.zip
   ln -s ~/.euca/eucarc ~/.eucarc
   cd -
   ```

Extracting and Using Your Credentials
Now you will need to setup EC2 API and AMI tools on your server using X.509 certificates.

1. Install the required cloud user tools:

   ```
   sudo apt-get install euca2ools
   ```

2. To validate that everything is working correctly, get the local cluster availability details:

   ```
   . ~/.euca/eucarc
   euca-describe-availability-zones verbose
   AVAILABILITYZONE   myowncloud                192.168.1.1
   AVAILABILITYZONE   |- vm types               free / max   cpu   ram  disk
   AVAILABILITYZONE   |- m1.small               0004 / 0004   1    192    2
   AVAILABILITYZONE   |- c1.medium               0004 / 0004   1    256    5
   AVAILABILITYZONE   |- m1.large               0002 / 0002   2    512   10
   ```

```
AVAILABILITYZONE   |- m1.xlarge          0002 / 0002   2   1024   20
AVAILABILITYZONE   |- c1.xlarge          0001 / 0001   4   2048   20
```
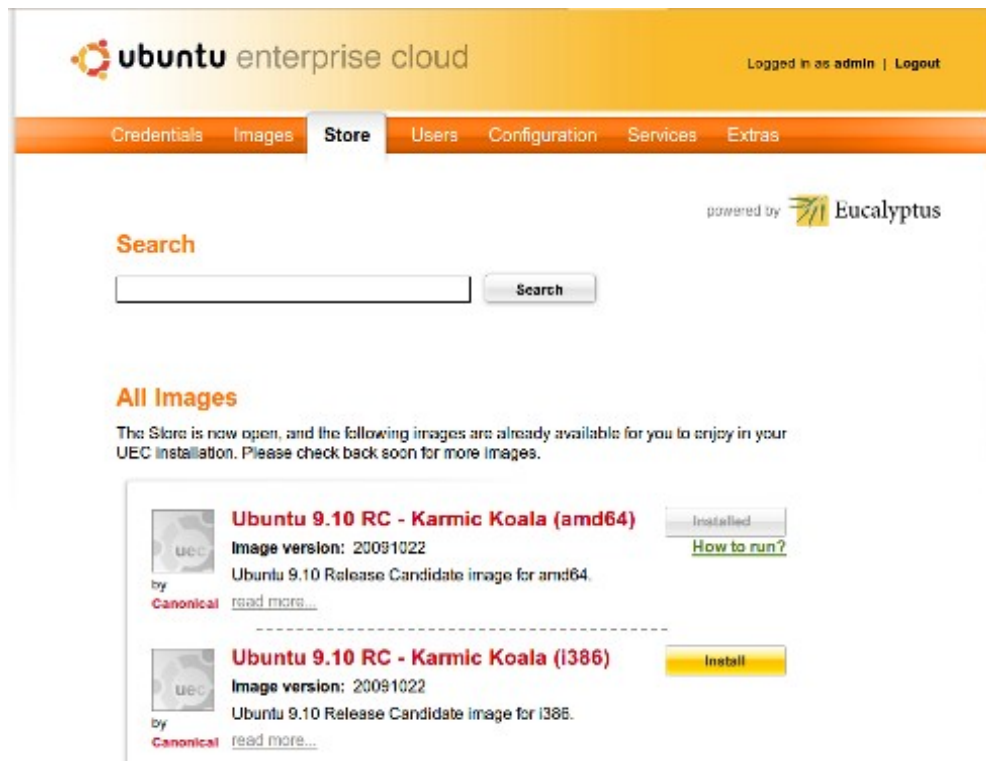
STEP 6: Install an image from the store

**The simplest way to add an image to UEC is to install it from the Image Store on the UEC web interface.**

1. Access the web interface at the following URL (Make sure you specify https):

   https://<cloud-controller-ip-address>:8443/

2. Enter your login and password (if requested, as you may still be logged in from earlier)
3. Click on the Store tab

4. Browse available images
5. Click on install for the image you want

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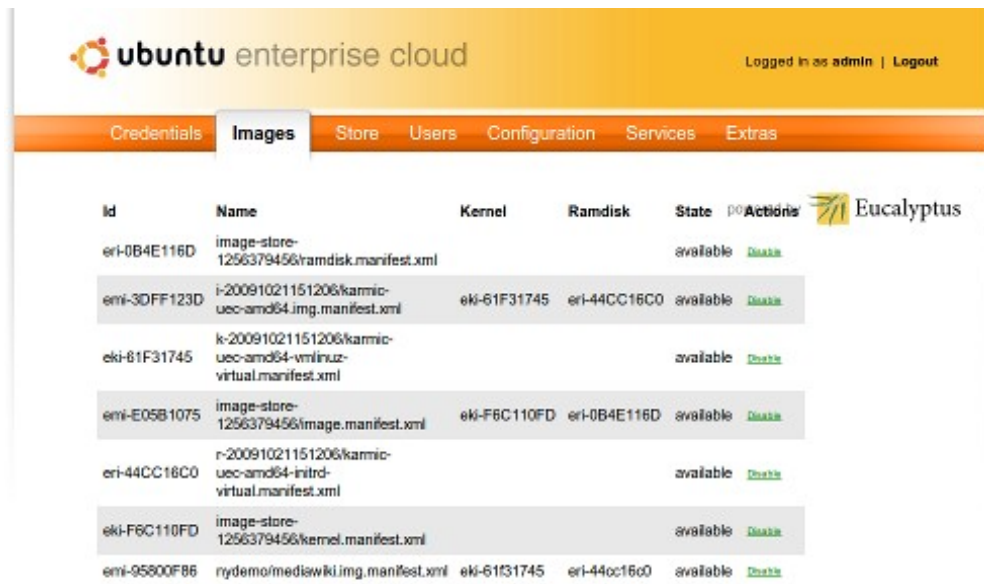
Controlling eucalyptus services:

- sudo service eucalyptus [start|stop|restart] (on the CLC/CC/SC/Walrus side)
- sudo service eucalyptus-nc [start|stop|restart] (on the Node side)

Locations of some important files:

- Log files:
    - /var/log/eucalyptus
- Configuration files:
    - /etc/eucalyptus
- Database:
    - /var/lib/eucalyptus/db
- Keys
    - /var/lib/eucalyptus
    - /var/lib/eucalyptus/.ssh

Notes:

- Don't forget to source your ~/.euca/eucarc before running the client tools.

Objective

To Deploy UEC on complex system having following services :

- 1 Cloud Controller (CLC - eucalyptus-cloud) server
- 1 Walrus Controller (WS3 - eucalyptus-walrus) server
- N Cluster Controller (CC - eucalyptus-cc) + Storage Controller (EBS - eucalyptus-sc) servers
- N Node Controller (NC - eucalyptus-nc) servers on a dedicated network connected to on of the CC+EBS server

STEP 1: Prerequisites
To deploy a minimal cloud infrastructure, you'll need at least 4 dedicated systems:

- 1 CLC
- 1 WS3
- 1 CC + EBS
- 1 NC

The following are recommendations, rather than fixed requirements. However, our experience in developing this documentation indicated the following suggestions.

Cloud Controller (CLC)

Hardware	Minimum	Suggested	Notes
CPU	1GHz	2 x 2GHz	For your cloud to scale it helps to have at least a dual core processor
Memory	512MB	2GB	the Java web front end benefits from lots of available memory
Disk	5400rpm IDE	5400rpm SATA	
Disk Space	40GB	40GB	
Networking	100Mbps	1000Mbps	Cloud controller may be subject to heavy traffic on a busy cloud setup

Walrus Controller (WS3)

Hardware	Minimum	Suggested	Notes
CPU	1GHz	2 x 2GHz	For your cloud to scale it helps to have at least a dual core processor
Memory	512MB	2GB	File serving benefits from the presence of memory for caching
Disk	5400rpm IDE	10000rpm SATA	File serving benefits from fast disk access
Disk Space	40GB	1TB	Disk space will condition image storage as well as user data
Networking	100Mbps	1000Mbps	Walrus may be subject to heavy traffic on a busy cloud setup and image needs to be copied over the network to NC at startup: faster network will mean faster initial instanciation time

Cluster + Storage Controllers (CC + EBS)

Hardware	Minimum	Suggested	Notes
CPU	1GHz	2 x 2GHz	For your cloud to scale it helps to have at least a dual core processor
Memory	512MB	2GB	Block storage serving benefits from the presence of memory for caching
Disk	5400rpm IDE	10000rpm SATA	Block storage serving benefits from fast disk access
Disk Space	40GB	1TB	Disk space will condition block stora capacity
2 Network interfaces	100Mbps	1000Mbps	Cluster will be subject to heavy traffic on a busy cloud setup as it will act as a router for all instances started on NC it Controls and will provide block storage (if needed) to them

Node(s) (NC)
The other system(s) are nodes, which will run the node controller (NC)

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These systems will actually run the instances. You will need one or more systems with:

Hardware	Minimum	Suggested	Notes
CPU	VT extensions	VT, 64-bit, Multicore	64-bit can run both i386, and amd64 instances; by default, Eucalyptus will only run 1 VM per CPU core on a Node
Memory	1GB	4GB	additional memory means more, and larger guests
Disk	5400rpm IDE	7200rpm SATA or SCSI	Eucalyptus nodes are disk-intensive; I/O wait will likely be the performance bottleneck
Disk Space	40GB	100GB	images will be cached locally, Eucalyptus does *not* like to run out of disk space
Networking	100Mbps	1000Mbps	machine images are hundreds of MB, and need to be copied over the network to nodes

STEP 2a: Install the Cloud Controller Server
1. Install Ubuntu 10.04 Server

2. Update to the most current state in the Ubuntu archive:

   sudo apt-get update
   sudo apt-get dist-upgrade

3. Update the time on your server using ntpdate

   sudo ntpdate ntp.ubuntu.com

4. Install the following supporting packages on the server

   sudo apt-get install euca2ools openssh-server ntp

1. Install the eucalyptus-cloud package on the server

   sudo apt-get install eucalyptus-cloud

   Answer debconf's questions as follow:
   • Configure postfix for internet delivery

2. Make sure process eucalyptus-cloud is running

   ps -ef | grep eucalyptus-cloud

STEP 2b: Install the Cluster Controller Server(s)
1. Install Ubuntu 10.04 Server

2. Update to the most current state in the Ubuntu archive:

   sudo apt-get update
   sudo apt-get dist-upgrade

3. Update the time on your server using ntpdate

   sudo ntpdate ntp.ubuntu.com

4. Install the following supporting packages on the server

   sudo apt-get install euca2ools openssh-server ntp

1. Install the eucalyptus-cc and eucalyptus-sc packages on the server

   sudo apt-get install eucalyptus-cc eucalyptus-sc

   Answer debconf's questions as follow:

- Configure postfix for internet delivery
- Name your cluster
  - e.g. cluster1
- Add a list of available IP addresses on your external (public) network
  - e.g. 192.168.1.200-192.168.1.249

2. Configure the second network interface

```
sudo apt-get install bridge-utils vtun
interface=eth1
bridge=br1
sudo sed -i "s/^iface $interface inet \(.*\)$/iface $interface inet manual\n\nauto $bridge\niface $bridge inet \
1/" /etc/network/interfaces
sudo tee -a /etc/network/interfaces <<EOF
    bridge_ports $interface
    bridge_fd 9
    bridge_hello 2
    bridge_maxage 12
    bridge_stp off
EOF
sudo /etc/init.d/networking restart
```

3. Edit /etc/eucalyptus/eucalyptus.conf so that

- br1 is the internal (private) interface and the bridge interface
- eth0 the external (public) interface
- you provide the correct address of the cloud controller (CLC) that you just installed in place of <CLC_ipaddress>

by editing the following 3 variables, the third one (VNET_CLOUDIP) needing to be added manually:

```
VNET_PUBINTERFACE="eth0"
VNET_PRIVINTERFACE="br1"
VNET_CLOUDIP="<CLC_ipaddress>"
```

4. Edit /etc/eucalyptus/eucalyptus-ipaddr.conf so that the following variable are set to the internal (private) ip address of the server

```
CC_IP_ADDR="<CC_ipaddress>"
SC_IP_ADDR="<CC_ipaddress>"
```

5. Restart the service with a config reinitialisation

```
sudo restart eucalyptus-cc CLEAN=1
sudo restart eucalyptus-sc
```

6. Make sure processes eucalyptus-cc and eucalyptus-sc are running

```
ps -ef | grep eucalyptus-
```

STEP 2c: Install the Walrus Controller Server
1. Install Ubuntu 10.04 Server

2. Update to the most current state in the Ubuntu archive:

```
sudo apt-get update
sudo apt-get dist-upgrade
```

3. Update the time on your server using ntpdate

```
sudo ntpdate ntp.ubuntu.com
```

4. Install the following supporting packages on the server

```
sudo apt-get install euca2ools openssh-server ntp
```

1. Install the eucalyptus-walrus package on the server

```
sudo apt-get install eucalyptus-walrus
```

STEP 3: Install and Configure the Node Controller(s)
Installing the Eucalyptus Node Service on a running Ubuntu system consists of doing the following on one or more systems:

1. Install Ubuntu 10.04 Server

2. Update to the most current state in the Ubuntu archive:

```
sudo apt-get update
sudo apt-get dist-upgrade
```

3. Update the time on your server using ntpdate

```
sudo ntpdate ntp.ubuntu.com
```

4. Install the following supporting packages on the server

```
sudo apt-get install euca2ools openssh-server ntp
```

1. Install the eucalyptus-nc package

```
sudo apt-get install eucalyptus-nc
```

2. Configure the system's primary ethernet interface as a bridge. The node controller will attach virtual network interfaces to this bridge for VM that is started before it to enable network connectivity.
   - Note: Remember the name of your node's bridge device (we assume the name of your bridge device is "br0" for the rest of this document).
   -
   - The following script should configure your bridge correctly in most setups:

```
interface=eth0
bridge=br0
sudo sed -i "s/^iface $interface inet \(.*\)$/iface $interface inet manual\n\nauto br0\niface $bridge inet \1/" /etc/network/interfaces
sudo tee -a /etc/network/interfaces <<EOF
        bridge_ports $interface
        bridge_fd 9
        bridge_hello 2
        bridge_maxage 12
        bridge_stp off
EOF
sudo /etc/init.d/networking restart
```

3. Configure /etc/eucalyptus/eucalyptus.conf with the name of the bridge, and restart the node controller:

```
sudo sed -i "s/^VNET_BRIDGE=.*$/VNET_BRIDGE=$bridge/" /etc/eucalyptus/eucalyptus.conf
sudo /etc/init.d/eucalyptus-nc restart
```

   - Note that there are several ways to configure a node to have a bridge as its primary interface, depending on the configuration of your machine. We show an example set of steps *here* but you will need to take care to ensure that this example configuration does not conflict with your local configuration if you wish to use it.

4. Finally, you need to install the Cluster Controller's eucalyptus user's public ssh key into the Node Controller's eucalyptus user's authorized_keys file. The easiest way to do this:

- On the Node Controller, temporarily set a password for the eucalyptus user:

  sudo passwd eucalyptus

- Then, on the Cluster Controller:

  sudo -u eucalyptus ssh-copy-id -i ~eucalyptus/.ssh/id_rsa.pub eucalyptus@<IP_OF_NODE>

- You can now remove the password of the eucalyptus account on the Node:

  sudo passwd -d eucalyptus

STEP 4: Register the Cluster, Storage, and Walrus Servers
The cloud controller must be aware the storage (SC, WS3) and of the clusters controllers, so you will need to allow password-less authentication between the CLC and the other server and then register them.

SSH Key Authentication Setup
An essential step is to enable password less authentication for the eucalyptus user on all the controllers.

Repeat the following operation for each walrus (WS3) and cluster (CC) controller servers:

1. On the target (CC or WS3) Controller, temporarily set a password for the eucalyptus user:

   sudo passwd eucalyptus

2. Then, on the Cloud Controller (CLC):

   sudo -u eucalyptus ssh-copy-id -i ~eucalyptus/.ssh/id_rsa.pub eucalyptus@<IP_OF_TARGET>

3. You can now remove the password of the eucalyptus account on the target:

   sudo passwd -d eucalyptus

Registration
To register the controllers on the CLC:

1. Register the WS3 server:

   sudo euca_conf --no-rsync --register-walrus <WS3_ipaddresss>

2. Then for each of your CC:

   sudo euca_conf --no-rsync --register-cluster <CC_name> <CC_ipaddress>
   sudo euca_conf --no-rsync --register-sc <CC_name> <CC_ipaddress>

3. Then edit the /etc/eucalyptus/eucalyptus-ipaddr.conf to fill the 3 following variables appropriately with the ip address of the respective service, replacing the "$addr" value. If you have multiple CC and SC, you can specify multiple IP addresses separating them with a space.

   CC_IP_ADDR="$addr"
   WALRUS_IP_ADDR="$addr"
   SC_IP_ADDR="$addr"

4. Finally restart the eucalyptus service on the CLC

   sudo service eucalyptus restart

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Verify Registration
Verify that the registration process was successful by running the following commands

- sudo euca_conf --list-walruses
  sudo euca_conf --list-scs
  sudo euca_conf --list-clusters

STEP 5: Register the Node(s)

As of Ubuntu 10.04 LTS, all component registration should be automatic, assuming:

a. Public SSH keys have been exchanged properly
b. The services are configured properly
c. The services are publishing their existence
d. The appropriate uec-component-listener is running
e. Verify Registration.

Exchange Public SSH Keys
The Cloud Controller's *eucalyptus* user needs to have SSH access to the Walrus Controller, Cluster Controller, and Storage Controller as the *eucalyptus* user.

Install the Cloud Controller's eucalyptus user's public ssh key by:

- On the target controller, temporarily set a password for the eucalyptus user:

  sudo passwd eucalyptus

- Then, on the Cloud Controller:

  sudo -u eucalyptus ssh-copy-id -i ~eucalyptus/.ssh/id_rsa.pub eucalyptus@<IP_OF_NODE>

- You can now remove the password of the eucalyptus account on the target controller, if you wish:

- sudo passwd -d eucalyptus

b.Configure the Services

On the Cloud Controller:

- For the Cluster Controller Registration:

  - Define the shell variable CC_NAME in /etc/eucalyptus/eucalyptus-cc.conf

  - Define the shell variable CC_IP_ADDR in /etc/eucalyptus/eucalyptus-ipaddr.conf, as a space separated list of one or more IP addresses.

- For the Walrus Controller Registration:

  - Define the shell variable WALRUS_IP_ADDR in /etc/eucalyptus/eucalyptus-ipaddr.conf, as a single IP address.

On the Cluster Controller:

- For Storage Controller Registration:

  - Define the cluster name in the shell variable CC_NAME in /etc/eucalyptus/eucalyptus-cc.conf

  - Define the shell variable SC_IP_ADDR in /etc/eucalyptus/eucalyptus-ipaddr.conf, as a space separated list of one or more IP addresses.

c.Publish

Now start the publication services.

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- Walrus Controller:

  sudo start eucalyptus-walrus-publication

- Cluster Controller:

  sudo start eucalyptus-cc-publication

- Storage Controller:

  sudo start eucalyptus-sc-publication

- Node Controller

  sudo start eucalyptus-nc-publication

d.Start the Listener

On the Cloud Controller and the Cluster Controller(s), run:

sudo start uec-component-listener

e.

Verify Registration
cat /var/log/eucalyptus/registration.log
2010-04-08 15:46:36-05:00 | 24243 -> Calling node cluster1 node 10.1.1.75
2010-04-08 15:46:36-05:00 | 24243 -> euca_conf --register-nodes returned 0
2010-04-08 15:48:47-05:00 | 25858 -> Calling walrus Walrus 10.1.1.71
2010-04-08 15:48:51-05:00 | 25858 -> euca_conf --register-walrus returned 0
2010-04-08 15:49:04-05:00 | 26237 -> Calling cluster cluster1 10.1.1.71
2010-04-08 15:49:08-05:00 | 26237 -> euca_conf --register-cluster returned 0
2010-04-08 15:49:17-05:00 | 26644 -> Calling storage cluster1 storage 10.1.1.71
2010-04-08 15:49:18-05:00 | 26644 -> euca_conf --register-sc returned 0

STEP 6: Obtain Credentials
After installing and booting the Cloud Controller, users of the cloud will need to retrieve their *credentials*. This can be done either through a web browser, or at the command line.
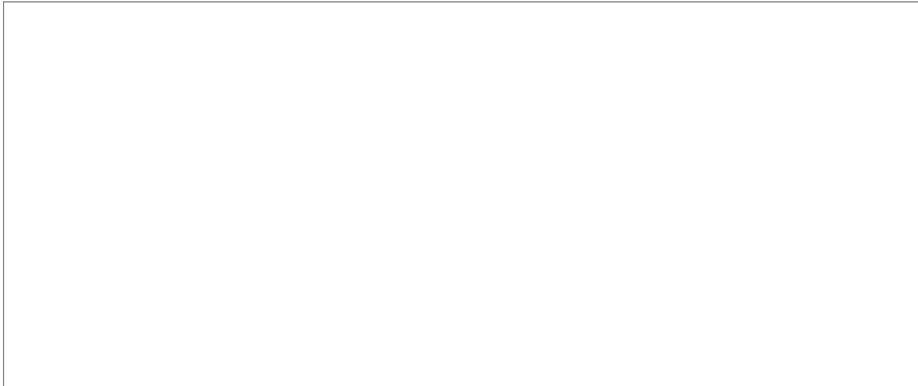
From a Web Browser
1. From your web browser (either remotely or on your Ubuntu server) access the following URL:

   https://<cloud-controller-ip-address>:8443/

   Important! You must use a secure connection, so make sure you use "https" not "http" in your URL. You will get a security certificate warning. You will have to add an exception to view the page. If you do not accept it you will not be able to view the Eucalyptus configuration page.
2. Use username 'admin' and password 'admin' for the first time login (you will be prompted to change your password).
3. Then follow the on-screen instructions to update the admin password and email address.

4. Once the first time configuration process is completed, click the 'credentials' tab located in the top-left portion of the screen.

```
┌─────────────────────────────────────────────────────────┐
│                                                         │
│                                                         │
│                                                         │
│                                                         │
│                                                         │
│                                                         │
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│                                                         │
│                                                         │
│                                                         │
│                                                         │
│                                                         │
│                                                         │
└─────────────────────────────────────────────────────────┘
```

5. Click the 'Download Credentials' button to get your certificates
6. Save them to ~/.euca

7. Unzip the downloaded zipfile into a safe location (~/.euca)

```
unzip -d ~/.euca mycreds.zip
```

From a Command Line
1. Alternatively, if you are on the command line of the Cloud Controller, you can run:

```
mkdir -p ~/.euca
chmod 700 ~/.euca
cd ~/.euca
sudo euca_conf --get-credentials mycreds.zip
unzip mycreds.zip
ln -s ~/.euca/eucarc ~/.eucarc
cd -
```

Extracting and Using Your Credentials
Now you will need to setup EC2 API and AMI tools on your server using X.509 certificates.

1. Install the required cloud user tools:

```
sudo apt-get install euca2ools
```

2. To validate that everything is working correctly, get the local cluster availability details:

```
. ~/.euca/eucarc
euca-describe-availability-zones verbose
AVAILABILITYZONE   myowncloud           192.168.1.1
AVAILABILITYZONE   |- vm types          free / max   cpu   ram  disk
AVAILABILITYZONE   |- m1.small          0004 / 0004   1    192    2
AVAILABILITYZONE   |- c1.medium          0004 / 0004   1    256    5
AVAILABILITYZONE   |- m1.large          0002 / 0002   2    512   10
AVAILABILITYZONE   |- m1.xlarge          0002 / 0002   2   1024   20
AVAILABILITYZONE   |- c1.xlarge         0001 / 0001   4   2048   20
```

STEP 7: Install an image from the store
The following is by far the simplest way to install an image.

The simplest way to add an image to UEC is to install it from the Image Store on the UEC web interface.

1. Access the web interface at the following URL (Make sure you specify https):

```
https://<cloud-controller-ip-address>:8443/
```

2. Enter your login and password (if requested, as you may still be logged in from earlier)
3. Click on the Store tab

4. Browse available images
5. Click on install for the image you want

Once the image has been downloaded and installed, you can click on "How to run?" that will be displayed below the image button to view the command to execute to instantiate (start) this image. The image will also appear on the list given on the Image tab.

*

E-Gov Stack for Public/Private Clouds
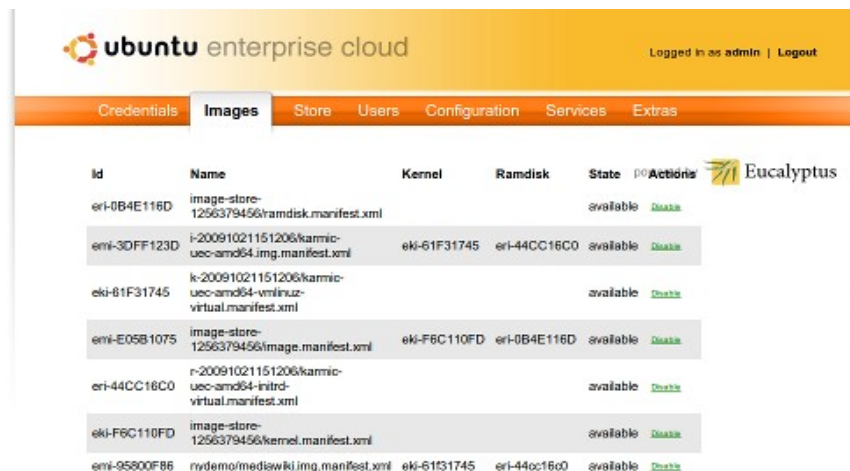
There are multiple ways to instantiate an image in UEC:

- Use the command line
- Use one of the UEC compatible management tools such as Landscape
- Use the Elastic Fox extension to Firefox

Command Line :

1. Before running an instance of your image, you should first create a keypair (ssh key) that you can use to log into your instance as root, once it boots. The key is stored, so you will only have to do this once. Run the following command:

```
if [ ! -e ~/.euca/mykey.priv ]; then
    mkdir -p -m 700 ~/.euca
    touch ~/.euca/mykey.priv
    chmod 0600 ~/.euca/mykey.priv
    euca-add-keypair mykey > ~/.euca/mykey.priv
fi
```

Note: You can call your key whatever you like (in this example, the key is called 'mykey'), but remember what it is called. If you forget, you can always run euca-describe-keypairs to get a list of created keys stored in the system.

2. You must also allow access to port 22 in your instances:

```
euca-authorize default -P tcp -p 22 -s 0.0.0.0/0
```

3. Next, you can create instances of your registered image:

```
euca-run-instances $EMI -k mykey -t m1.small
```

Note: If you receive an error regarding image_id, you may find it by viewing Images page or click "How to Run" on the Store page to see the sample command.

4. The first time you run an instance, the system will be setting up caches for the image from which it will be created. This can often take some time the first time an instance is run given that VM images are usually quite large. To monitor the state of your instance, run:

```
watch -n5 euca-describe-instances
```

In the output, you should see information about the instance, including its state. While first-time caching is being performed, the instance's state will be 'pending'.

5. When the instance is fully started, the above state will become 'running'. Look at the IP address assigned to your instance in the output, then connect to it:

```
IPADDR=$(euca-describe-instances | grep $EMI | grep running | tail -n1 | awk '{print $4}')
ssh -i ~/.euca/mykey.priv ubuntu@$IPADDR
```

6. And when you are done with this instance, exit your SSH connection, then terminate your instance:

```
INSTANCEID=$(euca-describe-instances | grep $EMI | grep running | tail -n1 | awk '{print $2}')
euca-terminate-instances $INSTANCEID
```

E-Gov Stack for Public/Private Clouds

<u>**Using Canonocals Landscape**</u>

1.Add applications
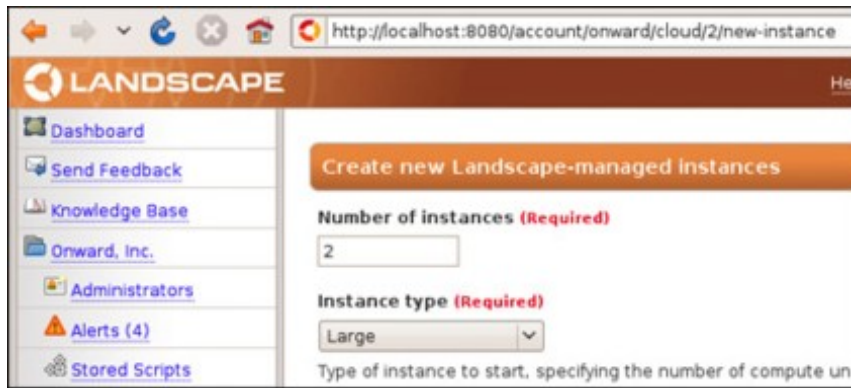Use the image store on UEC to select the machine image you need.

2. Manage

Use your selected tool to choose and start your machine instances.
You will also use this tool to manage your instances in future.

3. Customize

Access your instances to set up the applications you want to provide on your cloud from any location.

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E-Gov Stack for Public/Private Clouds

<u>Installation of the Applications over the Clouds</u>

For Apache based Application's over the Clouds

1. For the deployment of the customized Application including Apache based Application a.k.a

      Content management System
      Integrated Library Management System
      Collaboration Suite
      Blog Engine

2.Upload the files named other_apache.tar.gz and extract it.

3.Go into the extracted Directory

4.Run the following script to Automate the deployment and give the information as and when asked the installer script.

>> apache_suite_egov.sh

Source Code for the automation is following :

<u>Apache Based Suite Deploy</u>

```
#!/bin/sh
#This script will run in the bourne shell

close=no  ;
#Variable to check when to exit the loop

echo "Checking the current location of the folder"
set `pwd`
#check the current location of the siurce code.

echo "Checking the Username logged In"
set `whoami`
#Check which user is currently logged in

#create the menu

while [  "$close"  =  "no" ]
do
echo "Please check back that you have already executed the bare_minimum.sh" ;
echo "What do you want to do :" ;
echo "1. Get the corporate blog for the Department Up." ;
echo "2. Get the Content management System [Portal] for the Department Up." ;
echo "3. Get the Collaboration Suit Up." ;
echo "4. Get the Virtual learning Environment Up." ;
echo "5. Exit the Installation Menu"
echo "Please select the options : " ;

read option ;
#option variable stores the value of currently selected variable

echo $option ;
if [ "$option" = "5" ]
then
```

```
close=yes ;
exit
#exit the shell script
fi


if [ "$option" = "1" ]
then

tar -xvf blog.tar.gz ;
#extract the compressed file

apache_home_expect="/var/www" ;
#default apache home

echo "Please Enter the location i.e if it is not /var/www" ;
#if the apache home is different from /var/www then it will be stored here.

read apache_home ;
#copy the folder to the specified location

if  [ "$apache_home" = "" ]
then
cp -fr blog $apache_home_expect/blog ;
else
cp -fr blog $apache_home/blog ;
fi
fi


if [ "$option" = "2" ]
then
tar -xvf portal_egov.tar.gz ;
#extract the compressed file

apache_home_expect="/var/www" ;
#default apache home

echo "Please Enter the location i.e if it is not /var/www" ;
#if the apache home is different from /var/www then it will be stored here.

read apache_home ;
#copy the folder to the specified location

if  [ "$apache_home" = "" ]
then
cp -fr blog $apache_home_expect/portal_egov ;
else
cp -fr blog $apache_home/portal_egov ;
fi
fi


if [ "$option" = "3" ]
then
tar -xvf collaboration_suite.tar.gz ;
#extract the compressed file

apache_home_expect="/var/www" ;
#default apache home
```

```
echo "Please Enter the location i.e if it is not /var/www" ;
#if the apache home is different from /var/www then it will be stored here.

read apache_home ;
#copy the folder to the specified location

if  [ "$apache_home" = "" ]
then
cp -fr blog $apache_home_expect/collaboration_suite ;
else
cp -fr blog $apache_home/collaboration_suite ;
fi
fi


if [ "$option" = "4" ]
then
tar -xvf virtual_learning_environment.tar.gz ;
#extract the compressed file

apache_home_expect="/var/www" ;
#default apache home

echo "Please Enter the location i.e if it is not /var/www" ;
#if the apache home is different from /var/www then it will be stored here.

read apache_home ;
#copy the folder to the specified location

if  [ "$apache_home" = "" ]
then
cp -fr blog $apache_home_expect/virtual_learning_environment ;
else
cp -fr blog $apache_home/virtual_learning_environment ;
fi
fi

done
```

E-Gov Stack for Public/Private Clouds

For Research Paper Repository automatic Deployment over the Clouds

1.This script will do the step by step installation of the Research Repository for the Government Institutes where Academic Research is being conducted.

2.Upload the file dspace_final.tar.gz and extract it.

3.Change the directory to the extracted directory .

4.Now run the following script and follow the instruction as and when required .

>> install_dspace.sh

Source code for the script is following :

Bash Script or automated Installation of the DSpace integrated with the Centralized Authentication Service

```
#!/bin/sh
#This script is intended to be run on the bourne shell in the Linux Environment (Preferable Deb Based Linux
Distribution)
# This is a comment!

touch dspace_log ;

set `pwd`

#all logs for research Repository Installation are logged here.

echo "=======Log for Apache Maven Inflation start here========"  | tee -a $1/dspace_log ;
echo | tee -a $1/dspace_log  ;

tar -xvf apache-maven-2.2.1.tar.gz | tee -a $1/dspace_log  ;
#Extract the Apache maven tool setup into the existing directory under the same Directory.Apache Maven is a software
project management and comprehension tool. Based on the concept of a project object model (POM), Maven can
manage a project's build, reporting and documentation from a central piece of information.This is used for
compilation and Installation management of the DSpace "The Resaerch repository ."

#Discription of the flags are as follow
# -x : Extract file from the archieve
# -v : Verbously , i.e. Interactively list all the files that are extracted
# -f : Tell the file name.
echo "=======Log for Apache Maven Inflation ends here========"  | tee -a $1/dspace_log ;
echo | tee -a $1/dspace_log  ;




echo "=======Log for DSpace Inflation start here========"  | tee -a $1/dspace_log ;
echo | tee -a $1/dspace_log  ;
tar -xvf  dspace-1.6.1-src-release.tar.gz | tee -a $1/dspace_log  ;

#Extract the Dspace source code in the working directory within the Directory named : dspace-[version]-src-release

# Discription of the flags are as follow
# -x : Extract file from the archieve
# -v : Verbously , i.e. Interactively list all the files that are extracted
# -f : Tell the file name.
echo "=======Log for DSpace Inflation ends here========"  | tee -a $1/dspace_log ;
```

```
echo | tee -a $1/dspace_log ;


echo "=======Log for Apache Tomcat start here=======" | tee -a $1/dspace_log ;
echo | tee -a $1/dspace_log ;
tar -xvf  apache-tomcat-6.0.26.tar.gz    | tee -a $1/dspace_log ;

#Apache Tomcat is an open source software implementation of the Java Servlet and JavaServer Pages technologies.
The Java Servlet and JavaServer Pages specifications are developed under the Java Community Process.

# Discription of the flags are as follow
# -x : Extract file from the archieve
# -v : Verbously , i.e. Interactively list all the files that are extracted
# -f : Tell the file name.
echo "=======Log for Apache Tomcat ends here=======" | tee -a $1/dspace_log ;
echo | tee -a $1/dspace_log ;


echo "=======Log for Apache Ant Start here=======" | tee -a $1/dspace_log ;
echo | tee -a $1/dspace_log ;
tar -xvf apache-ant-1.8.1.tar.gz | tee -a $1/dspace_log ;

#Ant is a Java library and command-line tool. Ant's mission is to drive processes described in build files as targets and
extension points dependent upon each other. The main known usage of Ant is the build of Java applications.

echo "=======Log for Apache Tomcat ends here=======" | tee -a $1/dspace_log ;
echo | tee -a $1/dspace_log ;

echo "Do the General Configurations of the DSpace [Press enter to continue]" ;
echo "1.JSPUI & XMLUI Configurations" ;
echo "2.JSPUI Specific Configurations" ;
echo "3.XMLUI Specific Configurations" ;
echo "4.OAI-PMH Specific Configurations" ;
echo "5.SWORD Specific Configurations" ;
echo "6.OAI Harvesting Configurations" ;
echo "7.SOLR Statistics Configurations" ;


#wget http://www.java.net/download/jdk7/binaries/jdk-7-ea-bin-b109-linux-i586-09_sep_2010.bin ;
#chmod +x jdk-7-ea-bin-b109-linux-i586-09_sep_2010.bin ;
#jdk-7-ea-bin-b109-linux-i586-09_sep_2010.bin ;
#echo "Please Export Java_Home variable and add it to the System or tell us the place of Java Install we will do that
for you , Apache service will do all these things while starting"
#read java_home ;
#echo JAVA_HOME=$java_home | tee -a /etc/init.d/apache2 ;

echo "Use the following as te target Directory"

read garbage ;
#Wait for the user input.

#This will output the path where the dspace will be installed , for default script to work please use the following as
Dspace home in the Dspace.cfg file.

set `pwd`

echo $1/dspace_install/  ;
#This will tell the actual path where the dspace installatiion has to be done.

read garbage ;
```

#Wait for the user input.

vim dspace-1.6.1-src-release/dspace/config/dspace.cfg ;

cd dspace-1.6.1-src-release/dspace ;
#This will tell the path where to install the Dspace

../../apache-maven-2.2.1/bin/mvn package | tee -a $1/dspace_log ;
#This will run the Maven tool which will built the project for you , and download the third party API's

cd ../../
#Move to the parent Directory

cd dspace-1.6.1-src-release/dspace/target/dspace-1.6.1-build.dir
This directory will be created after running the Maven.

../../../../apache-ant-1.8.1/bin/ant fresh_install | tee -a $1/dspace_log
#Now run the Ant Script which will do the fresh install fo the system i.e DSpace .

cd ../../../../
#Again Move to the Parent Directory

cp -fr dspace_install/webapps/* apache-tomcat-6.0.26/webapps | tee -a $1/dspace_log
#This will copy all the websbased files to the tomcat webapps home.

read garbage ;
#Wait for the user input.

chmod +x apache-tomcat-6.0.26/bin/* | tee -a $1/dspace_log
#change the file permission so that these files can execute.

read garbage ;
#Wait for the user input.

apache-tomcat-6.0.26/bin/startup.sh | tee -a $1/dspace_log
#this will satrt the apache now go to http://[server addresses] : port number /jspui

$1/apache-tomcat-6.0.26/bin/startup.sh | tee -a /etc/init.d/apache2 ;
#This will add the entry to start the apache tomcat each time the apache is started.

#These are some utilities which will be run first time when you install the Dspace.
dspace_install/bin/checker | tee -a $1/dspace_log
dspace_install/bin/cleanup| tee -a $1/dspace_log
dspace_install/bin/log-reporter| tee -a $1/dspace_log
dspace_install/bin/stat-initial | tee -a $1/dspace_log
dspace_install/bin/stat-report-initial | tee -a $1/dspace_log
dspace_install/bin/index-init | tee -a $1/dspace_log
dspace_install/bin/create-administrator | tee -a $1/dspace_log

Integrated Library management Software Deployment over the Clouds

1. This will Install the integrated Library Management Software based on koha having Single Sign On Integrated into it for better manageability and usability .

2. Upload the file named koha_install.tar.gz and extract it.

3. Change the directory to the folder that is being generated after the unzipping of the file.

4. Follow the instruction as and when required by the installer script.

Source Code for the scripts is following :

Koha Automated Customized Installation

```
#!/bin/sh
#This script will run in the bourne shell

echo   "Edit your /etc/apt/sources.list file and add the following:"
echo   "# Index Data"
echo   "deb http://ftp.indexdata.dk/debian lenny main"
echo   "deb-src http://ftp.indexdata.dk/debian lenny main"

read garbage ;

echo   "The Index Data packages are signed with a key you can install as follows:"
echo   "$ wget http://ftp.indexdata.dk/debian/indexdata.asc"
echo   "$ sudo apt-key add indexdata.asc"

read garbage ;

sudo dpkg --set-selections < koha-3.00.06/install_misc/debian-lenny.packages

sudo apt-get install dselect

sudo dselect

sudo cpan Algorithm::CheckDigits SMS::Send HTTP::OAI Text::CSV::Encoded

cd koha-3.00.06/

misc/sax_parser_print.pl

read garbage ;

echo   "You should see something like::"
echo   "XML::LibXML::SAX::Parser=HASH(0x81fe220)"
echo   "If you're using PurePerl or Expat, you'll need to edit your  ini file, typically located at:
/etc/perl/XML/SAX/ParserDetails.ini"

read garbage ;

perl Makefile.PL
make
make test
sudo make install
```

```
read garbage ;

echo "Add the following lines to /etc/apache2/ports.conf:"
echo  "Listen 80"
echo  "Listen 8080"

read garbage ;
cd ..

sudo ln -s /etc/koha/koha-httpd.conf  /etc/apache2/sites-available/koha

sudo a2enmod rewrite

sudo a2ensite koha

sudo apache2ctl restart
```

E-Tendering Apps

1.As we all know that tendering system is one of the main and most important procedure of each and every government office.

2.This e-tendering apps acts as a main backbone for transferring the tendering process from an off-line and tedious task to a online , more friendly , less time consuming and easy task.

3.The users in the government office can directly log into the system and release the tenders filling the form.

4.Those want to bid for the document first of all need to register with the government agency.

5.Once they are registered they can login into the system and apply for the tender of their choice

6.They need to submit the bid document in encrypted form i.e. password protected to protect it from any intrusion.

7.When the bid is opened the documents can be opened anytime by the responsible authority

Technology Used

1.As the e-tendering apps has a lot of traffic generated so , it is advisable to go for non /*PHP*/ based solution .

2.The best available and high performing solution is Django which is a High Performance python framework.

3.MySQL database will be used for doing the same.

4.This will also be readily runnable on any EC2 compliment client.

Schema for the e-Tendering Apps

```
- ------------------------------------------------------------------
- -- Host: localhost
- -- Generation Time: Oct 09, 2010 at 02:21 PM


SET SQL_MODE="NO_AUTO_VALUE_ON_ZERO";


- -- --------------------------------------------------------

- --
- -- Table structure for table `auth_group`
- --

CREATE TABLE IF NOT EXISTS `auth_group` (
 `id` int(11) NOT NULL auto_increment,
 `name` varchar(80) NOT NULL,
 PRIMARY KEY  (`id`),
 UNIQUE KEY `name` (`name`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1 AUTO_INCREMENT=1 ;

- --
- -- Dumping data for table `auth_group`
- --


- -- --------------------------------------------------------
```

- --
- -- Table structure for table `auth_group_permissions`
- --

```
CREATE TABLE IF NOT EXISTS `auth_group_permissions` (
 `id` int(11) NOT NULL auto_increment,
 `group_id` int(11) NOT NULL,
 `permission_id` int(11) NOT NULL,
 PRIMARY KEY  (`id`),
 UNIQUE KEY `group_id` (`group_id`,`permission_id`),
 KEY `permission_id_refs_id_5886d21f` (`permission_id`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1 AUTO_INCREMENT=1 ;
```

- --
- -- Dumping data for table `auth_group_permissions`
- --

- -- --

- --
- -- Table structure for table `auth_message`
- --

```
CREATE TABLE IF NOT EXISTS `auth_message` (
 `id` int(11) NOT NULL auto_increment,
 `user_id` int(11) NOT NULL,
 `message` longtext NOT NULL,
 PRIMARY KEY  (`id`),
 KEY `auth_message_user_id` (`user_id`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1 AUTO_INCREMENT=1 ;
```

- --
- -- Dumping data for table `auth_message`
- --

- -- --

- --
- -- Table structure for table `auth_permission`
- --

```
CREATE TABLE IF NOT EXISTS `auth_permission` (
 `id` int(11) NOT NULL auto_increment,
 `name` varchar(50) NOT NULL,
 `content_type_id` int(11) NOT NULL,
 `codename` varchar(100) NOT NULL,
 PRIMARY KEY  (`id`),
 UNIQUE KEY `content_type_id` (`content_type_id`,`codename`),
 KEY `auth_permission_content_type_id` (`content_type_id`)
) ENGINE=MyISAM  DEFAULT CHARSET=latin1 AUTO_INCREMENT=31 ;
```

- --
- -- Dumping data for table `auth_permission`
- --

```
INSERT INTO `auth_permission` (`id`, `name`, `content_type_id`,
`codename`) VALUES
(1, 'Can add permission', 1, 'add_permission'),
```

```
(2, 'Can change permission', 1, 'change_permission'),
(3, 'Can delete permission', 1, 'delete_permission'),
(4, 'Can add group', 2, 'add_group'),
(5, 'Can change group', 2, 'change_group'),
(6, 'Can delete group', 2, 'delete_group'),
(7, 'Can add user', 3, 'add_user'),
(8, 'Can change user', 3, 'change_user'),
(9, 'Can delete user', 3, 'delete_user'),
(10, 'Can add message', 4, 'add_message'),
(11, 'Can change message', 4, 'change_message'),
(12, 'Can delete message', 4, 'delete_message'),
(13, 'Can add content type', 5, 'add_contenttype'),
(14, 'Can change content type', 5, 'change_contenttype'),
(15, 'Can delete content type', 5, 'delete_contenttype'),
(16, 'Can add session', 6, 'add_session'),
(17, 'Can change session', 6, 'change_session'),
(18, 'Can delete session', 6, 'delete_session'),
(19, 'Can add site', 7, 'add_site'),
(20, 'Can change site', 7, 'change_site'),
(21, 'Can delete site', 7, 'delete_site'),
(22, 'Can add tender', 8, 'add_tender'),
(23, 'Can change tender', 8, 'change_tender'),
(24, 'Can delete tender', 8, 'delete_tender'),
(25, 'Can add tenderapply', 9, 'add_tenderapply'),
(26, 'Can change tenderapply', 9, 'change_tenderapply'),
(27, 'Can delete tenderapply', 9, 'delete_tenderapply'),
(28, 'Can add log entry', 10, 'add_logentry'),
(29, 'Can change log entry', 10, 'change_logentry'),
(30, 'Can delete log entry', 10, 'delete_logentry');

- -- --------------------------------------------------------


- --
- -- Table structure for table `auth_user`
- --

CREATE TABLE IF NOT EXISTS `auth_user` (
 `id` int(11) NOT NULL auto_increment,
 `username` varchar(30) NOT NULL,
 `first_name` varchar(30) NOT NULL,
 `last_name` varchar(30) NOT NULL,
 `email` varchar(75) NOT NULL,
 `password` varchar(128) NOT NULL,
 `is_staff` tinyint(1) NOT NULL,
 `is_active` tinyint(1) NOT NULL,
 `is_superuser` tinyint(1) NOT NULL,
 `last_login` datetime NOT NULL,
 `date_joined` datetime NOT NULL,
 PRIMARY KEY (`id`),
 UNIQUE KEY `username` (`username`)
) ENGINE=MyISAM  DEFAULT CHARSET=latin1 AUTO_INCREMENT=2 ;


- --
- -- Dumping data for table `auth_user`
- --

INSERT INTO `auth_user` (`id`, `username`, `first_name`, `last_name`,
`email`, `password`, `is_staff`, `is_active`, `is_superuser`,
`last_login`, `date_joined`) VALUES
(1, 'gaurav', '', '', 'gaurav.paliwal1989@gmail.com',
```

'sha1$ef0f3$7c3a0e6af2f1ad72205c73d74a17bd3ef20d09bb', 1, 1, 1,
'2010-10-09 14:20:51', '2010-10-09 14:20:26');

- -- ---

- --
- -- Table structure for table `auth_user_groups`
- --

CREATE TABLE IF NOT EXISTS `auth_user_groups` (
 `id` int(11) NOT NULL auto_increment,
 `user_id` int(11) NOT NULL,
 `group_id` int(11) NOT NULL,
 PRIMARY KEY (`id`),
 UNIQUE KEY `user_id` (`user_id`,`group_id`),
 KEY `group_id_refs_id_f116770` (`group_id`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1 AUTO_INCREMENT=1 ;

- --
- -- Dumping data for table `auth_user_groups`
- --

- -- ---

- --
- -- Table structure for table `auth_user_user_permissions`
- --

CREATE TABLE IF NOT EXISTS `auth_user_user_permissions` (
 `id` int(11) NOT NULL auto_increment,
 `user_id` int(11) NOT NULL,
 `permission_id` int(11) NOT NULL,
 PRIMARY KEY (`id`),
 UNIQUE KEY `user_id` (`user_id`,`permission_id`),
 KEY `permission_id_refs_id_67e79cb` (`permission_id`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1 AUTO_INCREMENT=1 ;

- --
- -- Dumping data for table `auth_user_user_permissions`
- --

- -- ---

- --
- -- Table structure for table `django_admin_log`
- --

CREATE TABLE IF NOT EXISTS `django_admin_log` (
 `id` int(11) NOT NULL auto_increment,
 `action_time` datetime NOT NULL,
 `user_id` int(11) NOT NULL,
 `content_type_id` int(11) default NULL,
 `object_id` longtext,
 `object_repr` varchar(200) NOT NULL,
 `action_flag` smallint(5) unsigned NOT NULL,
 `change_message` longtext NOT NULL,
 PRIMARY KEY (`id`),
 KEY `django_admin_log_user_id` (`user_id`),

```
 KEY `django_admin_log_content_type_id` (`content_type_id`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1 AUTO_INCREMENT=1 ;
```

- --
- -- Dumping data for table `django_admin_log`
- --

- -- --

- --
- -- Table structure for table `django_content_type`
- --

```
CREATE TABLE IF NOT EXISTS `django_content_type` (
 `id` int(11) NOT NULL auto_increment,
 `name` varchar(100) NOT NULL,
 `app_label` varchar(100) NOT NULL,
 `model` varchar(100) NOT NULL,
 PRIMARY KEY (`id`),
 UNIQUE KEY `app_label` (`app_label`,`model`)
) ENGINE=MyISAM  DEFAULT CHARSET=latin1 AUTO_INCREMENT=11 ;
```

- --
- -- Dumping data for table `django_content_type`
- --

```
INSERT INTO `django_content_type` (`id`, `name`, `app_label`, `model`)
VALUES
(1, 'permission', 'auth', 'permission'),
(2, 'group', 'auth', 'group'),
(3, 'user', 'auth', 'user'),
(4, 'message', 'auth', 'message'),
(5, 'content type', 'contenttypes', 'contenttype'),
(6, 'session', 'sessions', 'session'),
(7, 'site', 'sites', 'site'),
(8, 'tender', 'etenders', 'tender'),
(9, 'tenderapply', 'etenders', 'tenderapply'),
(10, 'log entry', 'admin', 'logentry');
```

- -- --

- --
- -- Table structure for table `django_session`
- --

```
CREATE TABLE IF NOT EXISTS `django_session` (
 `session_key` varchar(40) NOT NULL,
 `session_data` longtext NOT NULL,
 `expire_date` datetime NOT NULL,
 PRIMARY KEY (`session_key`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1;
```

- --
- -- Dumping data for table `django_session`
- --

```
INSERT INTO `django_session` (`session_key`, `session_data`,
`expire_date`) VALUES
('0a79b7d135a7cdb6a2ee5d7af2d318fa',
```

'gAJ9cQEoVRJfYXV0aF91c2VyX2JhY2tlbmRRxAlUpZGphbmdvLmNvbnRyaWIuYXV0aC5iYWNrZW5k\ncy5Nb2RlbEJhY2tlbnRxA1U
NX2F1dGhfdXNlcl9pZHEEigEBdS5lODUzMDllY2I1OTM2OGNlMTZi\nZGYzZWM0YjRmOTg5MQ==\n',
'2010-10-23 14:20:51');

- -- --

- --
- -- Table structure for table `django_site`
- --

CREATE TABLE IF NOT EXISTS `django_site` (
  `id` int(11) NOT NULL auto_increment,
  `domain` varchar(100) NOT NULL,
  `name` varchar(50) NOT NULL,
  PRIMARY KEY (`id`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1 AUTO_INCREMENT=2 ;

- --
- -- Dumping data for table `django_site`
- --

INSERT INTO `django_site` (`id`, `domain`, `name`) VALUES
(1, 'example.com', 'example.com');

- -- --

- --
- -- Table structure for table `etenders_tender`
- --

CREATE TABLE IF NOT EXISTS `etenders_tender` (
  `id` int(11) NOT NULL auto_increment,
  `tenderno` varchar(50) NOT NULL,
  `department` varchar(50) NOT NULL,
  `pub_date` datetime NOT NULL,
  PRIMARY KEY (`id`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1 AUTO_INCREMENT=1 ;

- --
- -- Dumping data for table `etenders_tender`
- --

- -- --

- --
- -- Table structure for table `etenders_tenderapply`
- --

CREATE TABLE IF NOT EXISTS `etenders_tenderapply` (
  `id` int(11) NOT NULL auto_increment,
  `tender_id` int(11) NOT NULL,
  `company` varchar(50) NOT NULL,
  `company_website` varchar(50) NOT NULL,
  `person_name` varchar(50) NOT NULL,
  `email_id` varchar(50) NOT NULL,
  `encrypted_document_url` varchar(50) NOT NULL,
  PRIMARY KEY (`id`),
  KEY `etenders_tenderapply_tender_id` (`tender_id`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1 AUTO_INCREMENT=1 ;

- --
- -- Dumping data for table `etenders_tenderapply`
- --

<u>Main Application Core (Django e-Tender 2.0 Application)</u>

#manage.py

```
#!/usr/bin/python
from django.core.management import execute_manager
try:
    import settings # Assumed to be in the same directory.
except ImportError:
    import sys
    sys.stderr.write("Error: Can't find the file 'settings.py' in the directory containing %r. It appears you've customized things.\nYou'll have to run django-admin.py, passing it your settings module.\n(If the file settings.py does indeed exist, it's causing an ImportError somehow.)\n" % __file__)
    sys.exit(1)

if __name__ == "__main__":
    execute_manager(settings)
```

```
#setting.py
# Django settings for gaurav project.

DEBUG = True
TEMPLATE_DEBUG = DEBUG

ADMINS = (
    # ('Your Name', 'your_email@domain.com'),
)

MANAGERS = ADMINS

DATABASE_ENGINE = 'mysql'         # 'postgresql_psycopg2', 'postgresql', 'mysql', 'sqlite3' or 'oracle'.
DATABASE_NAME = 'django'          # Or path to database file if using sqlite3.
DATABASE_USER = 'root'         # Not used with sqlite3.
DATABASE_PASSWORD = 'gaurav'        # Not used with sqlite3.
DATABASE_HOST = ''            # Set to empty string for localhost. Not used with sqlite3.
DATABASE_PORT = ''            # Set to empty string for default. Not used with sqlite3.

# Local time zone for this installation. Choices can be found here:
# http://en.wikipedia.org/wiki/List_of_tz_zones_by_name
# although not all choices may be available on all operating systems.
# If running in a Windows environment this must be set to the same as your
# system time zone.
TIME_ZONE = 'Asia/Kolkata'

# Language code for this installation. All choices can be found here:
# http://www.i18nguy.com/unicode/language-identifiers.html
LANGUAGE_CODE = 'en-us'

SITE_ID = 1

# If you set this to False, Django will make some optimizations so as not
# to load the internationalization machinery.
USE_I18N = True
```

```
# Absolute path to the directory that holds media.
# Example: "/home/media/media.lawrence.com/"
MEDIA_ROOT = ''

# URL that handles the media served from MEDIA_ROOT. Make sure to use a
# trailing slash if there is a path component (optional in other cases).
# Examples: "http://media.lawrence.com", "http://example.com/media/"
MEDIA_URL = ''

# URL prefix for admin media -- CSS, JavaScript and images. Make sure to use a
# trailing slash.
# Examples: "http://foo.com/media/", "/media/".
ADMIN_MEDIA_PREFIX = '/media/'

# Make this unique, and don't share it with anybody.
SECRET_KEY = '620sxldn8c2@4ol^@6vf4u#*2)z9aa274@$o1tqaq_jmivaf3_'

# List of callables that know how to import templates from various sources.
TEMPLATE_LOADERS = (
    'django.template.loaders.filesystem.load_template_source',
    'django.template.loaders.app_directories.load_template_source',
#    'django.template.loaders.eggs.load_template_source',
)

MIDDLEWARE_CLASSES = (
    'django.middleware.common.CommonMiddleware',
    'django.contrib.sessions.middleware.SessionMiddleware',
    'django.contrib.auth.middleware.AuthenticationMiddleware',
)

ROOT_URLCONF = 'gaurav.urls'

TEMPLATE_DIRS = (
    # Put strings here, like "/home/html/django_templates" or "C:/www/django/templates".
    # Always use forward slashes, even on Windows.
    # Don't forget to use absolute paths, not relative paths.
)

INSTALLED_APPS = (
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.sites',
    'gaurav.etenders',
    'django.contrib.admin',
)

#urls.py
from django.conf.urls.defaults import *

# Uncomment the next two lines to enable the admin:
from django.contrib import admin
admin.autodiscover()

urlpatterns = patterns('',
    # Example:
    # (r'^gaurav/', include('gaurav.foo.urls')),

    # Uncomment the admin/doc line below and add 'django.contrib.admindocs'
```

```
    # to INSTALLED_APPS to enable admin documentation:
    # (r'^admin/doc/', include('django.contrib.admindocs.urls')),

    # Uncomment the next line to enable the admin:
    (r'^admin/(.*)', admin.site.root),
)
```

Main Application Apps (Django e-Tender 2.0 Application)

```python
from django.contrib import admin
from gaurav.etenders.models import tender
from gaurav.etenders.models import tenderapply

class tenderapplyinline(admin.TabularInline):
    model = tenderapply
     extra = 0

class tenderadmin(admin.ModelAdmin):
    list_filter = ['pub_date' , 'department']
    search_fields = ['tenderno' , 'department']
    inlines = [tenderapplyinline]
    list_display = ('tenderno' , 'department' ,'pub_date')

admin.site.register(tender, tenderadmin)


class tenderapplyadmin(admin.ModelAdmin):
    list_display = ('tender' , 'company' ,'company_website' , 'person_name' , 'email_id' , 'encrypted_document_url')
    list_filter = [ 'company' ,'company_website' , 'person_name' , 'email_id']
    search_fields =[ 'company' ,'company_website' , 'person_name' , 'email_id' ]
admin.site.register(tenderapply , tenderapplyadmin)

from django.contrib import admin
from gaurav.etenders.models import tender
from gaurav.etenders.models import tenderapply

class tenderapplyinline(admin.TabularInline):
    model = tenderapply
    extra = 0

class tenderadmin(admin.ModelAdmin):
    list_filter = ['pub_date' , 'department']
    search_fields = ['tenderno' , 'department']
    inlines = [tenderapplyinline]
    list_display = ('tenderno' , 'department' ,'pub_date')

admin.site.register(tender, tenderadmin)


class tenderapplyadmin(admin.ModelAdmin):
    list_display = ('tender' , 'company' ,'company_website' , 'person_name' , 'email_id' , 'encrypted_document_url')
    list_filter = [ 'company' ,'company_website' , 'person_name' , 'email_id']
    search_fields =[ 'tender' , 'company' ,'company_website' , 'person_name' , 'email_id' ]
admin.site.register(tenderapply , tenderapplyadmin)

from django.db import models

class tender(models.Model):
    tenderno = models.CharField(max_length=50)
    department = models.CharField(max_length=50)
```

```python
    pub_date = models.DateTimeField('date published')
    def __unicode__(self):
        return self.tenderno

class tenderapply(models.Model):
    tender = models.ForeignKey(tender)
    company = models.CharField(max_length=50)
    company_website = models.CharField(max_length=50)
    person_name = models.CharField(max_length=50)
    email_id = models.CharField(max_length=50)
    encrypted_document_url = models.CharField(max_length=50)
    def __unicode__(self):
        return self.company

# Create your models here.
from django.db import models

class tender(models.Model):
    tenderno = models.CharField(max_length=50)
    department = models.CharField(max_length=50)
    pub_date = models.DateTimeField('date published')
    def __unicode__(self):
        return self.tenderno

class tenderapply(models.Model):
    tender = models.ForeignKey(tender)
    company = models.CharField(max_length=50)
    company_website = models.CharField(max_length=50)
    person_name = models.CharField(max_length=50)
    email_id = models.CharField(max_length=50)
    encrypted_document_url = models.CharField(max_length=50)
    def __unicode__(self):
        return self.company

# Create your models here.
# Create your views here.
```