Connecting to a Cloud-Hosted DSpace Instance (Version 1.8.2)
and Testing the enhancements in DSpace 3.0 Demo.

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Introduction:

An institutional repository (IR) is one of the digital environments where an organization can archive its intellectual output. The proliferation of IRs has been fuelled by the need in research institutions to publish their research results to a wider public audience. The growth of the open access movement has also brought to light the great need for IRs. The IR is seen as a platform to share research findings within and without an institution and also promotes future access to research output. This is mainly because researchers tend to lose copies of their own work as backing up of electronic information remains a challenge to individuals. This has been used by many IR promoters as a marketing tool within institutions.

DSpace is one of the open source software that is used to build IRs and this project employs DSpace.

Problem Statement:

Many institutions have been introduced to DSpace but lack the necessary IT skilled staff to manage DSpace configurations. Meanwhile, in other institutions, there is a high IT staff turn-over. If the IT person abruptly leaves an institution, it leaves a vacuum, thereby causing irregular connectivity of the IR whenever there is need to handle DSpace troubleshooting tasks or specific customizations.

Another part of this project was to identify and evaluate some of the new features of the latest DSpace version 3.0. It was interesting to learn from the introductory lectures about the possibility of using a demo DSpace site, which is as good as a repository itself. With this

knowledge, I am in position to advise Makerere University whether it is appropriate to upgrade to the new version or not.

Methodology:

The methodology involved three steps, namely:-

1. Creation of Account with Amazon Web Services.
   The project went through the process of creation of a free tier account on the Amazon Web Services website (as in print screen images).

2. Connecting to DSpace
   The next stage was to go through the process of connecting to and configuring a free pre-installed DSpace instance version 1.8.2 running on a virtual Ubuntu server, that is available for public use (as showed in the print-screen images)

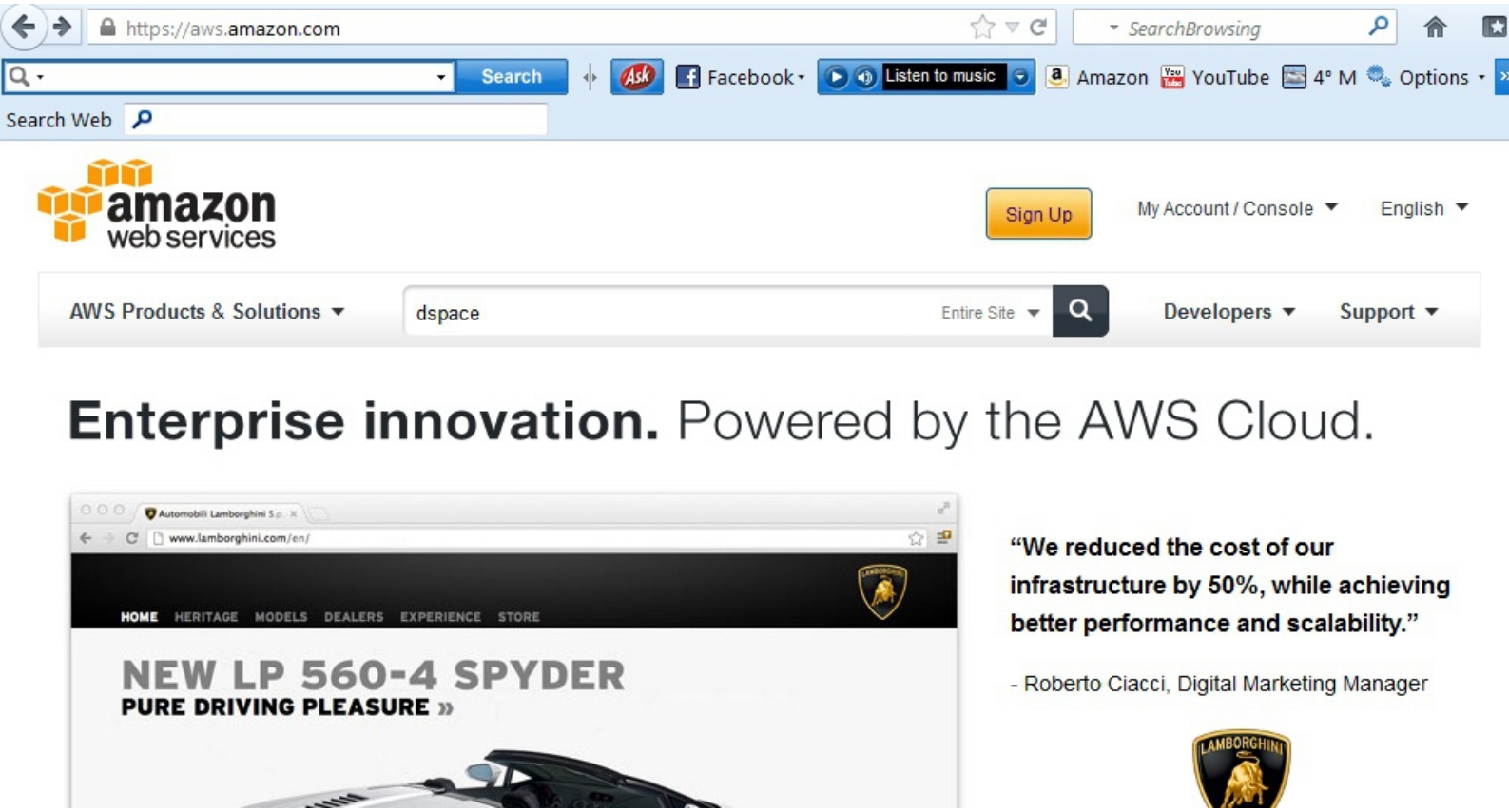
3. Creation of Communities and Collections in the Amazon cloud-hosted version and the DSpace 3.0 demo site.

Results:

One of the solutions is to have a fully installed DSpace instance in the cloud and then simply manage the graphical user interface of the repository. Payments can then be made for a cloud-hosted service such as Amazon Web Services. This allows one more space on a virtual server and DSpace server-side work such as troubleshooting and any specific customizations on request. It offers organizations the opportunity to pay for only services required, thereby allowing for only content management tasks to be handled by the institution. Therefore the project provides an alternative to in-house DSpace server-side management. However, within the framework of the Lib@web 2012 training, the project was limited to the free tier of the Amazon Web Services. It has therefore been limited to the features which are available in the free tier. To explore more robust features of the Amazon Web Services one is required to upgrade their account and subsequently pay for the services.

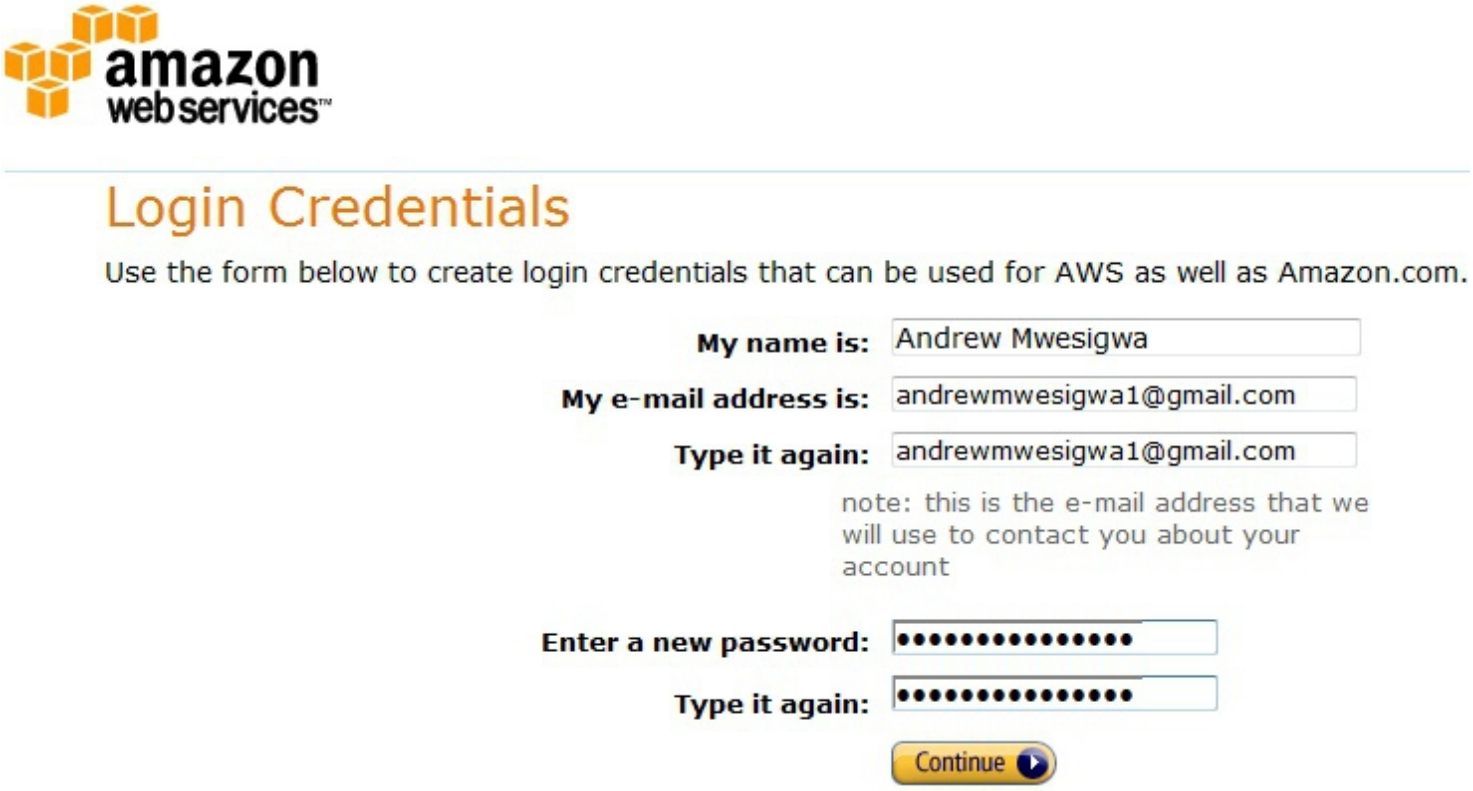
Screen shots follow below to demonstrate the methodology and project results:

Open Amazon Web Services Website



Create an Account

Submit your details



Submit Contact Details

Contact Information

* required fields

Full Name*: Andrew Mwesigwa

Company Name: Makerere University Library

Country*: Uganda

Address Line 1*: P.O.box 20220, Kampala

Street address, P.O. box, company name,

Address Line 2:

Apartment, suite, unit, building, floor, etc.

City*: Kampala

State, Province or Region*: Uganda

ZIP or Postal Code*: 256

Phone number*: +256-712131871

AWS Customer Agreement

Payment Information

Enter Your Payment Information Below

Your credit card will not be charged until you begin using AWS, and many of your applications and uses of AWS may be able to operate within the AWS free usage tier. If your monthly usage goes beyond the free tier, your AWS service charges will be billed to the credit card you provide below. View detailed service pricing

* required fields

Credit Card*: Visa

Card Number*: 220091120092909920

Cardholder's Name*: Andrew Mwesigwa

Expiration Date*: 02 2013

Enter Your Billing Address

Select the billing address associated with your credit card.

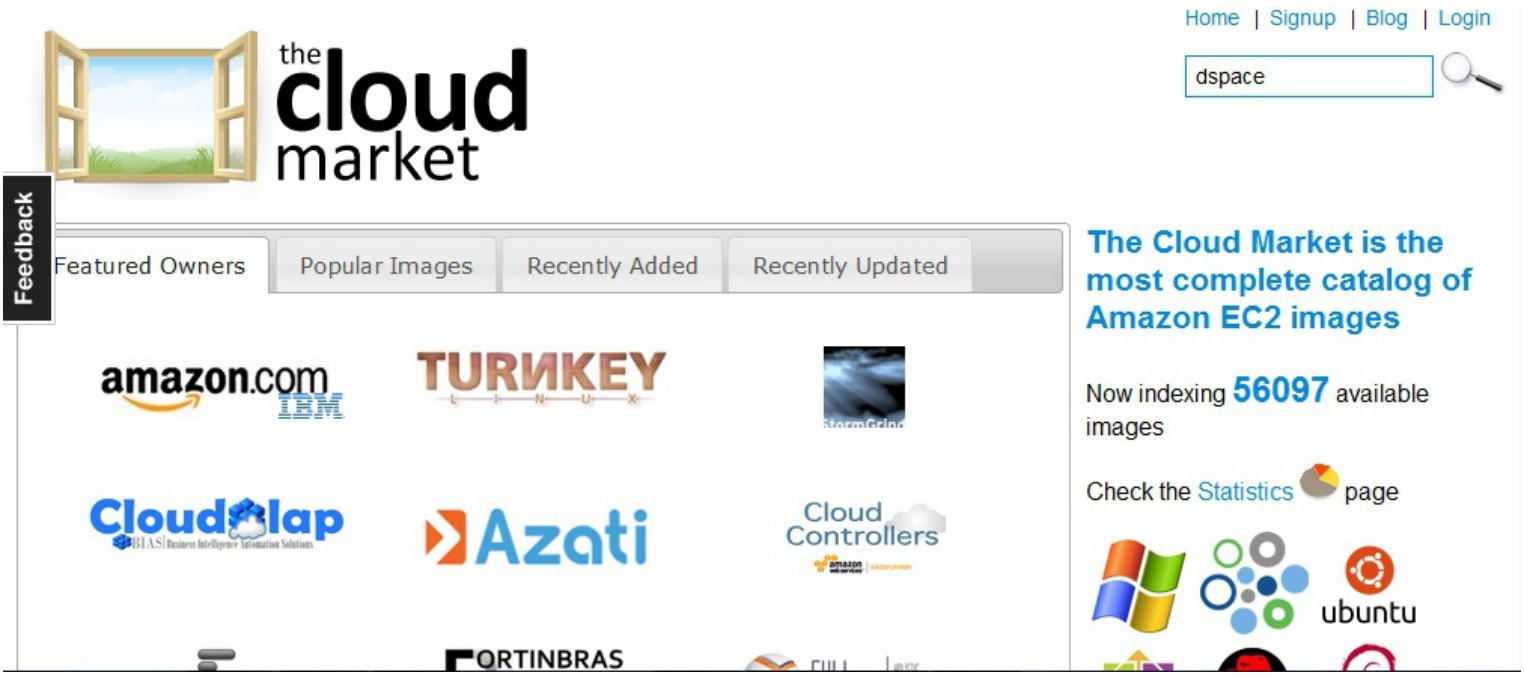
- (•) Use my contact address as my billing address
  (P.O.box 20220, Kampala, Kampala, Uganda 256, UG, +256-712131871)
- ( ) Enter a new address

Continue

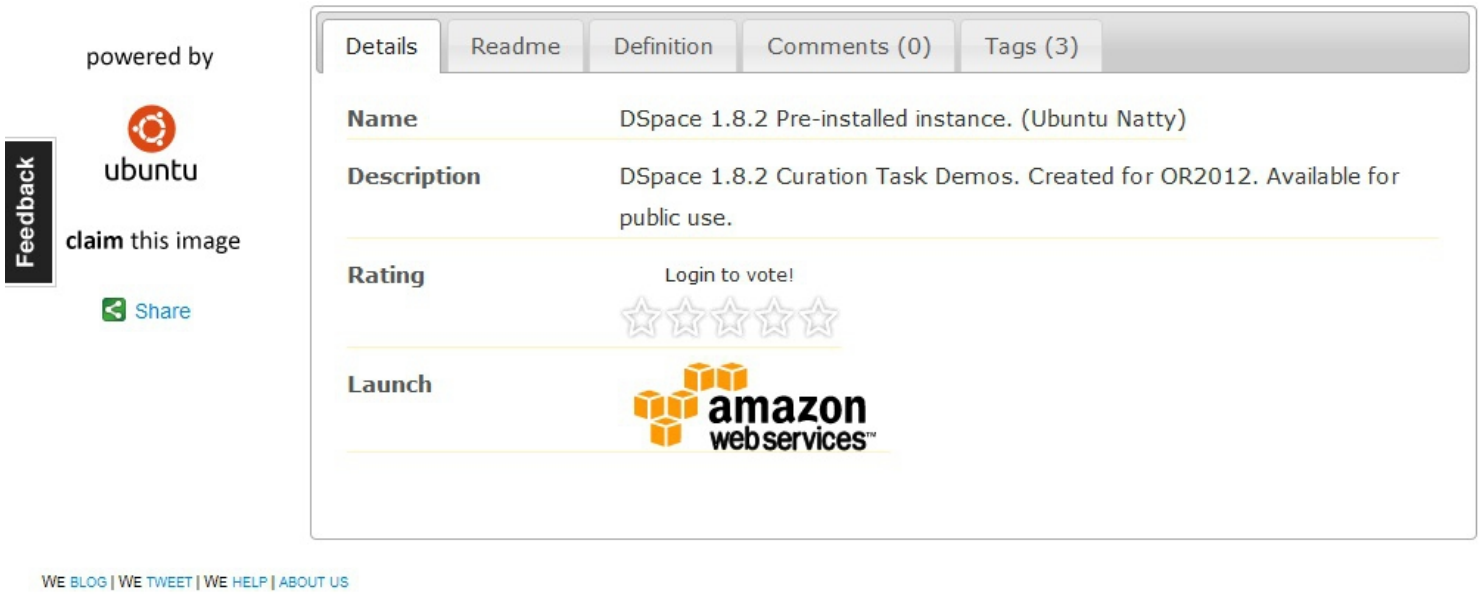
Before your account is approved, Amazon will contact you by phone to verify your identity, contact details and payment information. This may take up to 24 hours before you are allowed to use the cloud service. Amazon prefers serious subscribers who can potentially be clients. I found this to be queer and unnecessary for a free tier account, aimed at using the free tier services.

Connecting to the Pre-installed DSpace Instance

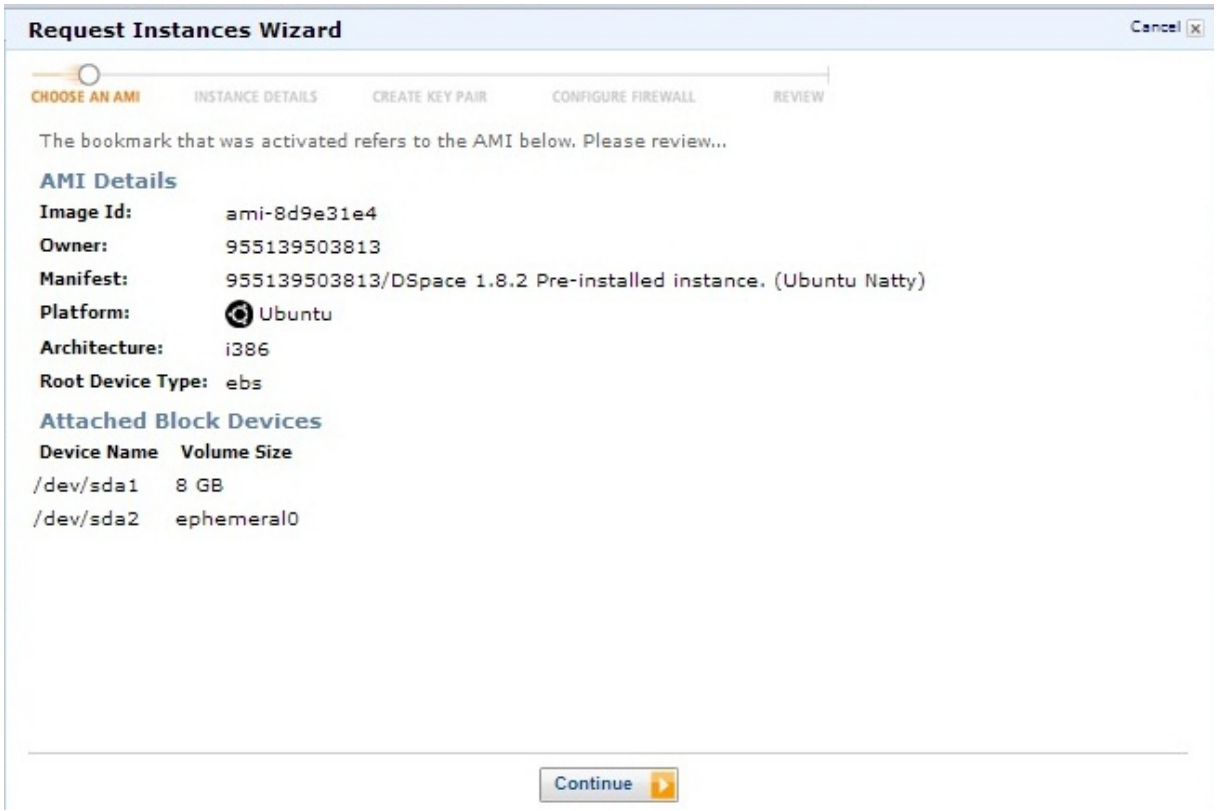
Make sure you are logged in your Amazon Web Services Account. Go to the Amazon web services catalog website www.thecloudmarket.com and search for DSpace. Select the image of the desired cloud service (dspace 1.8.2) and launch it.



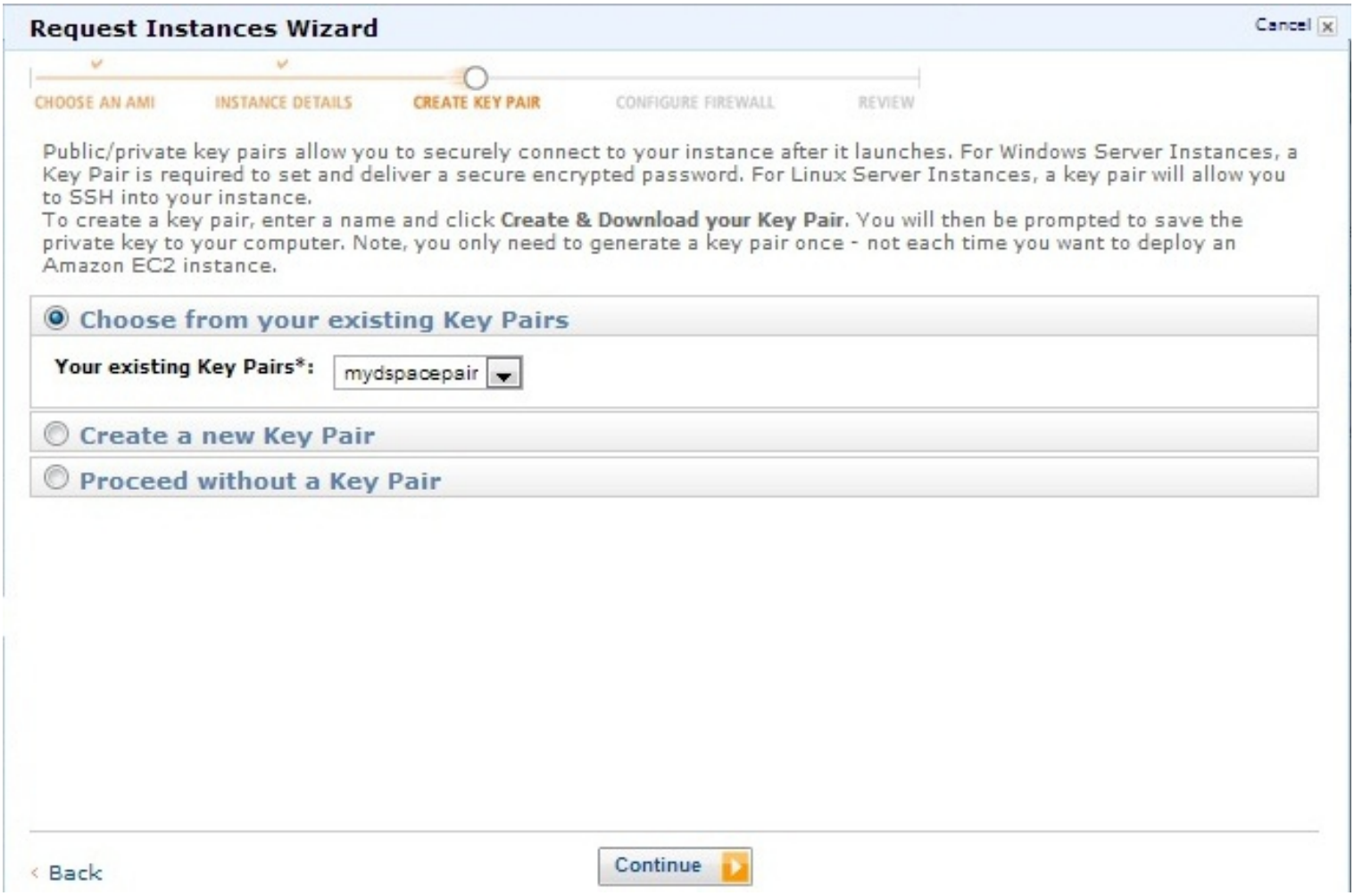
Launch



Next pages show DSpace instance being requested

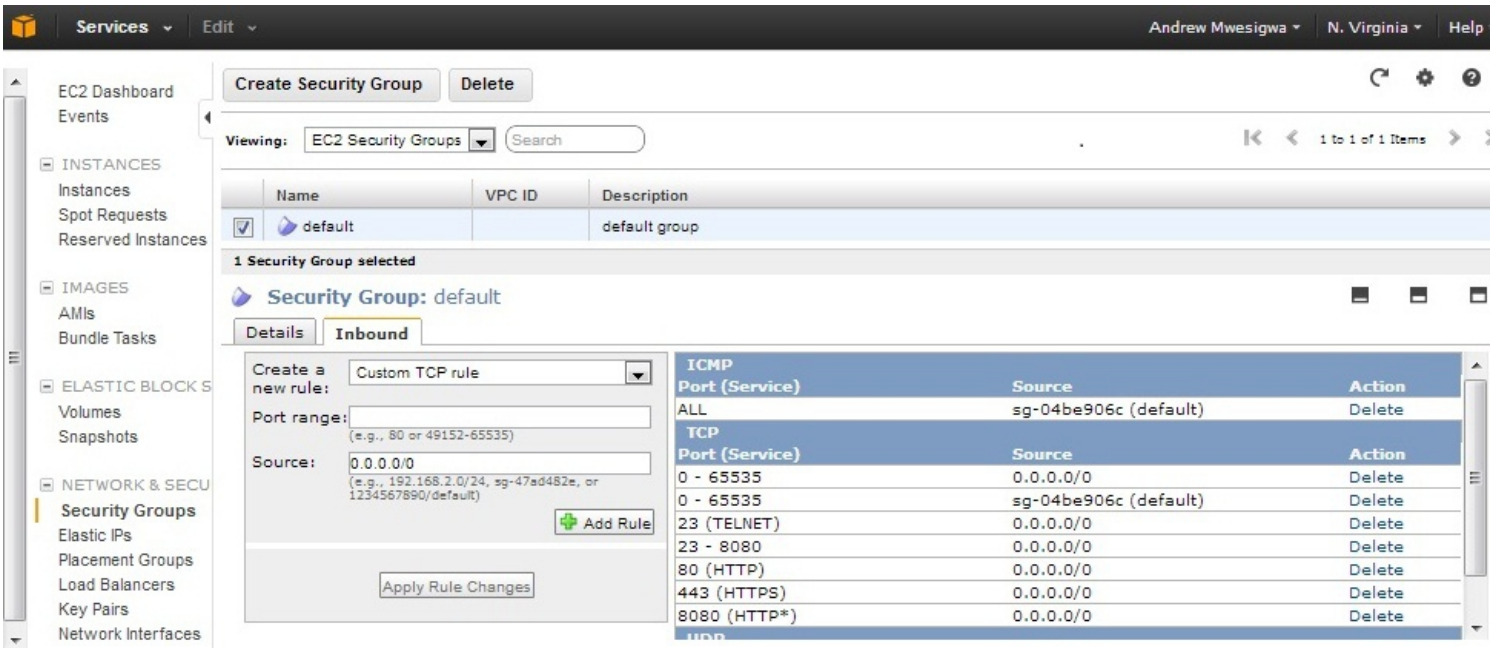


Create a Key Pair that will be used to identify your instance each time you login



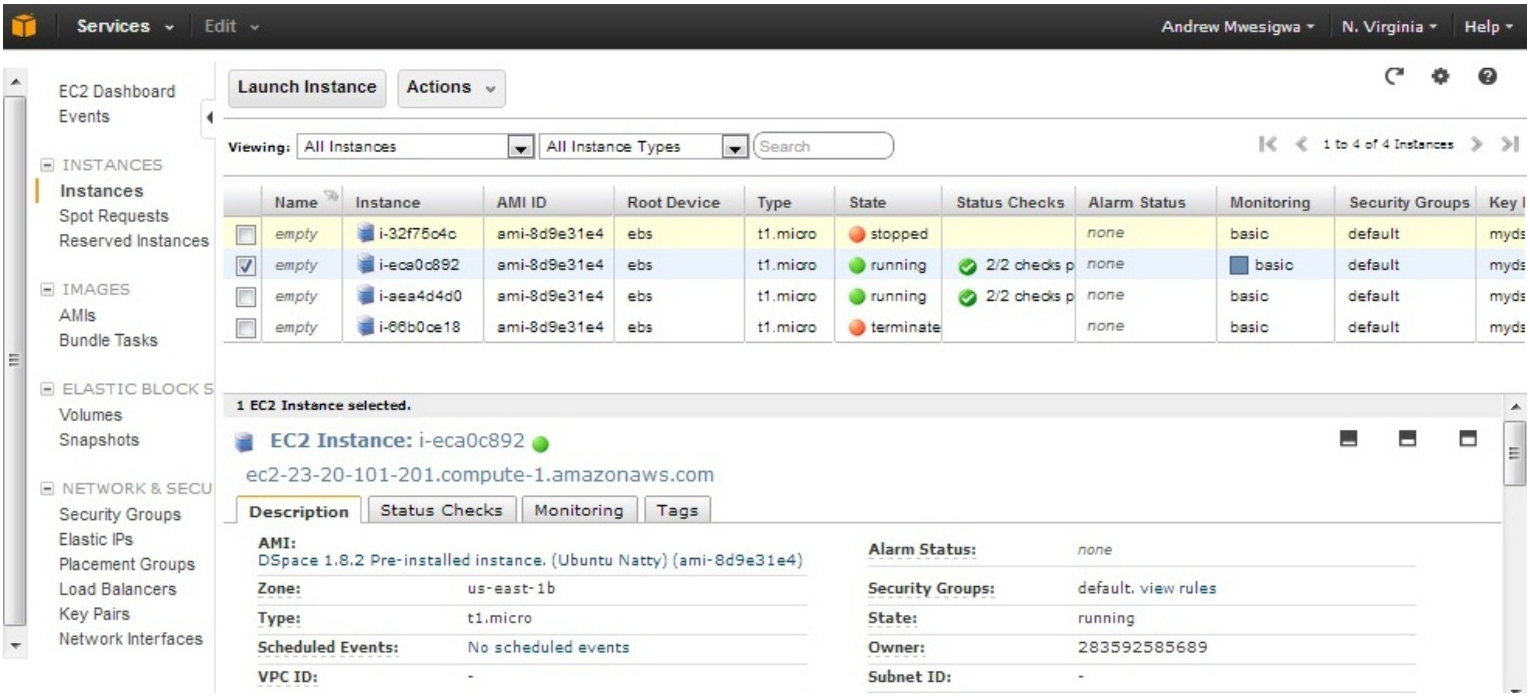
Security details on the server

After launching the DSpace instance, select Security
Groups, select the default security group and then the inboud tab in order to enable ports 80, 8080, etc. depending on which port you intend to run DSpace because you may have other services to run on the same server.



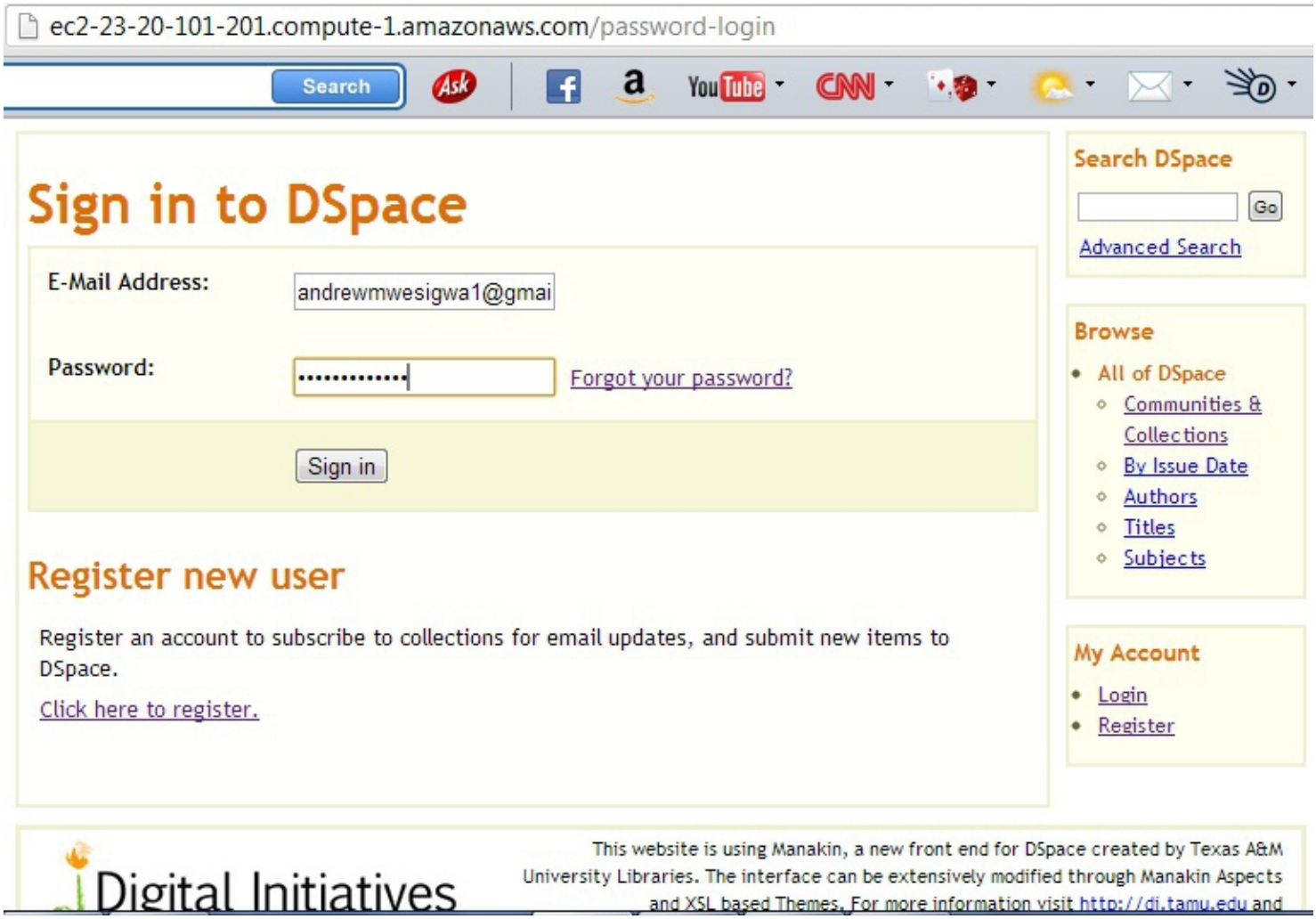
Running your instance

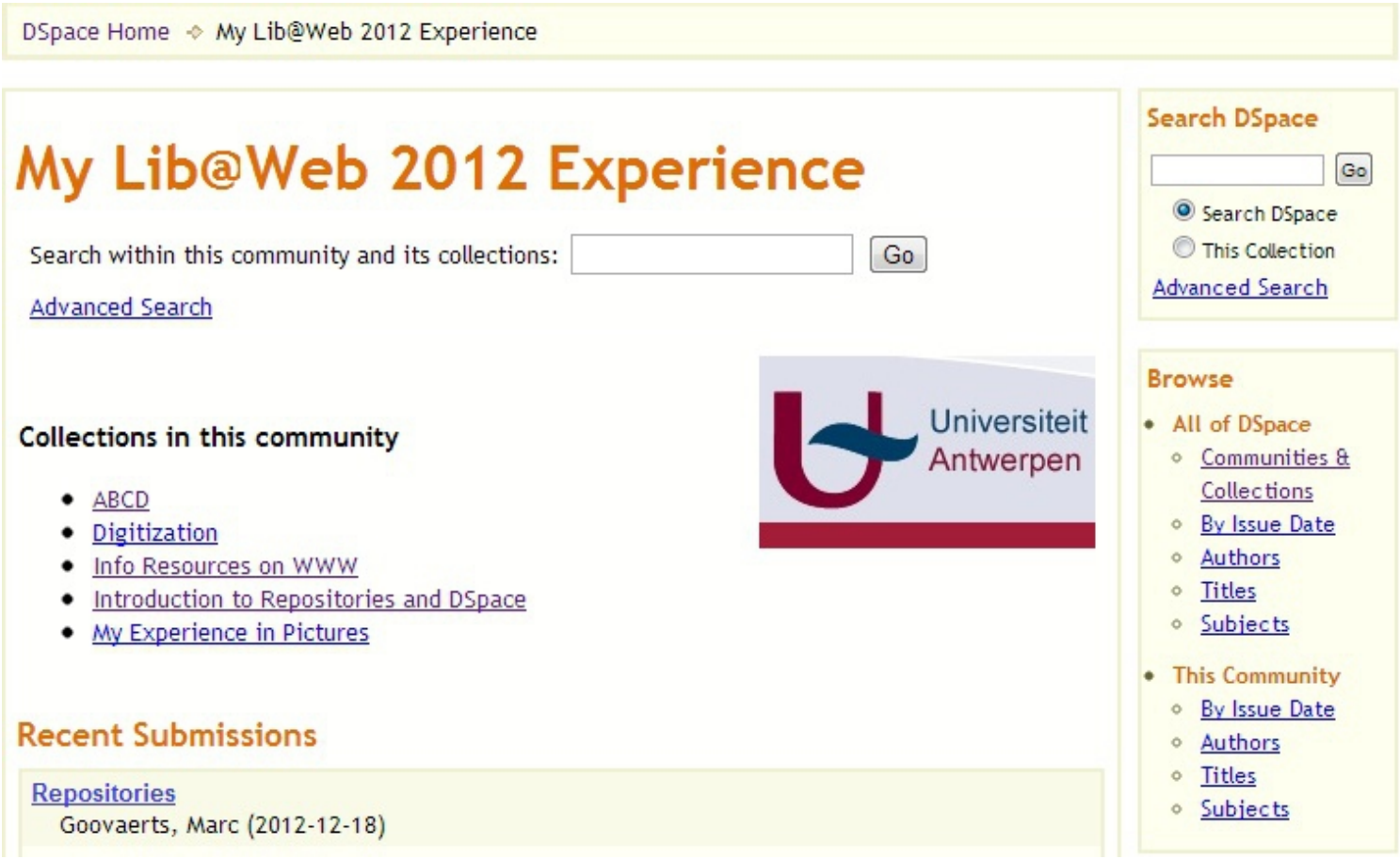
Select the Instances link and check the running instance in order to reveal the URL to DSpace



Run DSpace

Copy the URL and port on which DSpace is running and paste into a browser. Login and start creating communities and collections just like in any other DSpace instance

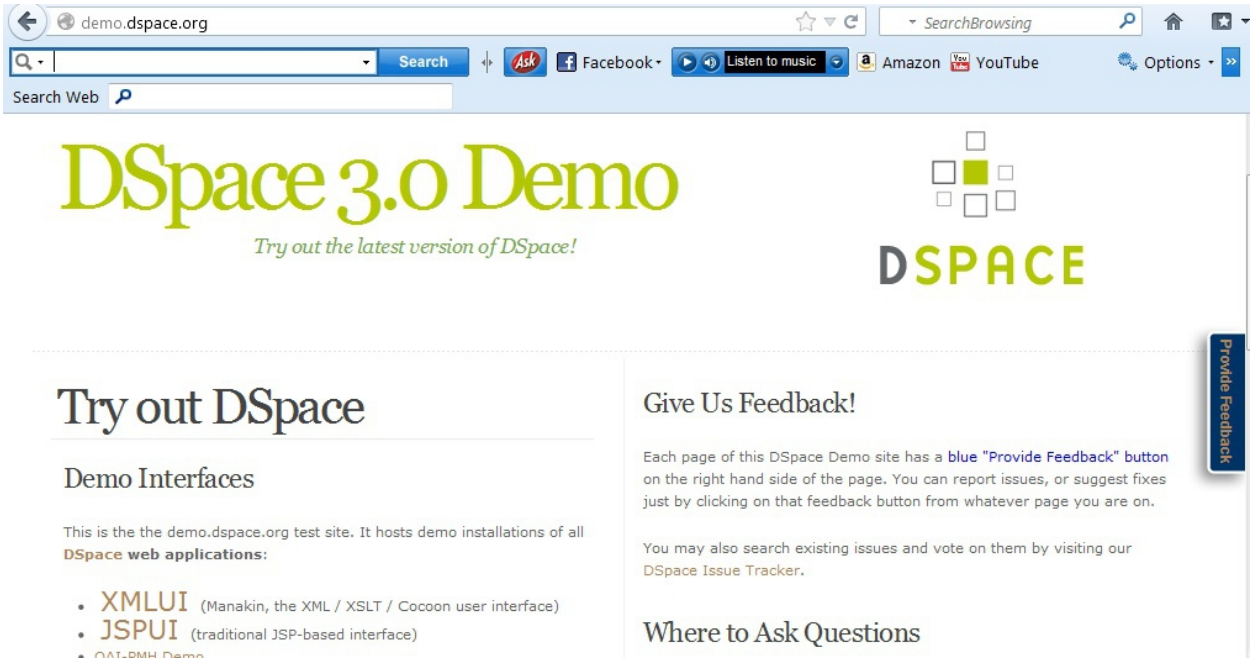


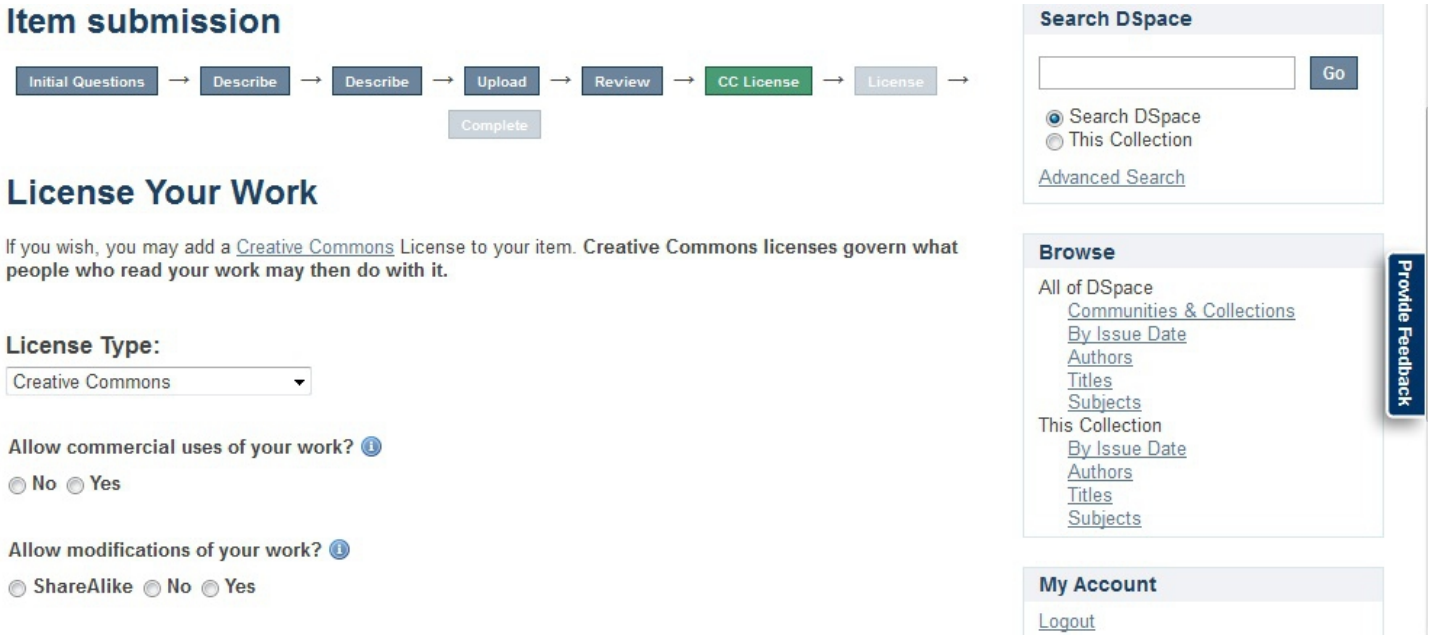


Evaluation of New Enhancements in DSpace version 3.0

For example: addition of the Creative Commons License option at the submission process

1. Log onto the DSpace demo site: http://demo.dspace.org, choose either the XMLUI or JSPUI interface of DSpace
2. Register and login and log out. Then one has to use the provided administrative account to login and convert their newly registered account into an administrative one by adding it to the group of administrators. Thereafter one can log out of the default administrative account so that they can now log in with their own account, thereby enjoying all the administrative privileges of manipulating the user interface. However, this is limited to the client-side administration since it is a demo site with no access to the server-side administration.
3. Make a submission to verify the new additional feature in version 3.0 i.e. the flexible creative commons license addition.





Way forward in conclusion

It is highly advised that institutions considering a cloud-hosted solution should perform and cost-benefit analysis. Sometimes it may be possible to realize a cut down in costs when receiving a webhosted solution as opposed to paying salary to an IT specialist to manage your DSpace in-house.

On the other hand, an institution that is already running DSpace but has made customizations needs to evaluate whether it is possible to move them into version 3.0. Some of the features requested by the DSpace community have been incorporated in version 3.0. An example is the inclusion of the creative commons license that submitters simply need to customize to their needs. This will be welcomed with much enthusiasm as a way to promote the green road publishing efforts.