

Converting PDF at Scale

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catalyst 

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Safety considerations when solo climbing

Well, the first thing you should do is decide whether you really are up to the job of climbing alone without any support (because that is what solo climbing is about)

Language?

Do you need to decide if you are going to use ropes or not and if not, how high are you going to climb? Because if you are not going to use ropes then you might fall and you don't want to fall too far down because you might hurt yourself.

But if you are going to use ropes as a backup then have you learned all the knotting techniques and other stuff for attaching them that we did in module 1 on ropes?

Also another thing to think about is -are you going to tell anyone you are going off on your own so they don't worry about where you are? Or alternatively, if you don't come back then they do worry? Will you be taking your mobile phone up the rock with you and will you be able to use it if needed -and will there be a signal?

So to conclude, I'd say:

- Are you skilled enough?
- Do you know your ropes?
- Are you communicating your plans?

More detail needed.

Submission

Submitted for grading

Graded

Student can edit this submission

Safety considerations when solo

climbing.docx

Comments (0)

Grade

Grade out of 100

30.00

Current grade in gradebook

30.00

Feedback comments



Some good points but not enough content.

Action:

1. Add more content
2. Elaborate on points raised

Notify students

Save changes

Reset

PDF Conversion

- **Non-PDF Documents Must Be Converted**
- **Conversion Occurs Outside Moodle**
- **Conversion Process:**
 1. Student Submits Non-PDF Document
 2. Document Converted By Moodle
 3. Teacher Annotates PDF



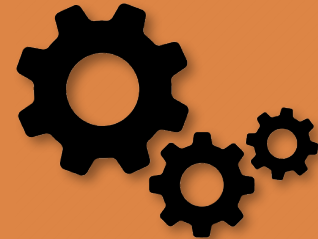
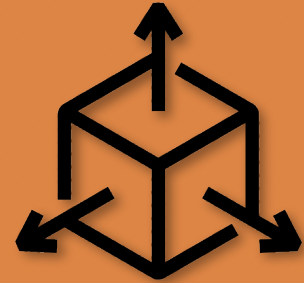
Core Converters

- Unoconv
 - LibreOffice
 - Need To Setup And Manage
- Google Drive
 - Managed Service



Replacement Requirements

- Privacy
- Cost
- Scalability & Performance
- Management & Set Up

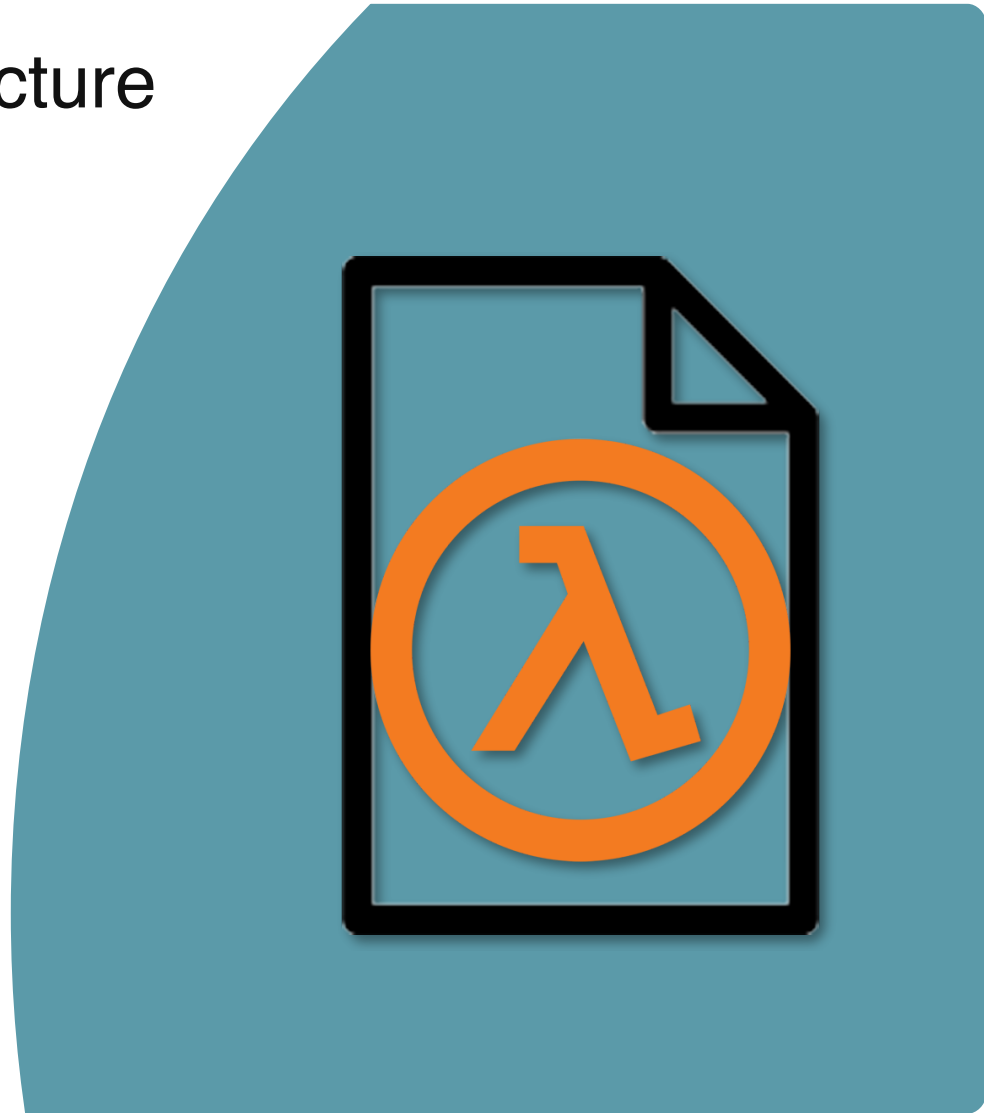
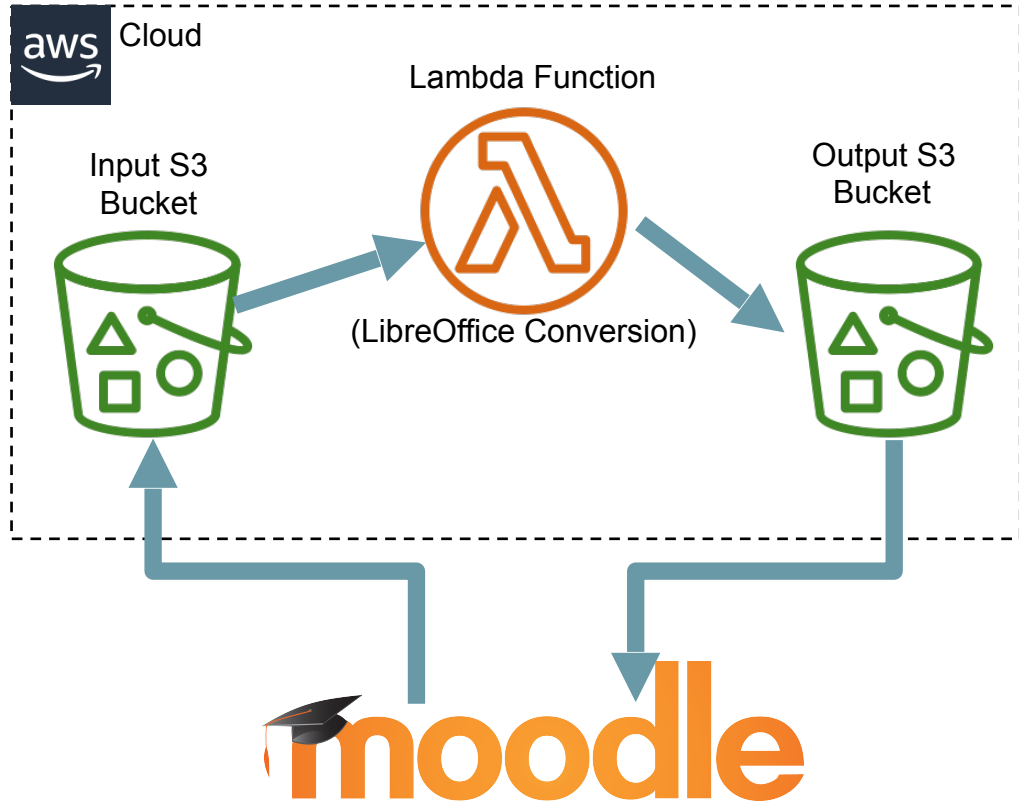


LibreLambda Converter Plugin

- Converts Documents To PDF
- Conversion Via LibreOffice
- Uses AWS Lambda



LibreLambda Converter Architecture



Cost Profiling

- Transfer Internet to S3
 - Put object request: \$0.0055 per 1,000 requests
 - All data transfer in \$0.00 per GB
- Transfer to lambda
 - File transfer: free
 - Get Request \$0.00044 per 1,000 requests
- Lambda conversion
 - Invocations:
 - First 1M requests per month are free.
 - \$0.20 per 1M requests thereafter
 - Execution cost:
 - 400,000 GB-Seconds per month free
 - \$0.00001667 every GB-Second used thereafter
- Transfer from Lambda to S3
 - File transfer: free
 - Put object request: \$0.0055 per 1,000 requests
- Per Bucket S3 Storage Cost
 - Storage Cost: \$0.025 per GB
- Transfer S3 to Internet
 - Get Request \$0.00044 per 1,000 requests
 - Up to 1 GB / Month \$0.00 per GB
 - Next 9.999 TB / Month \$0.114 per GB

(Prices in AUD)



Cost Profiling

- Converted 100,000 Documents
- Total Cost:
 - £3.92 (€4.58, \$7.31AUD)
- Cost per Document:
 - £0.0000392
 - €0.0000458



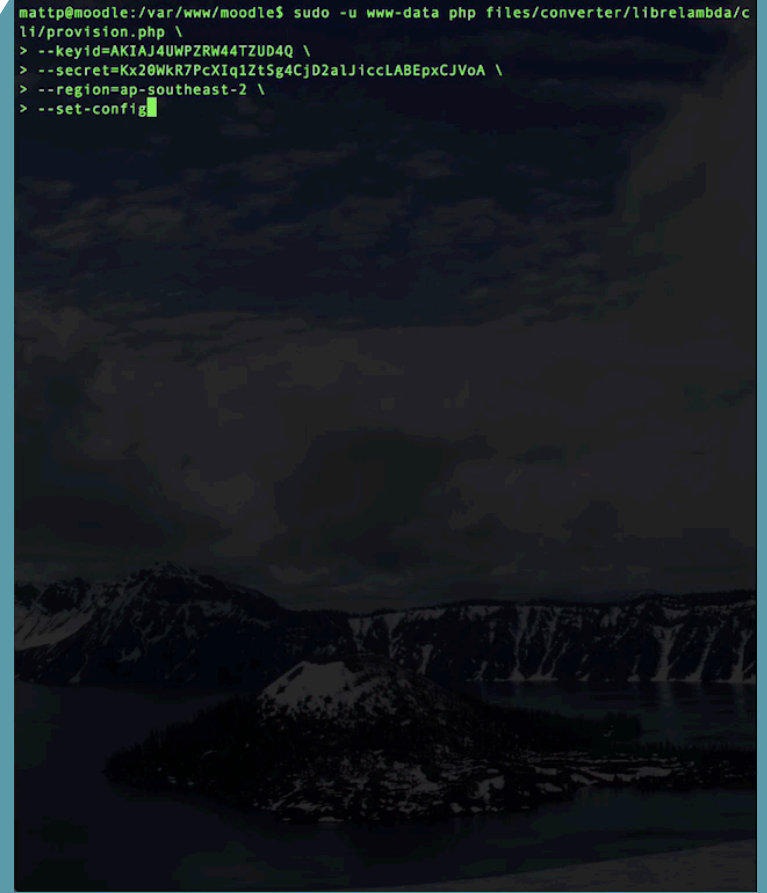
Scalability and Performance

- Converted 100,000 Documents
- Total Conversion Time: ~120 minutes
- Time Per Document: ~7 seconds
- Running Multiple Threads
- No Need To Manually Scale



Management & Setup

- Plugin Includes:
 - Setup Script
 - Test Script
- Moodle Settings Automatically Set



```
mattp@moodle:/var/www/moodle$ sudo -u www-data php files/converter/librelambda/c
li/provision.php \  
> --keyid=AKIAJ4UWPZRW44TZUD4Q \  
> --secret=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 \  
> --region=ap-southeast-2 \  
> --set-config
```

The image shows a terminal window with a dark background and a landscape image. The terminal text shows a user running a script to provision a Moodle instance on AWS Lambda. The script takes several arguments: a key ID, a secret key, a region, and a configuration file. The user is running the script as the www-data user using sudo.

Why AWS

- Environment Familiarity
- Development Speed
- Could Use other Cloud Providers
e.g. Google, Azure



Why AWS

- **Europe (Ireland) Region**
 - Launched 2007
- **Europe (Frankfurt) Region**
 - Launched 2014
- **Europe (London) Region**
 - Launched 2016
- **Europe (Paris) Region**
 - Launched 2017
- **Europe (Stockholm) Region**
 - Launched 2018



Next Steps

- Client Rollout
- More Development Cycles
- Other Platform Support



Links

- https://moodle.org/plugins/fileconverter_librelambda
- https://github.com/mattporritt/moodle-fileconverter_librelambda
- https://docs.moodle.org/36/en/Using_Assignment#Annotating_submissions

