Backup simplicity with Duplicity

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Overview

The Checklist I

1. Stable / Works Every Time
   - Idempotent
   - Match source 100%

2. Automatic
   - Remove human error
   - Ensure regularly done

3. Different Storage Media
   - Separate from source
   - Avoid physical failure

The Checklist II

4. Fast
   - Too long will not be run
   - Short commitment

5. Efficient
   - Compression
   - 3 months worth

6. Secure
   - Untrusted networks
   - Encryption needed

The Checklist III

7. Versioned
   - Corruption of data happens
   - Restore point in time
8. Offsite / Remote
   - Natural disasters
   - Redundancy
9. Restore Tested
   - Trust but verify
   - Hope is not a plan!

Overview

Duplicity vs. The Checklist I

1. Stable / Works Every Time
   - Uses rdiff so filesystem independent
2. Automatic
   - Able to be run via cron
   - Some GUI scheduling
3. Different Storage Media
   - Can use external drives
   - Remote storage locations

Duplicity vs. The Checklist II

4. Fast
   - Full backups can take awhile
   - Incrementals only get changes

5. Efficient
   - Stored in GNU tar format
   - Small difftar files (25MB default)

6. Secure
   - Use GnuPG to encrypt files
   - SSH & HTTPS protocols supported

Duplicity vs. The Checklist III

7. Versioned
    - Full and Incremental
    - Time-based Restores
8. Offsite / Remote
    - S3, WebDAV, SCP/SFTP
    - External USB HDD
9. Restore Tested
    - Hash signature verification
    - Verify command

Overview

Packages To Install I

Debian/Ubuntu Systems

aptitude install duplicity

- Wheezy: 0.6.18
- Jessie: 0.6.23
- 12.04 LTS: 0.6.18
- 13.10: 0.6.21

Caveat

python-paramiko < 1.12 does not support ECDSA host keys
Use ssh -o 'HostKeyAlgorithms=ssh-rsa,ssh-dss'

Packages To Install II

CentOS

yum install duplicity

- CentOS 5: 0.6.21
- CentOS 6: 0.6.22

Caveat

Requires the EPEL repository be configured

Performing Backups I

Automatically determines if a Full or Incremental backup
should be performed

Automatic Backup Level

duplicity /home file:///media/externalHDD

Can explicitly perform a given backup level

Explicity Backup Level

duplicity full /home file:///media/externalHDD
duplicity incr /home file:///media/externalHDD

Verify Backup

duplicity verify file:///media/externalHDD /home

Performing Backups II

Can list all backup sets available

Check Backups Available

duplicity collection-status file://media/exampleHDD

Can list files that are currently backed up in the archive from the signature manifest.

Check Backups Available

duplicity list-current-files file://media/exampleHDD

Restore From Backup

Perform a full restore

Restore Backup Set

duplicity file://media/externalHDD /home

Restore Options

duplicity -t 3D file://media/externalHDD /home/restore
duplicity –file-to-restore path/file file://media/externalHDD
/home/restore_file

Duplicity Options I

Many options available. `man duplicity`

- –exclude-device-files
- –exclude-filelist=filename
- –include-globbing-filelist=filename
- –encrypt-key=gpg-key-id
- –sign-key=gpg-key-id
- –archive-dir=path
- –time=time

Duplicity Options II

Optional environment variables helpful when scripting

- FTP_PASSWORD - Used for FTP login
- PASSPHRASE - Passed to GnuPG
- SIGN_PASSPHRASE - Passed to GnuPG

Backup Needs
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Duplicity in Action
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Summary
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Overview

Packages To Install

Debian/Ubuntu Systems

aptitude install deja-dup
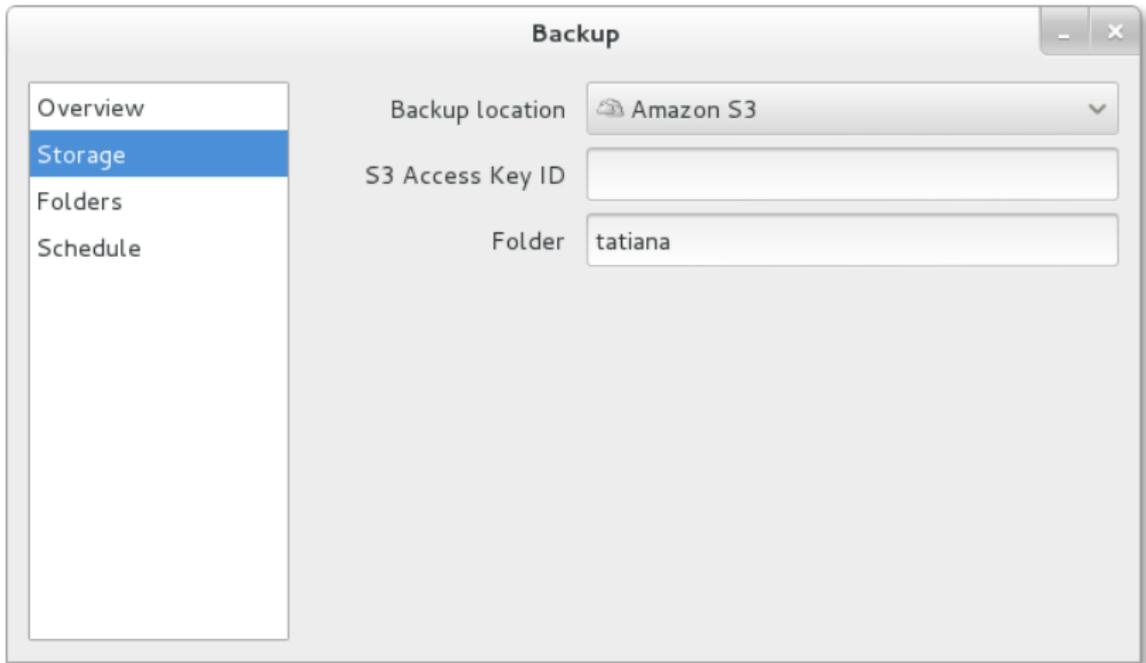
- Wheezy: 20.2
- 12.04 LTS: 22.0
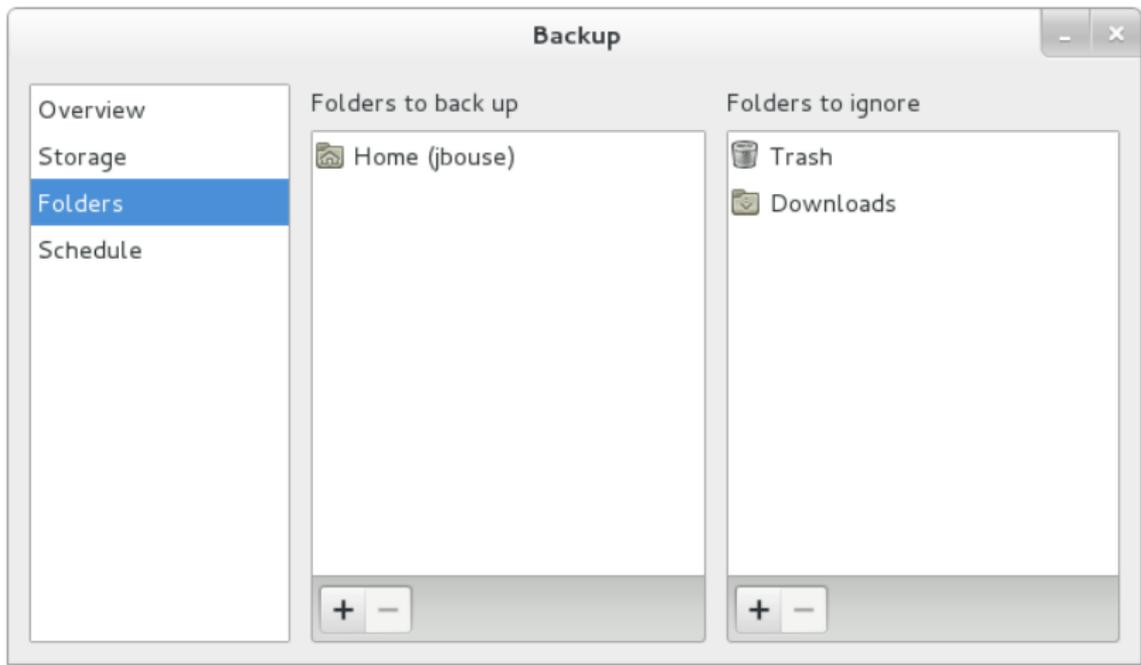- 13.10: 27.3.1

Caveat

Currently no package in Debian Jessie

Perform A Backup

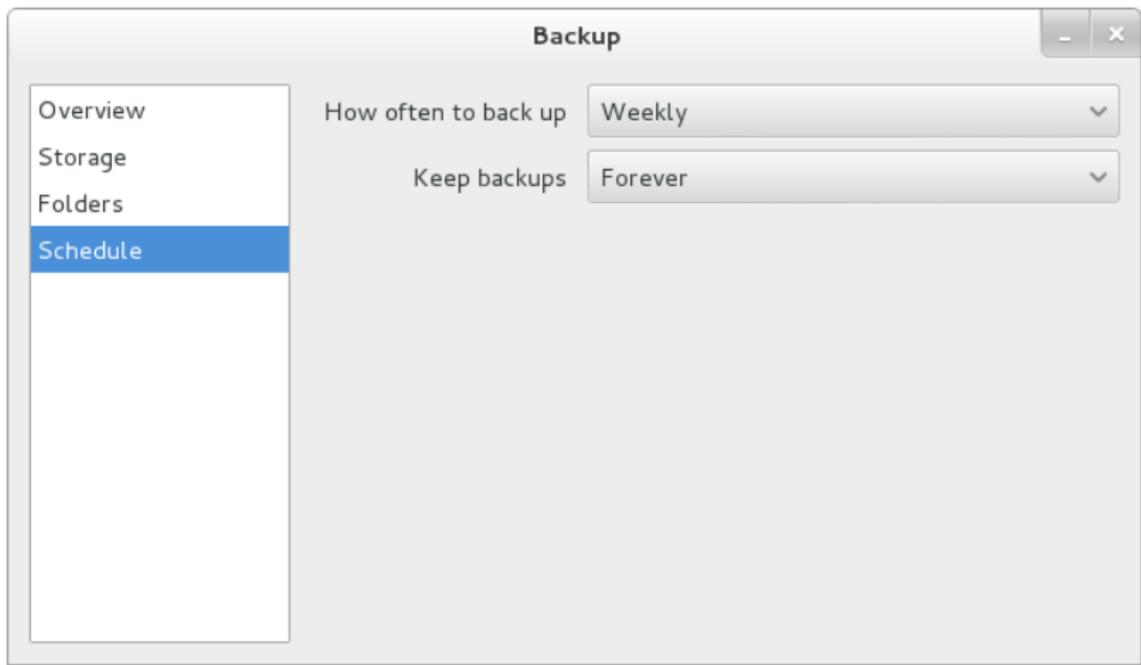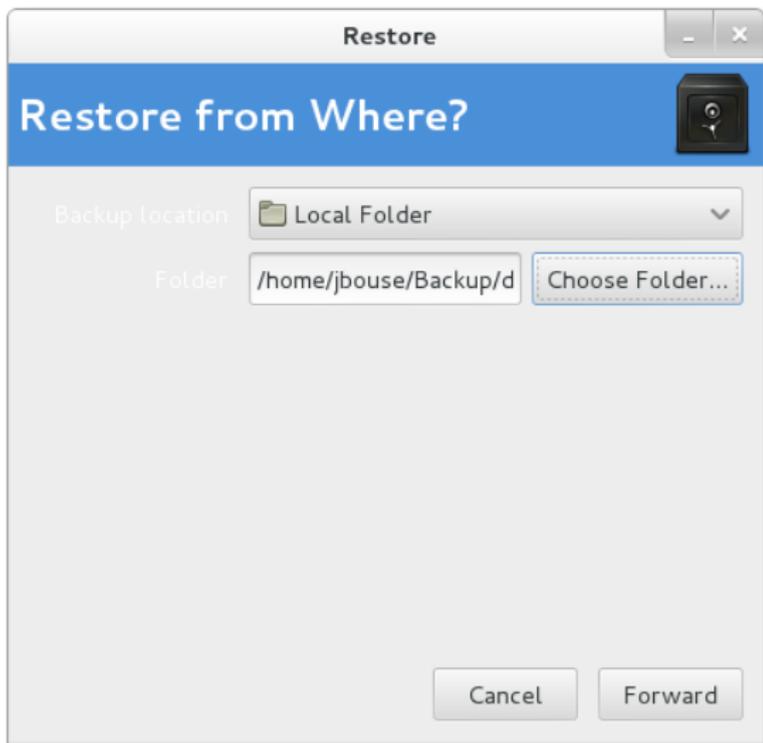# Perform A Backup

Backup

Overview

Storage

Folders

Schedule

Backup location   Amazon S3

S3 Access Key ID

Folder   tatiana
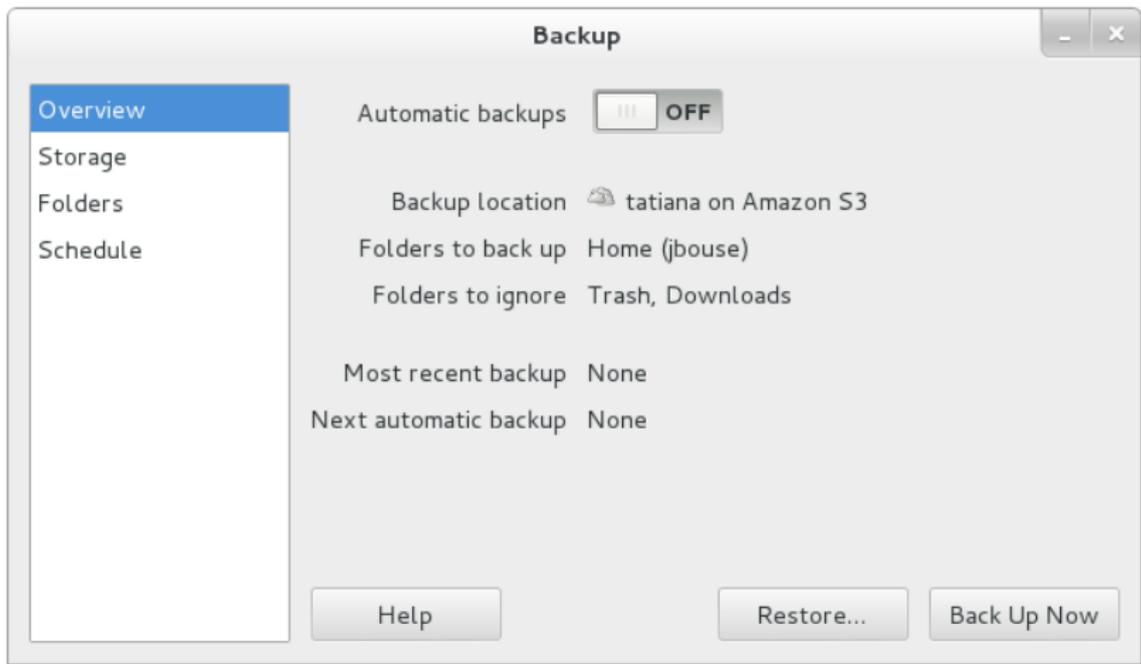
Perform A Backup
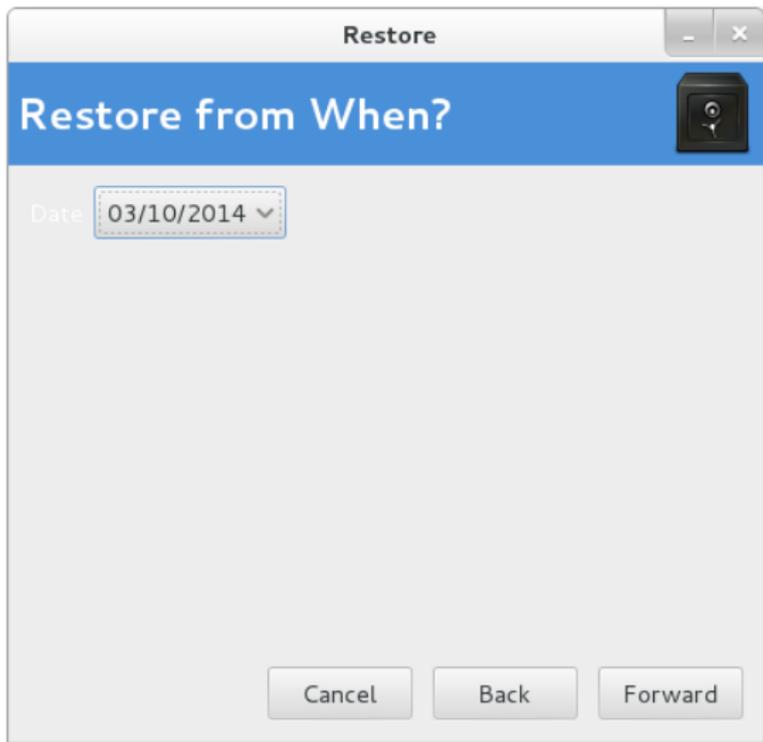
Perform A Backup

Perform A Backup

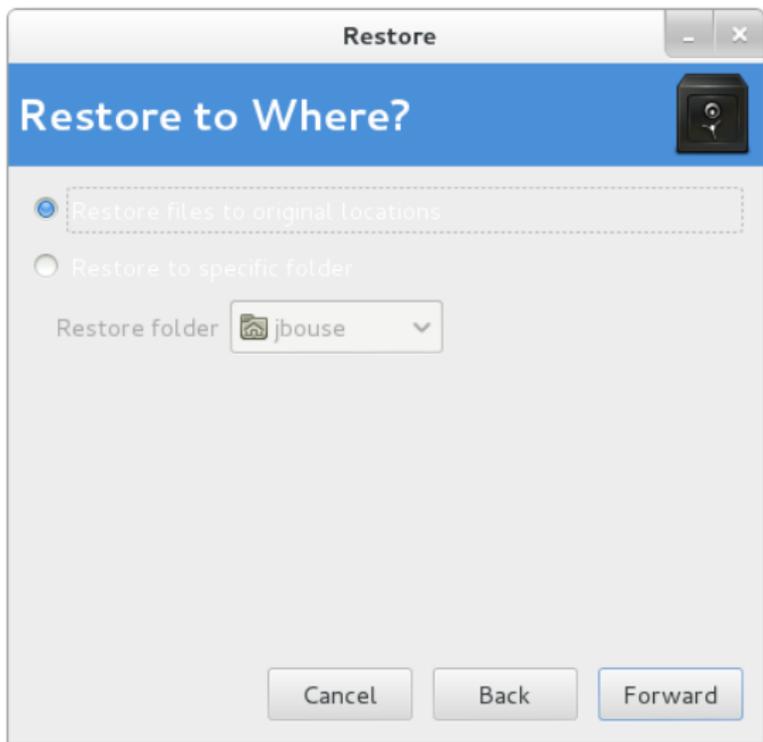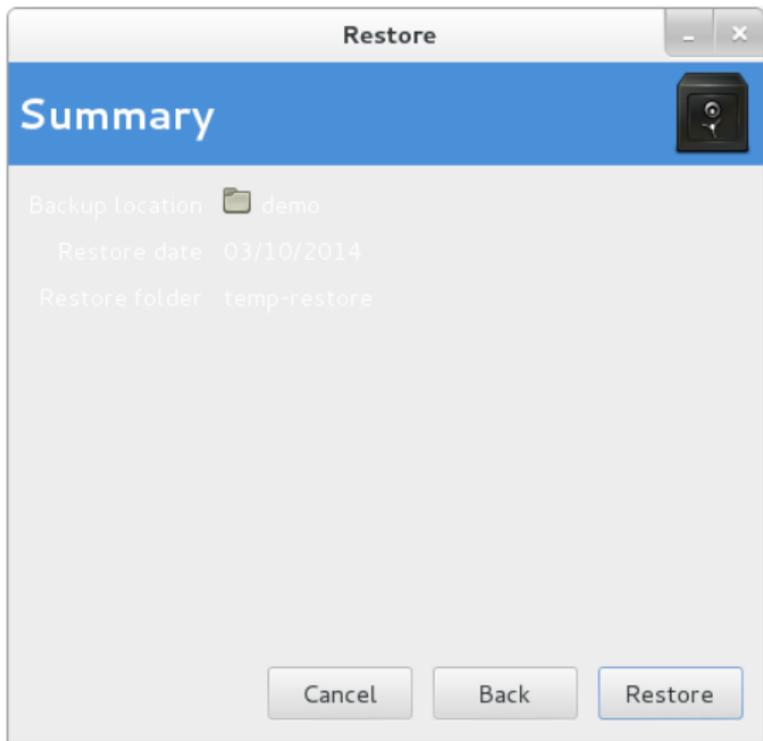# Restore From Backup

Restore From Backup

Restore From Backup

Restore From Backup

Restore From Backup

Summary

- Duplicity:
  http://duplicity.nongnu.org/
- DejaDup:
  https://wiki.gnome.org/action/show/Apps/DejaDup
- CLI Scripts:
  https://github.com/jbouse/duplicity-cli-scripts
- JDPFu Blog:
  http://blog.jdpfu.com/BBP