Datestamped Backups Implemented with Hardlinks and Rsync

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Abstract

This document contains the design of a script to generated datestamped backups using hardlinks and rsync. The script will generate backups for every day for the past week, every month for the past year, and every prior year.

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Definitions and Abbreviations

- **rsync** - A fast, versatile, remote (and local) file-copying tool.

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1 Introduction

The goal is to create a script that will generate backups for every day for the past week, every month for the past year, and every prior year.

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2 Examples

Series of useful LaTeX markup. Need to break out to separate examples.tex file.

2.1 Escaping < and > Symbols

To get $<$ or $>$ just wrap the symbols in $ for math mode.

2.2 Enumerate

1. DNR - Alaska State Department of Natural Resources
    - HI - Historical Index, not maintained since 1982
    - LE - Land Estate, maintained by SGU
    - ME - Mineral Estate, maintaind by SGU
2. Alaska State Surveys
    - ASBLT - As-Built Survey
    - ASCS - Cadastral Survey

2.3 Comments

`COMMENTS` Comment — *Sean Weems, Spring 2003*
We should get the `COMMENTS` column searchable via the landrecords application before we do much anything else – shouldn't be too hard.

Errata: Plats spanning multiple sections
A few anomalies can be observed in the `AKPLATS` table. Specifically plats exist that span multiple sections. Since the table only has a single column, `SCODE`, that accepts a single section code, SGU (Status Graphics Unit) has handled this problem by entering multiple rows in the table, each with a different section that point to the same plat or file. Multiple section plats are indicated by setting the `TCODE` column to the value `37`, and making an appropriate notation like *Section 24-25-26-27* in the `REMARKS` column.
[FIXME: Perhaps the `SCODE` column should accept an array of sections?]

2.4 Footnotes

Some footnotes here **??** for an example. Yet another 2 example.

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2.5 Simple Table Examples

Column Name	Type	Description
EQS	VARCHAR2(1)	!NULL map shows village selections
ITM_COL	VARCHAR2(1)	USGS ITM column: 1-6
ITM_ROW	VARCHAR2(1)	USGS ITM row: A-E
QMQ_ABBR_DNR	VARCHAR2(3)	Three character DNR abbreviation for the QMQ
RASTER_FILENAME	VARCHAR2(50)	Physical path to file
RASTER_PATHNAME	VARCHAR2(50)	URL path to PDF of map
SCODE	VARCHAR2(2)	Supplement map code: 1,2,3,...
COMMENTS	VARCHAR2(256)	Plat comments

Table 1: `EASEMENTS_17B` Table

XML element	Descripton
FNUM	US Survey file number
MERIDIAN	BLM meridian code 12 = Copper River 13 = Fairbanks 28 = Seward 44 = Kateel 45 = Umiat
TOWNSHIP	Five character Township code
RANGE	Five character Range code
PAGE	Survey page number 1,2,3,...
FILENAME	Relative path to file in direcory

Table 2: USS XML index elements

2.6 Another Simple Table Example

Column Name	Type	Description
MTR	VARCHAR2(9)	Meridian, Township, Range, example: *C026S054E*
QMQ	VARCHAR2(3)	Quarter Million Quadrangle code, example: *DIL* (Dillingham quadrangle)

Table 3: `XREF_MTR_QMQ` Table

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```
gis/raster/
  dnr/
    map_library/
    plats/
      SP/YYYYMMDD/*.pdf               # indexed
      HI/YYYYMMDD/*.pdf               # Indexed
      ASLS/YYYYMMDD/*.pdf             # Indexed
    recorded-plats/
      YYYYMMDD/*.pdf
  blm/
    easements_17b/YYYYMMDD/*.pdf      # indexed
    mtp/YYYYMMDD/*.pdf                # non-indexed
    usrs/YYYYMMDD/*.pdf               # indexed
    usrs-notes/YYYYMMDD/*.pdf         # indexed
    uss/YYYYMMDD/*.pdf                # indexed
    uss-notes/YYYYMMDD/*.pdf          # indexed
    usms/YYYYMMDD/*.pdf               # indexed
    usms-notes/YYYYMMDD/*.pdf         # indexed
  usgs/
    drg/
      collared/
        250K/
        63K/
        25K/
        24/
      decollared/
      tools/
      missing\_data/
    dem/
    doq/
    topo/
```

Figure 1: File and Directory Structure

2.7 Verbatim

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Appendix

Links

Build a Home Terabyte Backup System Using Linux
by Duncan Napier - Nov 29, 2005
http://www.linuxjournal.com/article/8590

Easy Automated Snapshot-Style Backups with Linux and Rsync by Mike Rubel
http://www.mikerubel.org/computers/rsync_snapshots/

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