

APPENDIX J – TROUBLESHOOTING - Identifying errors

POSSIBLE PROBLEM	SOLUTION/APPROACH
Did not find files	Verify path of where your files, waveforms, pf files are located. Please check paths where your mseed data are, and the new wfname file-naming convention specified with the <code>-w</code> option.
Cannot find miniseed2days or any other antelope tool	miniseed2days is part of the antelope distribution so if antelope is installed it should be available. Check if you can do <code>man</code> on miniseed2days or any other tool. Verify that antelope is sourced, if not source it (<code>source /opt/antelope/4.8/setup.cs</code> or <code>sh</code>) depending on your preference or platform Verify antelope installation (run <code>check_antelope_installation</code> from the command line) if ok, check path or source Verify your license (run <code>check_license</code> from command line)

Table1. Possible errors you may find when running miniseed2days.

POSSIBLE PROBLEM	SOLUTION/APPROACH
What should be the start time for each of my stations?	The start time (time 12/06/2004 02:50:53) must be at or before VERY FIRST sample for that station. You can get it from the log file, using <code>mseedhdr</code> or at least a time frame that covers the earliest record for all the channels.
How do I define the sensor and digitizer I have for each station?	For the specific name of different types of digitizers, sensors, etc., go to /antelope/4.8/data/responses . There you will find the different response files (and the way it is named) to be added in the <code>batch_bfile</code> (e.g. <code>cmg3t</code> , <code>cmg40t</code> , <code>cmg40t_1s</code> , <code>l22</code> , <code>cmg3esp</code> , <code>sts2</code> , etc). If the response file is not in the default directory please let us know and we will work with you to build the required files. Please refer to APPENDIX H in this manual for more details.
Where do I find a detailed description of <code>dbbuild</code> tool in the batch mode?	Please <code>man dbbuild_batch</code> or go to APPENDIX G in this manual.
How do I add new station?	Simply add it to your batch file; <code>dbbuild</code> will recognize the previous entries and add only the new entries.
How do I close a station/sensor/digitizer?	Add a close statement, being consistent with what was previously described. For example to close station MYSTA: <code>close MYSTA 12/31/2009 23:59:59</code>
When do I close a station?	When a station gets demobilized or when the network code for your particular experiment expires.
How do I add changes to sensor/digitizer/sample rate, gain, etc on my batch file?	Add an extra block for the station you have made configuration changes to. The end time of the previous configuration will be the start time of the new configuration.
When running <code>dbbuild</code> , it complains about not	...Couldn't find axis '2' among defined axes: Component=HASH(0x19c10c0) Component=HASH(0x19c064c) Component=HASH(0x19c1384) Couldn't find axis '3' among defined axes: Component=HASH(0x19c10c0)

	<p>This error occurs when a sensor is not described in the responses and instrument/sensors directories, or they are not properly defined. Please check the following:</p> <ul style="list-style-type: none"> ▪ Is the sensor described in these two directories? ▪ Is it getting called as they are defined in these two directories (for example in the batch file you called it sensor 128 0 0001. Is 128 described under antelope/4.8/data/responses, & antelope/4.8/data/instruments/sensors? If not that could be the reason. ▪ Is the descriptor file under antelope/4.8/data/instruments/sensors pointing to the right response file (at the end of the file you will see something like : response & datafile (responses/128).
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Table 2. Possible errors you may find when building your database using dbbuild.

POSSIBLE PROBLEM	HOW TO RECOGNIZE	SOLUTION/APPROACH
Overlapping data	<p><i>Keys for records #15087 and #15088 in table wfdisc match:</i></p> <pre> sta S031 S031 chan BHE_01 BHE_01 time 8/17/2006 0:00:40.720 8/17/2006 23:58:38.740 endtime 8/18/2006 0:00:20.660 8/18/2006 0:00:20.660 </pre> <p><i>Keys for records #15089 and #15090 in table wfdisc match:</i></p> <p>When viewing the waveforms using dbe the overlapping segments/traces will be orange (unlike the rest of the trace which will be yellow)</p>	<p>* Did you run miniseed2days or miniseed2db more than once?</p> <p>* Re-run miniseed2days using the -u (or -U option) Details in man miniseed2days.</p> <p>* If it is the very first record, perhaps you may consider removing the overlapping segment. (dbdelete**)</p> <p>* Always be CAREFUL!</p>
Missing data on your database	<p><i>Record # 46: sta = S039 chan = LHE_02 time = 6/20/2006 12:18:43.000 endtime = 12/31/2009 23:59:59.000</i></p> <pre> ???????? S039 LHE_02 1150805923.00000 1150805923.00000 1150849235.00000 47 failures of '0'. </pre>	<p>Did you move the day mseed volumes from the directory where you pointed to when running miniseed2days or miniseed2db? If so the links to the tables on your antelope database got modified and cannot find links to the waveforms</p>
Stations to Close	<p>Records #21 and #22 match:</p> <pre> lat : 38.047000 38.047000 0.000000 0.000100 lon : 23.864000 23.864000 0.000000 0.000100 </pre> <p>Records # 21 #</p>	<p>* Verify the location of the station. If correct, it is ok, but according to seed format it is considered as ONE station because of the proximity.</p>

	<pre> 23.8640 sta : S028 S036 bundle : bundletype : 1 1 1 failures (matches) of: ABS(delta(lat)) < 0.000100 AND ABS(delta(lon)) < 0.000100 </pre>	
Zero Problems	0 problems – Congratulations!	Go to next step

Table 3. Errors you may find when verifying your database.

POSSIBLE PROBLEM	SOLUTION/APPROACH	
No such file	<pre> seed2db -v Wallowa seed2db: seed2db : \$Revision: 1.17 \$ \$Date: 2006/05/02 20:22:23 \$ seed2db: parseseed_new: stat(Wallowa) error. No such file or directory seed2db *fatal*: sdblk_parse(Wallowa) error. </pre>	<p>What is the name of your dataless? Mk_dataless_seed creates a dataless with the file name format Your_db_dataless_seed</p>
FIR DELAY or Normalization frequency error	<pre> seed2db: SEEDERROR - Improbable value for FIR delay. seed2db: Resetting stage 10 FIR delay from 12.00(0.030000) to 6.00(0.015000) for YI_VRGR_BHZ_01 2004:323:10:16:05.000 -> 2006:304:23:59:59.000. seed2db: SEEDERROR - Improbable value for FIR delay. seed2db: Resetting stage 11 FIR delay from 12.00(0.060000) to 6.00(0.030000) for YI_VRGR_BHZ_01 2004:323:10:16:05.000 -> 2006:304:23:59:59.000. seed2db: SEEDERROR - Improbable value for FIR delay. seed2db: Resetting stage 12 FIR delay from 100.00(1.000000) to 50.00(0.500000) for YI_VRGR_BHZ_01 2004:323:10:16:05.000 -> 2006:304:23:59:59.000. seed2db: EOF detected on YI.06.retreat_db.02021510.dataless.ok. seed2db: SEEDERRORs: parsing = 0 </pre>	<p>Please verify the response files. Some of these FIR warnings are acceptable, however if you find errors on normalization frequency, sample rate calculations, etc. please check the response files (poles and zeros) located under \$ANTELOPE/data/responses and the descriptor files for each response under \$ANTELOPE/data/instruments/sensors</p> <p>Feel free to contact us with any questions. For more detailed information about seed2db as a verifier, do man seed2db on the command line.</p>

	<pre> 783 seed2db: SEEDERRORs: stage gains = 0 seed2db: SEEDERRORs: fir order = 0 seed2db: SEEDERRORs: fir delay = 783 seed2db: SEEDERRORs: paz unstable = 0 seed2db: SEEDERRORs: paz complex conjugate = 0 seed2db: SEEDERRORs: coordinate = 0 seed2db: SEEDERRORs: no response stages = 0 </pre>	
Output with report like:	<pre> seed2db: EOF detected on YW.05.tremor.20060941132.dataless. seed2db: SEEDERRORs: parsing = 0 seed2db: SEEDERRORs: units = 0 seed2db: SEEDERRORs: samprate = 0 seed2db: SEEDERRORs: normalization freq. = 0 seed2db: SEEDERRORs: stage gains = 0 seed2db: SEEDERRORs: fir order = 0 seed2db: SEEDERRORs: fir delay = 0 seed2db: SEEDERRORs: paz unstable = 0 seed2db: SEEDERRORs: paz complex conjugate = 0 seed2db: SEEDERRORs: coordinate = 0 seed2db: SEEDERRORs: no response stages = 0 </pre>	Congratulations! Your dataless is in good shape

Table 4. Possible outputs when running seed2db verifying the dataless.