USING RRDTool in SA

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What do you need to run RRDTool in SA with a template on IIS

- We'll assume an installation of Servers Alive in the default directory.

- Minimal version ServersAlive to use: <mark>7.0.2512</mark>

- You will need a working version of the RRDTools.
  You can download a Windows version of the RRDTools from
  http://oss.oetiker.ch/rrdtool/pub/?M=D I use the rrdtool-1.2.30-win32-perl510.zip

- IIS installed and up and running.

- The template.zip file used in this document.

For a quick SA configuration, for test purposes, see page 13 – Quick-start-sa

⚠ To display a check on the webpage you have to set the output to the webpage you want to be displayed
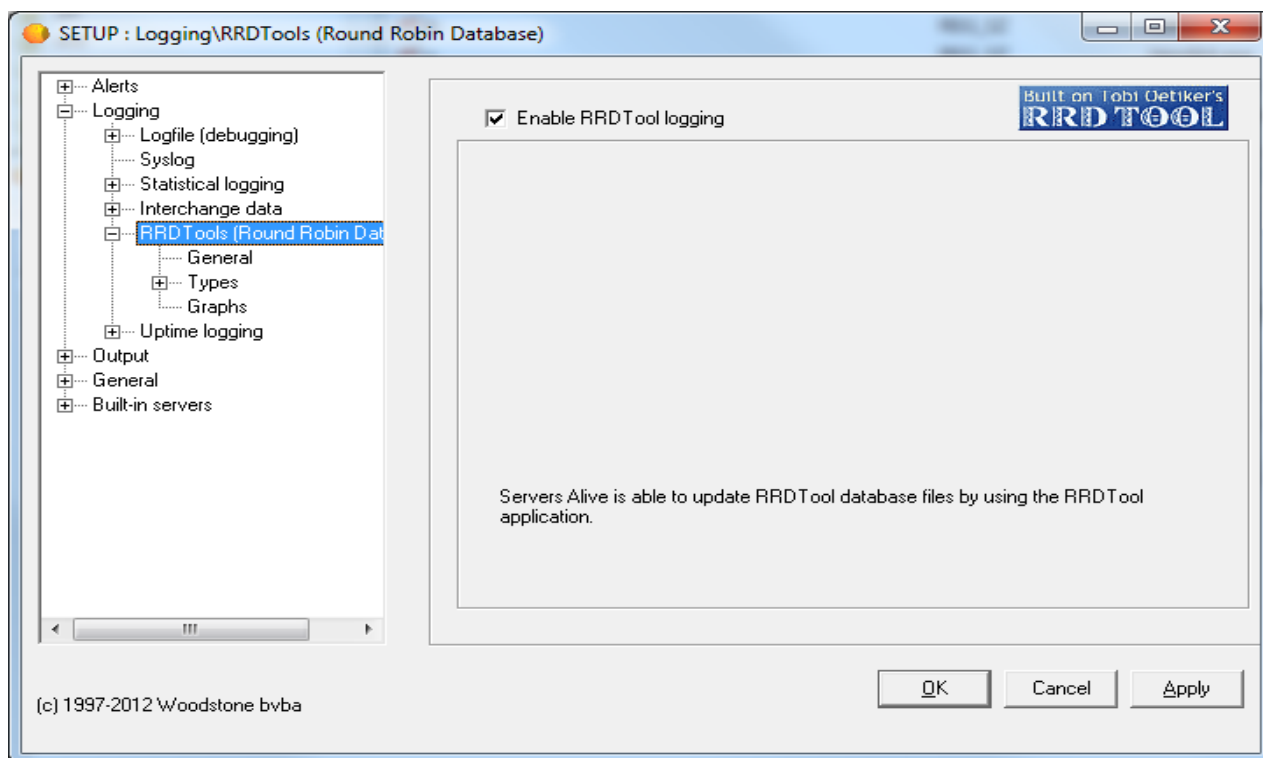(see page 9).

⚠ To use the RRD graphics you have to enable RRDTool logging in the setup and assign the logging to
every entry you want.

You can modify entries you want to use RRDLogging for to one by one or just via the CHANGES WIZARD
set:

RRD Roundtrip logging to TRUE	for all entries
RRD Check Result logging to TRUE	for all entries
RRD Up/Down logging to TRUE	for all entries

This way all databases are created and updated for all entries.
* notice that not all checks will give a result. Some results are not suitable for RRD (see page 12) .

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Prepare the system so it can hold all the data and graphics and "install" RRDTool.

- Create a directory C:\rrdtool
- Copy rrdtool-1.2.30-win32-perl510.zip\data\rrd2\rrdtool-1.2.30\Release\rrdtool.exe to C:\rrdtool
- Create a directory c:\rrdtool\RRD-data

For this template I use the windows IIS services in it's default directory c:\Inetpub\wwwroot

Create in c:\Inetpub\wwwroot the following folder structure:

main folder: SA

- day
    - checkresult
    - roundtrip
    - updown
- hour
    - checkresult
    - roundtrip
    - updown
- month
    - checkresult
    - roundtrip
    - updown
- week
    - checkresult
    - roundtrip
    - updown
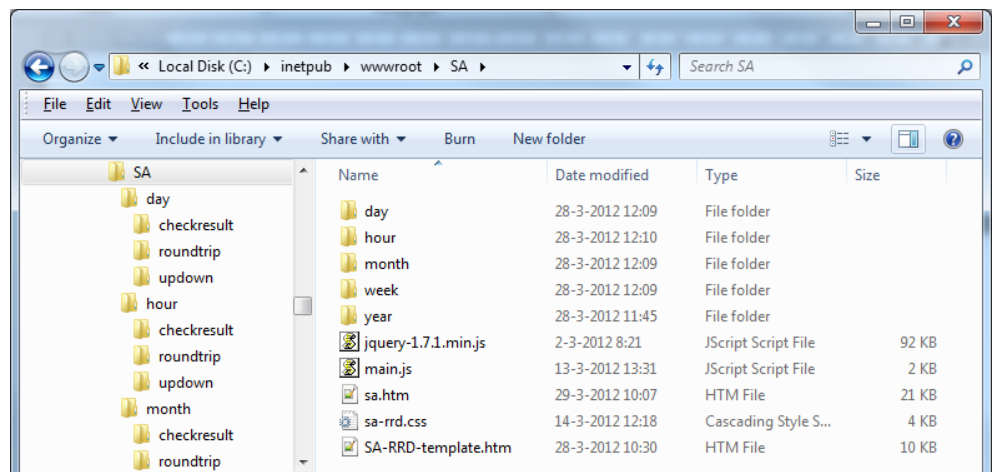- year
    - checkresult
    - roundtrip
    - updown

Open the template zip file.
copy 4 files from the template zip to c:\Inetpub\wwwroot\SA

- jquery-1.7.1.min.js
- main.js
- sa-rrd.css
- SA-RRD-template.htm

Note: The file sa.htm in c:\Inetpub\wwwroot\SA will be generated by the ServersAlive program. This is your status page!

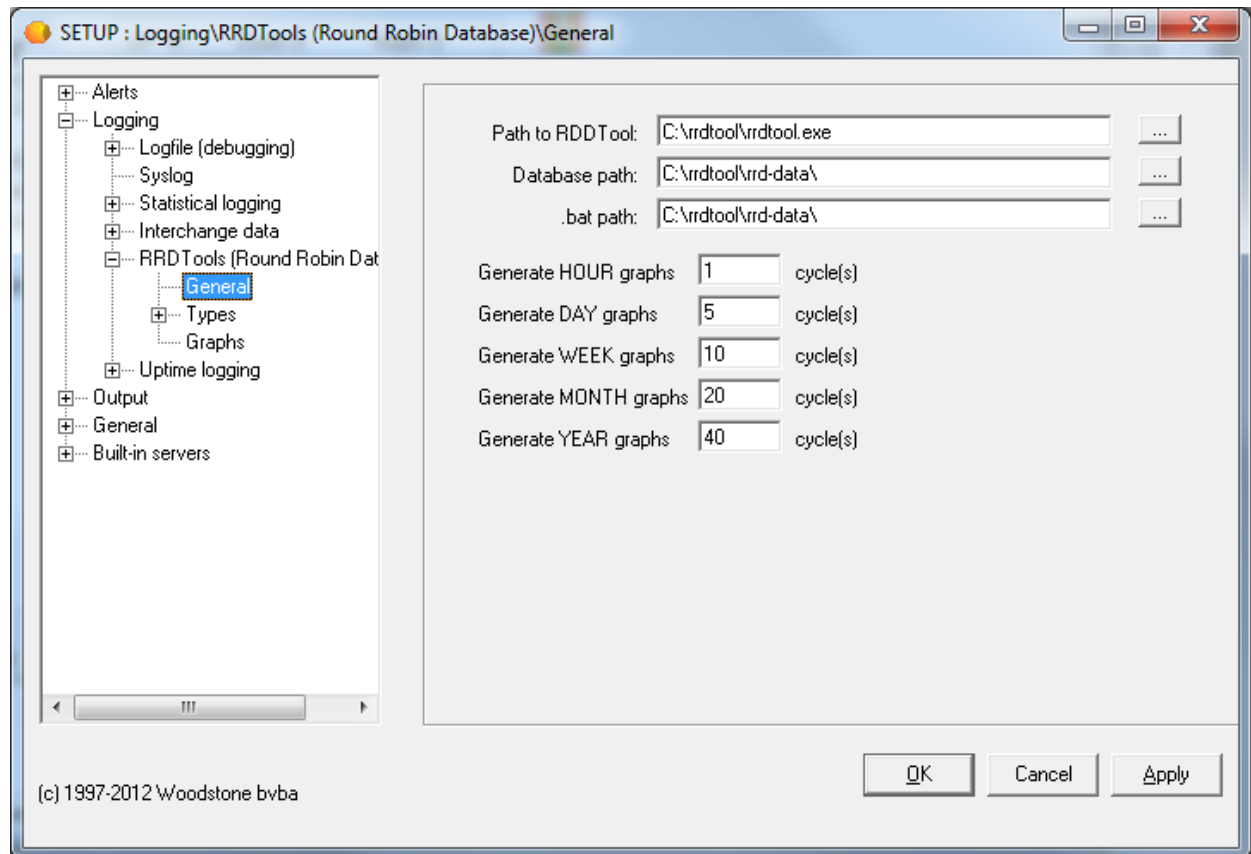Till so far the system presets.

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General Settings SA - Let's set the needed values in Servers Alive:

SETUP: Logging\RRDTools (Round Robin Database)\General

- Path to RRDTool: c:\rrdtool\rrdtool.exe
- Database path: c:\ rrdtool\RRD-data\
- .bat path: c:\ rrdtool\RRD-data\

- Generate HOUR graphs: 1
- Generate DAY graphs: 10
- Generate WEEK graphs: 20
- Generate MONTH graphs: 40
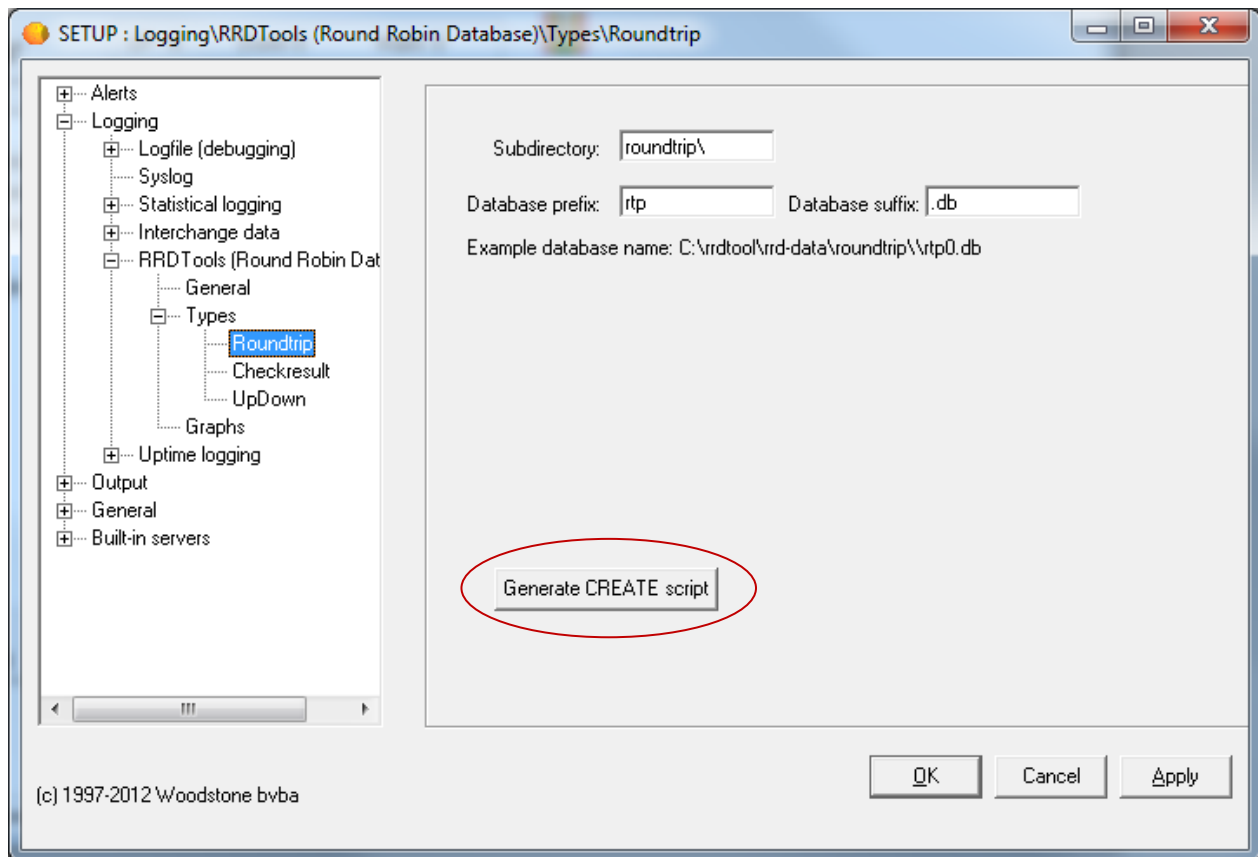- Generate YEAR graphs: 100

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Roundtrip - SETUP: Logging\RRDTools (Round Robin Database)\Types\Roundtrip

- Subdirectory: roundtrip\   *(don't forget the backslash   \ )*
- database prefix: RTP
- Database suffix: .DB

Now let's create the script that's going to create the RRD database files for Roundtrip, Checkresult and UpDown later in this document.

- click on the GENERATE CREATE script
- click OK on the 1st message and IF there is a question to remove the existing file answer YES
  (or you have to know what's going on….. ;-)
- NO on view content

We now have a brand new script pointing to the database location and filled with all the entries needed to create the needed databases for roundtrips.
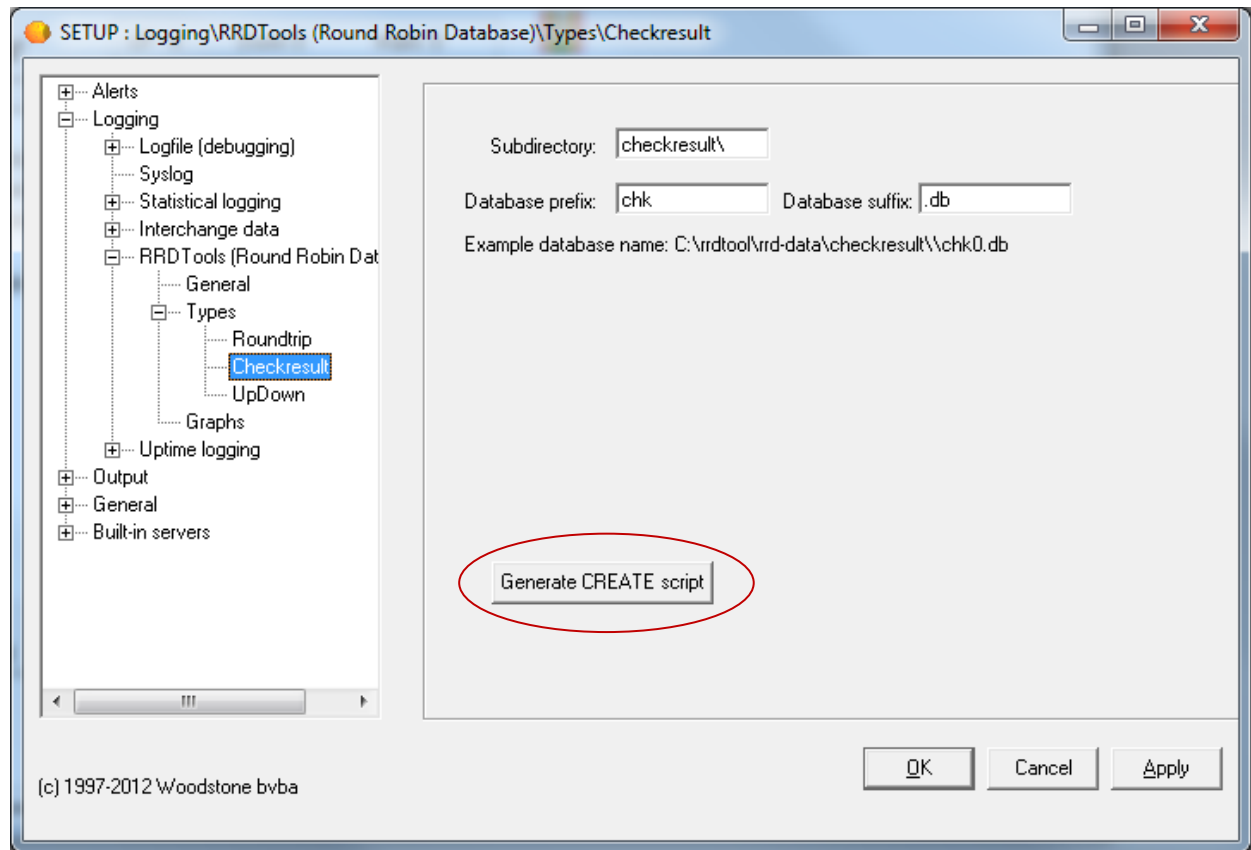
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Checkresult - SETUP: Logging\RRDTools (Round Robin Database)\Types\Checkresult

- Subdirectory: checkresult\   *(don't forget the backslash \ )*
- Database prefix: chk
- Database suffix: .DB

Now let's update the script (with the Rountrip entries already in it) that's going to create the RRD database files later on.

- click on the GENERATE CREATE script
- click OK on the 1st message and <mark>NO on the second</mark> – do not overwrite (it contains already the roundtrip entries…..)
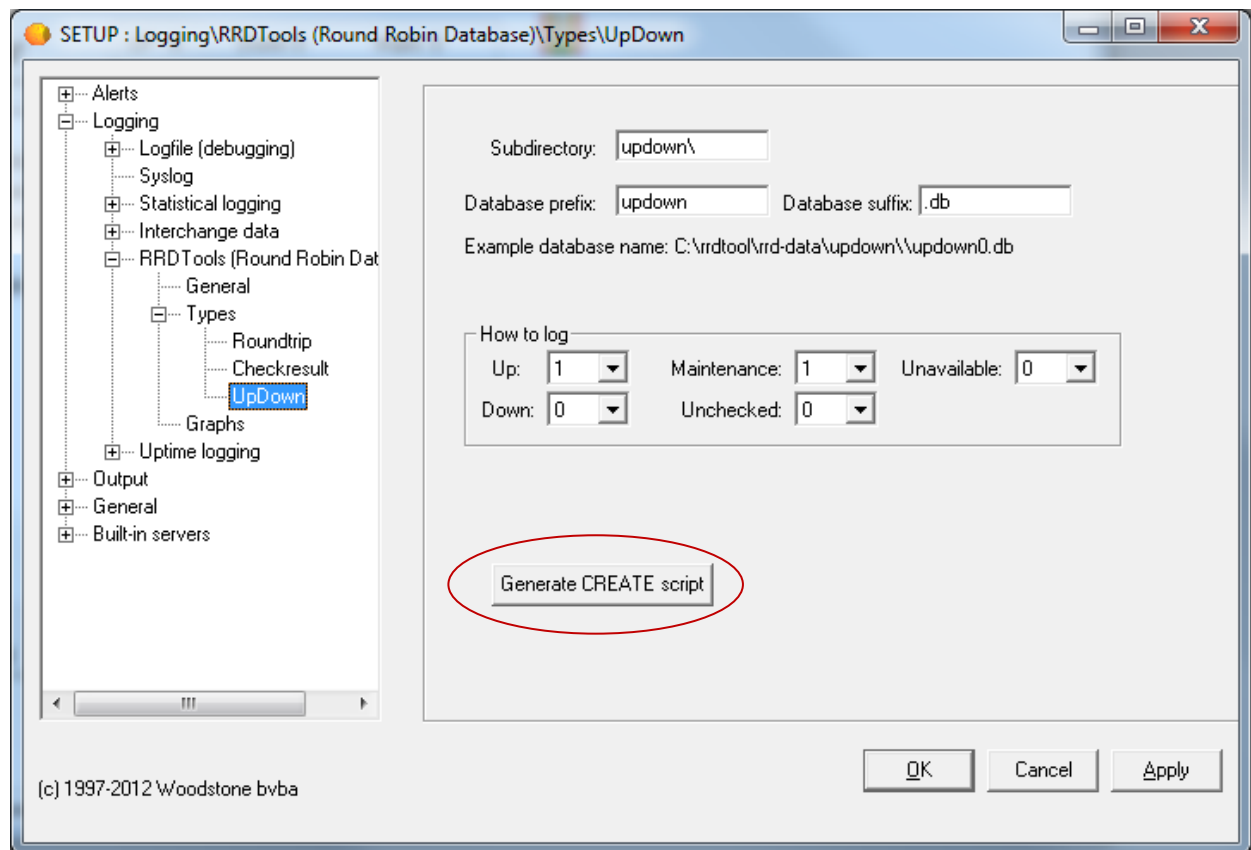- NO on view content

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UpDown - SETUP: Logging\RRDTools (Round Robin Database)\Types\UpDown

- Subdirectory: updown\   *(don't forget the backslash \ )*
- database   prefix: updown
- Database suffix: .DB
- up: 1
- maintenance: 1
- unavailable: 0
- down: 0
- unchecked: 0

Update the script (with the Rountrip/checkresult) entries again but now with the updown entries.

- click on the GENERATE CREATE script
- click OK on the 1st message and NO on the second – do not overwrite (it contains already the roundtrip and checkresult entries…..)
- NO on view content

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Graphs - SETUP: Logging\RRDTools (Round Robin Database)\Graphs

I'm using the standard windows webserver IIS so all graphics go into the created directories under inetpub/wwwroot/SA
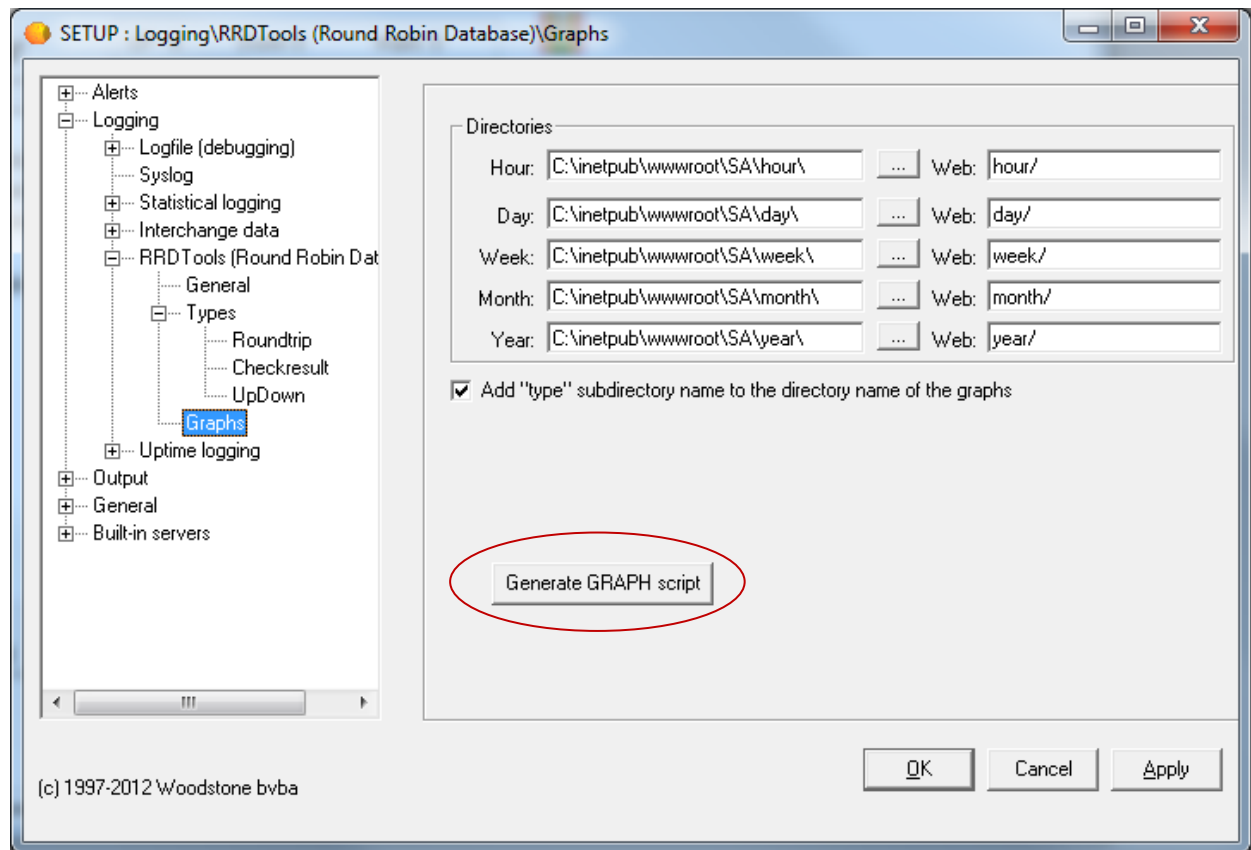
- Hour: c:\inetpub\wwwroot\SA\hour\   Web: hour/
- Day: c:\inetpub\wwwroot\SA\day\   Web: day/
- Week: c:\inetpub\wwwroot\SA\week\   Web: week/
- Month: c:\inetpub\wwwroot\SA\month\   Web: month/
- Year: c:\inetpub\wwwroot\SA\year\   Web: year/

(don't forget the (back)slashs)

- [x] Add "type" subdirectory name to the directory name of the graphs.

Now create the script that will take care of generating the Graphs:
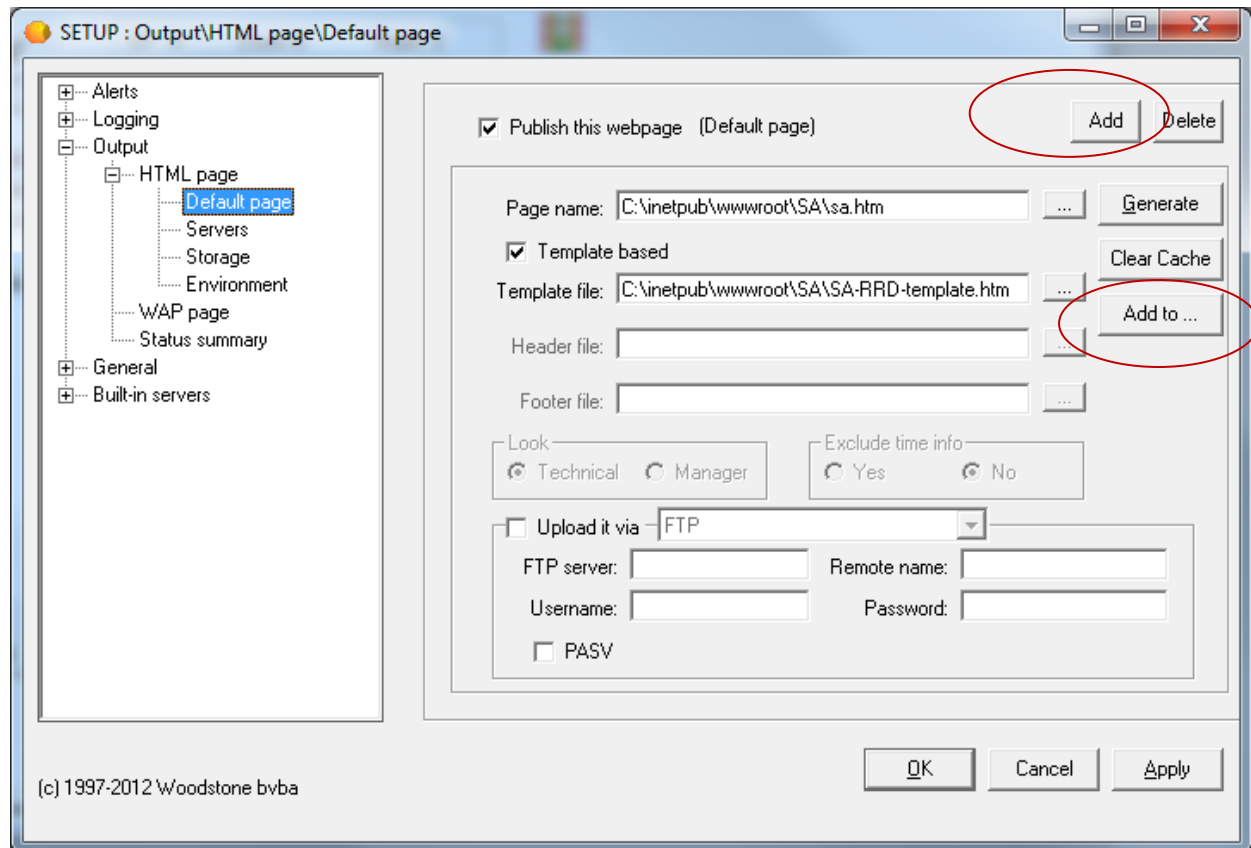
- click on the GENERATE GRAPH script

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Now we have configured SA to use RRDTool we have to setup the web page.

WebSite SETUP: Output\HTML page\default page

- [x] Publish this webpage
- Page name: C:\inetpub\wwwroot\SA\sa.htm
- [x] Template based
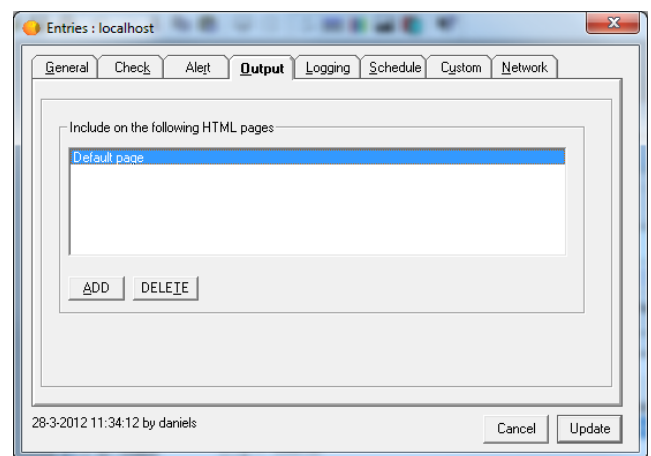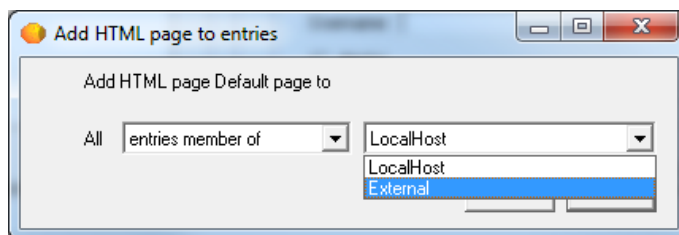- Template fie: C:\inetpub\wwwroot\SA\SA-RRD-template.htm

You can add more pages by clicking on Add. Give it a name and click ok. Don't forget to click in the left panel the name of the new page if you want to change it……

You have to configure every check you want to be visible on the webpage. This can be done by opening the check and add the page on the logging tab.

Or you click on the button Add to…. (see screendump above)

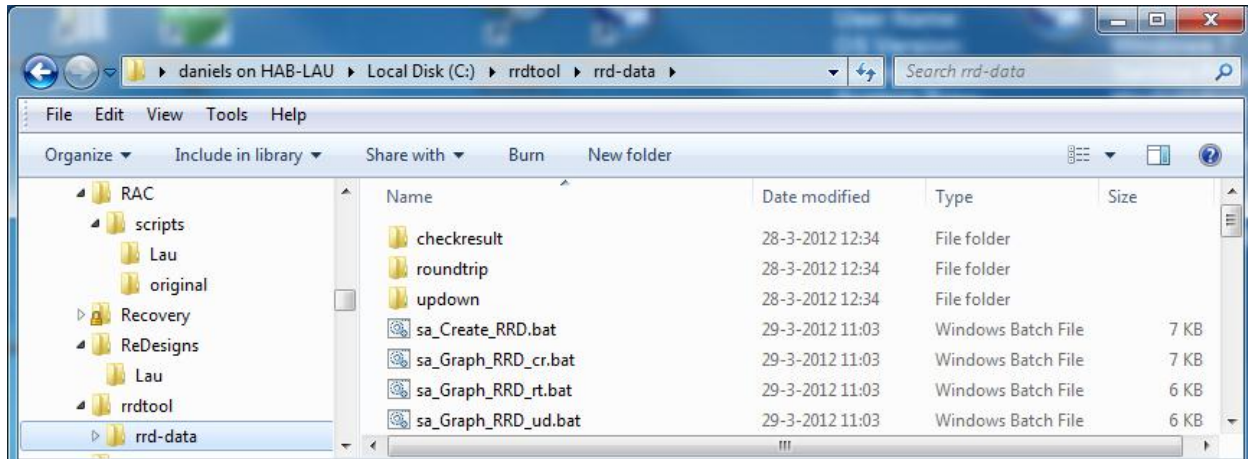To add all entries of the external checks to the default web page:

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Create Database:

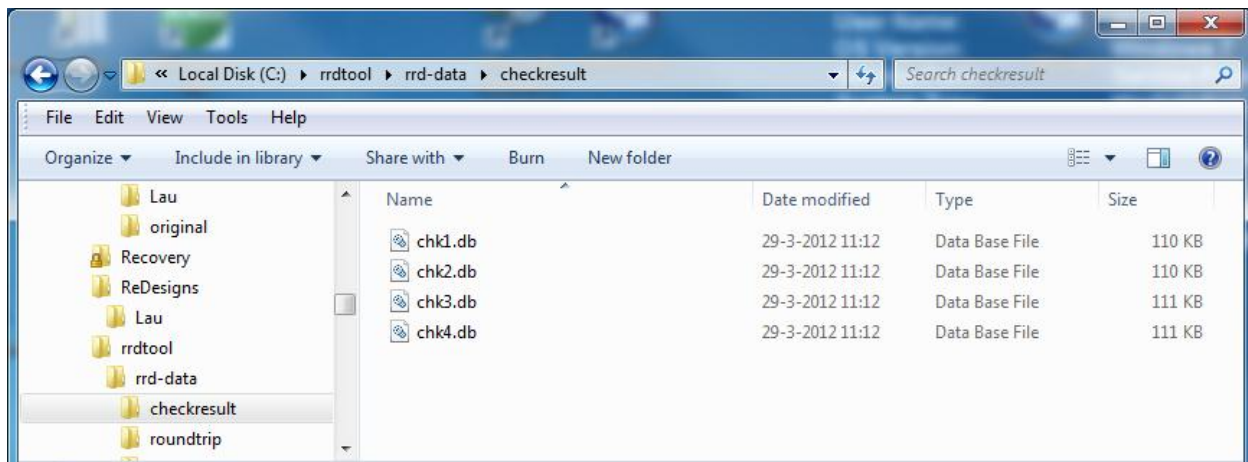Ok, the database creation script is created and the update scripts for the graphs are created.

If you look in C:\rrdtool\RRD-data you should find 4 batch files.

- o sa_Create_RRD.bat   - has to be run for creating the databases
- o sa_Graph_RRD_cr.bat   - update the graphs for checkresults
- o sa_Graph_RRD_rt.bat   - update the graphs for roundtrip
- o sa_Graph_RRD_ud.bat   - update the graphs for updown

Let's create the RRD-database,

- Open a command prompt and goto the c:\ rrdtool\RRD-data\
- Execute the **sa_create_rrd.ba**t "script".
- In the 3 directories under c:\ rrdtool\RRD-data\ there should be files.
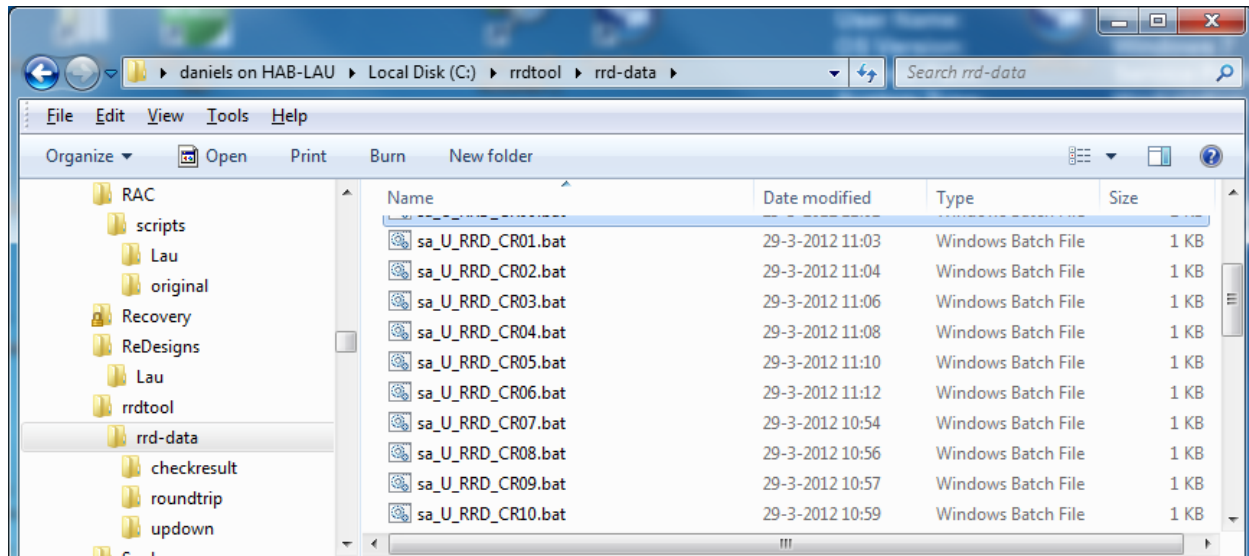 Starting with the check prefix, Unique ID and .DB extension.

Let's start SA

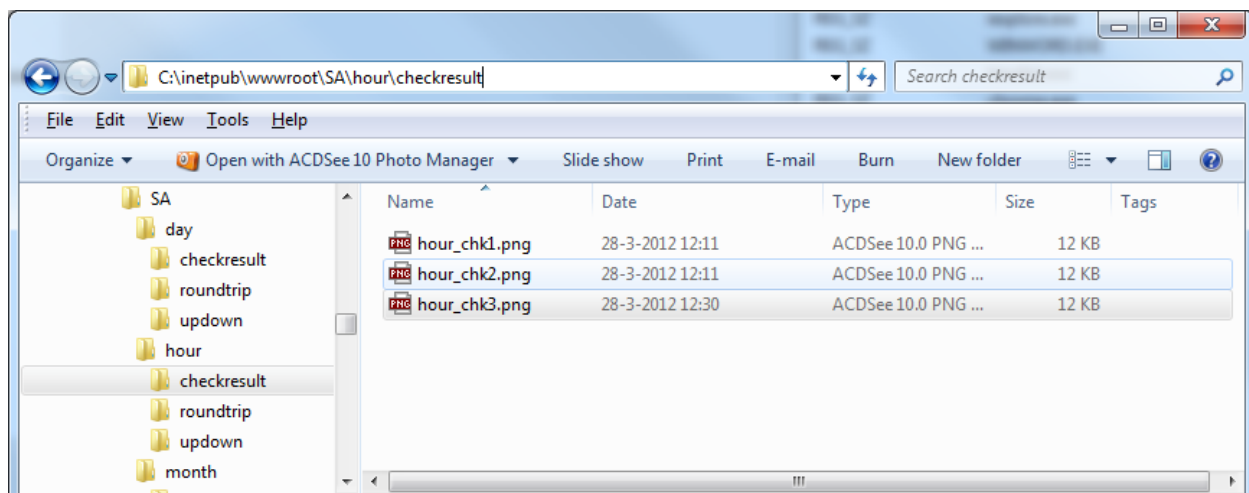Look at the status bar in the bottom right corner.
At the end of all the checks it displaying "Generating website"
There are 3 command windows opened that are running the 3 sa_Graph_RRD_xx batch files.

There should be max 10 SA_U batch files for every type of graph in C:\rrdtool\RRD-data. These batch files are used in a round-robin fashion as long as SA is running. If you quit SA these files are deleted and recreated during the next run.

In the graph directories under c:\inetpub\wwwroot\SA there should now be graphs for every check you included into the webpage. These are not yet filled and only the hourly graphs are there, wait for the cycles you entered on page 4 for the other graphs to be created.

You can now view the output of SA with a webrowser on: http://yourserver/SA/sa.htm

⚠️ **If you add/remove checks you have to repeat the steps on pages 5 through 10 and be sure the new checks have the appropriated RRD checks enabled and are set to be displayed on the webpage.**

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Features and hints:

- All failed checks are displayed on top of the page with a link so you can easy jump to the check (not ie <9)* .

- By clicking on this link the page will go to the failed check.

- Graphics are hidden by default and can be displayed by clicking show/hide in the check.

- Clicking on show/hid in the Graphics column shows you the graphics in hour view.

- You can change the content of the graphic by clicking on the links: Hour - Day - Week - Month - Year (for printing/copy purpose)

- as soon as you hover over those links a larger graphic is shown.

- Remember that it can take a while before all the graphs are available (see page 4 – generate settings)

. The CHECKRESULT db/graph is only created for:
  - "D"   Ddiskspace
  - "M"   SNMP
  - "F",   Perfmon
  - "E"   External (errorlevel)
  - "P"   Ping
  - "C"   External (cOM)
  - "U"   URL

- Page is auto-reloading after 2 minutes.

V1.50 - Report Dated: donderdag 29 maart 2012, 12:20:05
This report based on Servers Alive version: 7.0.2512, running on computer:HAB-LAU.
Monitoring started at 29-3-2012, 9:14:54. Number of cycles monitored: 13. This cycle started at: 29-3-2012 12:20:03

ServersAlive did 4 checks for this page and found 1 systems down.

localhost idle

Group: External

| Sub: External | Number of entries: 1 (Up=1, Down=0, Maintenance=0, Unavailable=0) |
Host : www.google.com -- ping to google

Status	Roundtrip	MaxRndTrips	MinRndTrips	UpCycles	Percent	DownCycles	DownTime	Graphics	Response
RUNNING	19	19 ms	12 ms	13	100%	0	0%	Show/Hide	100%

Group: LocalHost

| Sub: LocalHost | Number of entries: 3 (Up=2, Down=1, Maintenance=0, Unavailable=0) |
Back to Top   Host : localhost -- localhost idle

Status	Roundtrip	MaxRndTrips	MinRndTrips	UpCycles	Percent	DownCycles	DownTime	Graphics	Response
DOWN	249	267 ms	250 ms	8	61,538%	5	38,462%	Show/Hide	87,75055 should be: Processor,% Idle Time._Total<95

Host : localhost -- localhost memory

Status	Roundtrip	MaxRndTrips	MinRndTrips	UpCycles	Percent	DownCycles	DownTime	Graphics	Response
RUNNING	264	282 ms	250 ms	13	100%	0	0%	Show/Hide	845

Host : localhost -- localhost ping

Status	Roundtrip	MaxRndTrips	MinRndTrips	UpCycles	Percent	DownCycles	DownTime	Graphics	Response
RUNNING	0	0 ms	0 ms	13	100%	0	0%	Show/Hide	100%

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Note: *Due to usage of javascript the browser you use, must be enabled to use active X, put the SA page in the trusted zone is the easiest to do.*

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Open graphics and hover over the hour link.

Notice that the roundtrip response time has gaps in the graph.
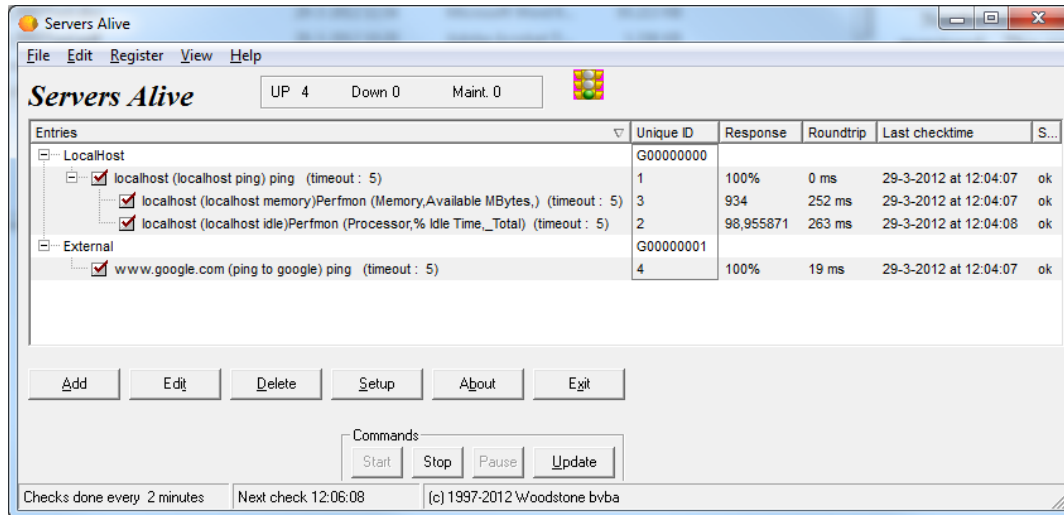When a system is down there is no response time recorded.

Quick-start-sa.txt

I provided a sample setup for SA for testing purposes.

You can load this file in SA by clicking on File – Open – Select quick-start-sa.txt – open.

Now you should have 4 checks available in SA. All 4 checks are setup for RRD logging en display on the default webpage.

You now have to setup SA according to this document.

That should do the job.

Any questions, suggestions, additions, requests, etc   just mail me, laudaniels at hotmail.com
or leave a message on the maillist - http://www.mail-archive.com/salive@woodstone.nu/