PINGGUIN MANUAL

V1.0.0.0

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INTRODUCTION

PINGGUIN is a software for windows written in the Pascal Language. Its goal is to provide a friendlier PING command than the console application offered by the operating system (OS). Mainly, a graphic user interface (GUI). It does not replace the PING console application of the OS but add some functionality it lacks. Such as saving the result to disk, printing the result, automatic PING with various parameter of a list of computer or host (e.g. Server, any devices accepting a ping request, PC in workgroup and domain).

In fact PINGGUIN is more than a simple software. Of course it does what you expect of the ping console application but more too. If your everyday is maintaining network, no doubt you wished you could just load a list of host to ping with various parameter as they are all the time the same or with little variation. Sometime, you'd wish you could also read a simple report in a more friendly way of dozen of pinged host. Wouldn't be a time saver if only the console application could do that? If this is you, PINGUIN will help you lots. It just does that with perfection. At home your internet television, various PC, the game console, the home networks goes rogue… well ping them all and check what is going on. Did I mention it is faster than the equivalent console application offered by the OS? Indeed it is.

From pinging local network address to distant server for troubleshooting a network, to know the IP address of a domain or other reason of yours, PINGGUIN is there to help. The result is a text file you can manipulate the way you like. As it is a portable software and does not need administrative right to run in single or multiple instance, PINGGUIN could be a great addition to any network tool collection. Best of all it is free to use even in commercial environment. Read the license for more details.

I do recommend reading this manual in full. I know too many people reading the manual only if everything else fails… but to enjoy it at its maximum potential why not reading this little manual?

So, enjoy this software as much as I do. PINGGUIN name explained: PING: as it's a ping software, GUI: as it's is a software with a graphic user interface, and N if you read pinggUIN sounds a bit like WIN: as in windows. Does it run on ice like the real Penguin? I am afraid not it runs only inside PC under windows OS.

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SYSTEM REQUIREMENTS

OPERATING SYSTEM:

PINGGUIN is a software designed for Window only and will run on this version of window: Vista all editions, Windows 7 all editions, Windows 8 and 8.1 all editions, Windows 10. The software has been tested under these OS. It should run under XP all editions and Windows Server but it has not been tested at all.

RAM:

PINGGUIN is not hungry in memory at all. Around 6Mb when running full throttles per instance.

MASS STORAGE DEVICE:

PINGGUIN comes in two editions. Each of them requires different space to be stored.

1. 32 bits edition: 2.85Mb on disk.
2. 64 bits edition: 4.52Mb on disk.

Note: Saved Ping list and Results saved are text files consuming also space on disk.

MISCELLANEOUS:

PINGGUIN needs an INTERNET connection to PING host in the Wild Area Network. Computer located into the Local Area Network can be ping via network card without the need of an internet connection.

INSTALLATION

PINGGUIN is a portable software and does not need any installation at all. It comes as an executable archived in a ZIP file.

1. Download the proper needed version of PINGGUIN.

The ZIP files are:

a) Pingguin_32Bits.zip for the 32bits edition
b) Pingguin_64Bits.zip for the 64bits edition

Please be sure to run the right version of the executable. The 32 bits version runs on 32bits and 64bits version of window. The 64Bits is dedicated to 64Bits version of window.

The executable name is Pingguin.exe for both versions. A double-click on its icon or shortcut launch the software.

Pingguin.exe icon enlarged

2. Create a folder and extract the executable inside this folder.
   Window permits to extract archive easily from Vista and onward by just opening the zip file (double click).
3. Create shortcut if needed.

PINGGUIN does not write to the registry and has no configuration file at all; therefore it is able to run from non-writable media such CD-ROM.

The only file PINGGUIN write to disk is what you save. This could be:
   a) The Ping List
   b) The result of PINGGUIN pings
Both of these outputs are text files and are saved on demand into PINGGUIN's folder.

If you did follow these instructions, uninstalling the software is a breeze. Just delete the folder where was extract the archive during installation; assuming no other files needed are present into this folder or just delete its binary (Pingguin.exe).

SOFTWARE PRESENTATION

PINGGUIN Graphic User Interface is far different from its OS counterpart and permits more. It is also very intuitive to use if familiar with the OS counterpart. To make this software even easier, the software is divided into 3 different zones described later into this chapter. But first let's have a glance on how looks the software when running.

Each instance of the software running looks like this under window:
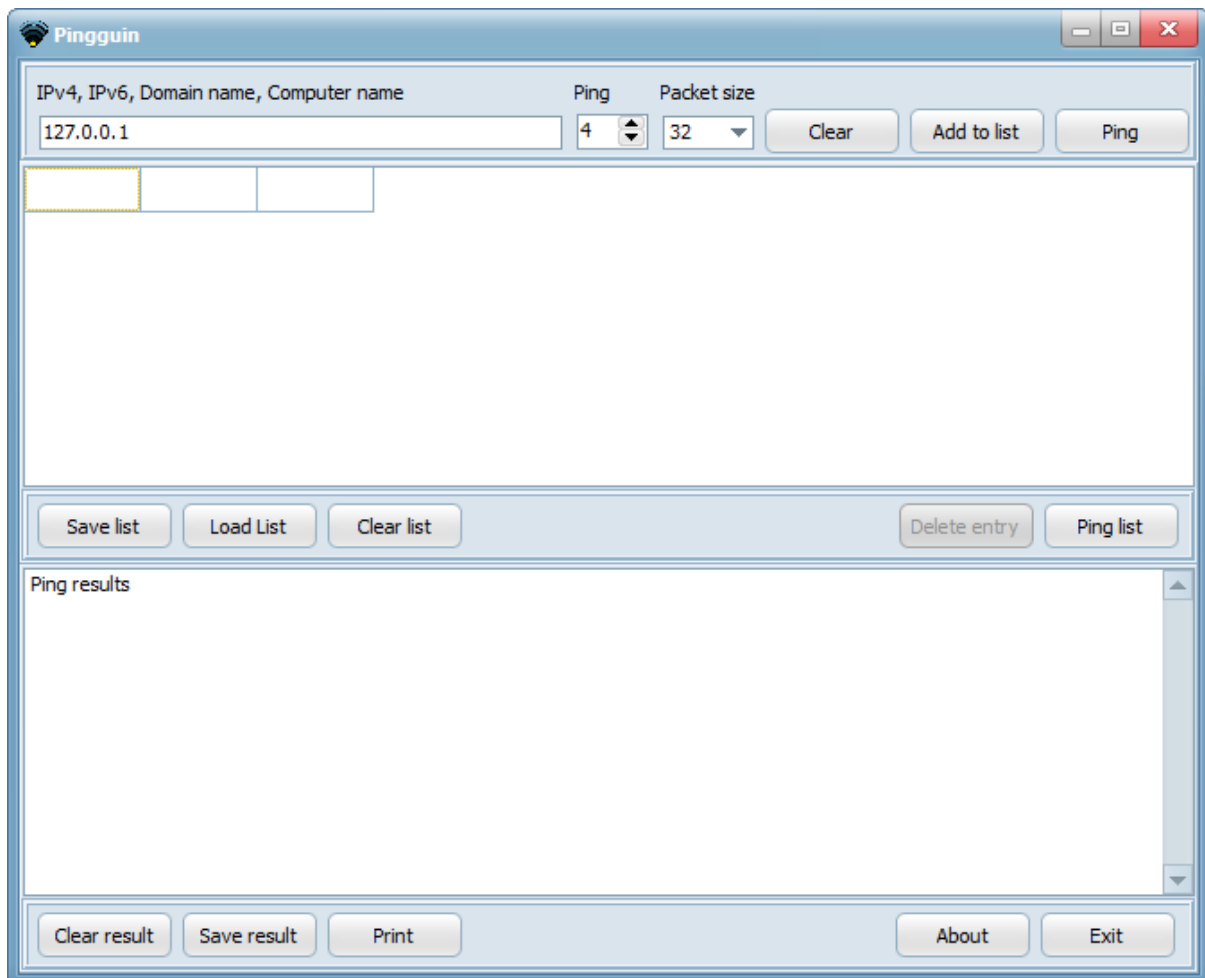
One instance of PINGGUIN running window

The interface is clean and friendly as you can see. No special icon, no special theme that might distract you. Just plain text on various buttons, a few labels, on grid, and a text container; I guess you can distinguished the 3 different zones by yourself as each one has some specific controls for some specific actions. The software can be used like you read a book, from top to bottom reading left to right therefore making it very friendly to learn and operate. Let's now explain the 3 different zones in more details.
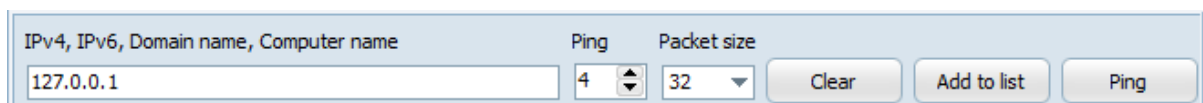
The 3 different zones of work are described as follow:

The input zone:

This is where you enter or input some data the software will use to perform its ping task. Mainly you will need a target to ping:

- IP address in the form of IPv4 or IPv6 or
- A domain name
- Computer name

Then you will need to tell the software how many pings it has to perform and finally you must choose if you want to add this target to a list and/or perform the ping immediately.

*The input zone*

The list zone:

It contains a grid container or target list you can read from top to bottom and from left to right.

There are only 3 columns in this grid. From left to right here is what will be displayed in these columns:

- IP addresses or domain name or computer name
- Number of ping to send to the target
- And the size of the packet the target will receive when reached

With this target list you can:

- Save it for later use,
- Load a previous saved list,
- Clear the list
- Edit the list by clicking on one of its field
- Delete one selected entry
- Perform a sequential ping in the given order of the target list with your given parameters
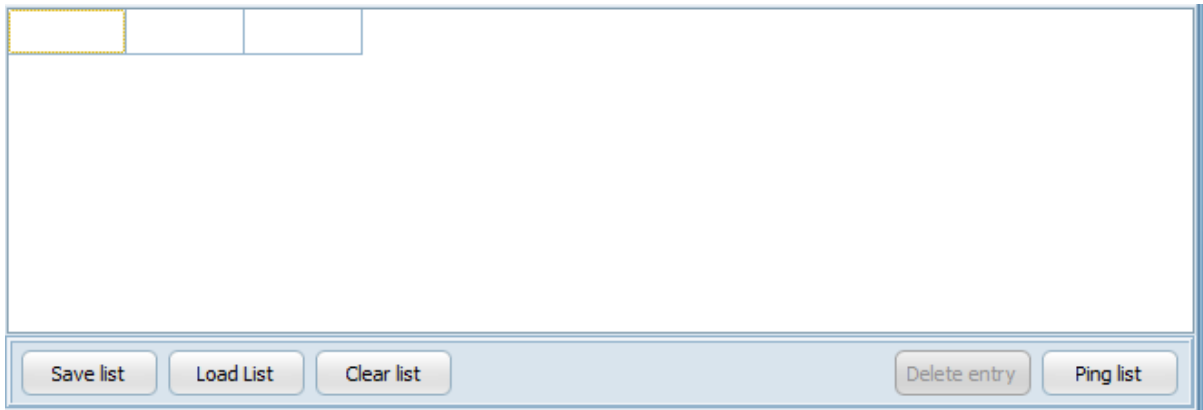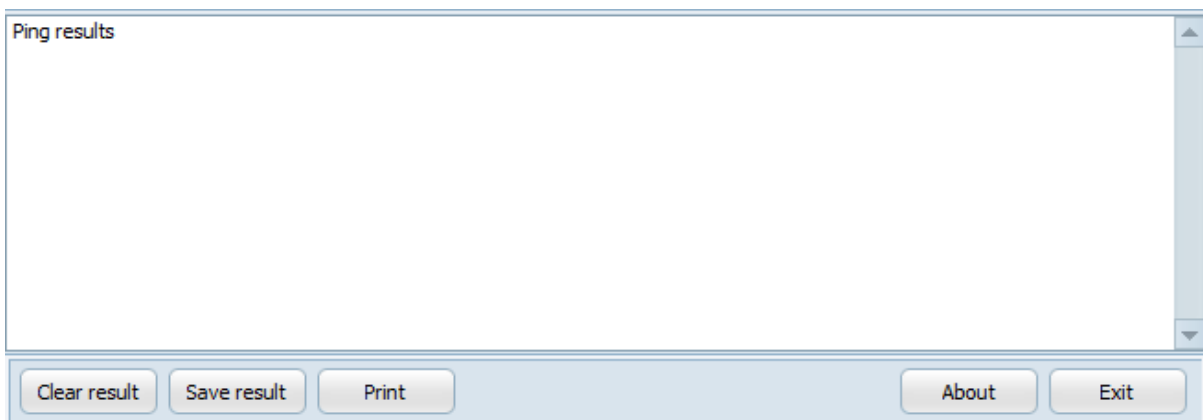
The list zone

The Result or Output zone:

This is where the result of a single Ping or a whole Ping list will show date/time stamped into its own container. This container is a text zone you can edit the way you like. Moreover you can with these results:

- Clear the results
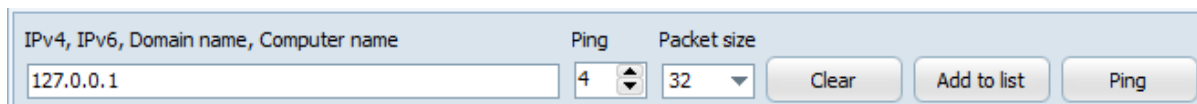- Save the result in a text format
- Print the result (fast print)

The result or output zone

The result zone also offers the option to display the about box of this software and an exit button.

More explanation on how to use these 3 zones can be read in further chapters.

THE INPUT ZONE

The Input zone is located top of the main window.

The input zone

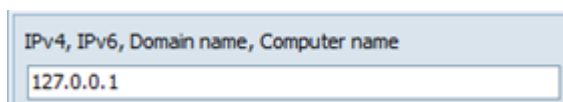The input is done via 3 labelled controls on the left side of the zone:

- An edit box,
- A spin edit box,
- A combo box.

Action after input can be done via 3 buttons on the right side of the zone:

- The 'Clear' button,
- The 'Add to list' button,
- The 'Ping' button.

Each of these controls and buttons are explained below.

The edit box:

The edit box

When launching the software the default value of the edit box is set to 127.0.0.1. This value is in the form of an IPv4 and is the loopback Internet protocol (IP) address also referred to as the localhost.

The edit box is the target input. This is where you input what to ping. It can be in these forms:

IPv4: 4 digits separated by a single dot. Each digit has a minimum value of 0 and a maximum value of 255. Each digit is an eight bit decimal representative number. This is the most common way to ping a computer; including your own with the localhost address which is 127.0.0.1. IPv4 input are not controlled but the result of the ping. You can input 255.255.255.255 and the software will try to ping it if requested with various result you can

expect from your input like the normal ping command console offered by window.

E.g. of IPv4: 10.0.0.138, 192.168.16.10, 49.157.128.13

More about IPv4 can be read on Wikipedia at this URL: https://en.wikipedia.org/wiki/IPv4

IPv6: 5 hexadecimal groups separated by a colon but the first one separated with 2 colons.

E.g.: fe80::6c1f:2e8f:8ac7:199c is a valid IPv6 target to be ping by the software.

Please note the last group does not need a colon at the end.

IPv6 is more difficult to use but will in time supersede IPv4 for various reasons. Mainly it uses a 128bit address to compare to the 32bit address of IPv4 format thus allowing more IP address to be attributed on the Internet or Wild Area Network but not only. You can read more about IPv6 at Wikipedia at this URL: https://en.wikipedia.org/wiki/IPv6

Domain name: A domain name is an identification string that defines a realm of administrative autonomy, authority or control within the Internet. Domain names are formed by the rules and procedures of the Domain Name System (DNS). Any name registered in the DNS is a domain name. Any valid domain name can be input here. Domain name are easier to read and remember by human than their IP counterpart.

E.g.: google.com, mydomain.com, anotherdomain.org.au

Please note: www.google.com.au is accepted and will be ping. Therefore any domain name prefixed by www is accepted as a valid potential target for the software to ping. Hostname are also accepted.

More about domain name can be read at Wikipedia at this URL: https://en.wikipedia.org/wiki/Domain_name

Computer name: is a unique identifier that is given to each computer and is used by the OS to locate and connect to a computer in order to perform routine maintenance, as well as provide remote technical assistance and various other network operations. Every computer should have a computer name different from other computer located in the same local area network to avoid conflict and login difficulties. You can ping computer in a local area network by their respective IP but also by their computer name.

E.g.: Jeannot, My-PCName, Office1, FrontDeskPC

Please note localhost will work as a target to be ping but it will always point to 127.0.0.1 IPv4 address.

The spin edit box:

The spin edit box

When launching the software the default value if the spin edit box is set to 4. The value is a decimal value ranging from 1 to 10.

The spin edit box is the number of ping the software will send to the target defined earlier.

You modified the number of ping to send with the 2 arrows right of its decimal value. The up arrow increase the value to a maximum of 10 possible pings and the down arrow decrease the value to a minimum of 1 ping to send to the target.

4 pings are usually sufficient to have an acceptable result from the target. More than 10 is unnecessary but can be modified into the list zone if needed.

Please be aware that some server will not accept huge amount of ping and will log your IP address as you attempt what is called a 'ping flooding'; which is an illegal attempt to put down a server or any target you choose with consequence you are sole responsible for. The software is not designed to create ping flooding and put server down. This is not a hacking tool and MUST NOT be used as such. The fact you could possibly send more than 10 pings is present for legal genuine security test (e.g. observing reaction of a server facing this situation to control security measure) from people who own the right to do so and legal educational purpose only.

The packet size combo box:
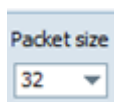
The packet size combo box

The default value a ping packet size is 32 bytes and is what the software proposed when launched. You can via this combo box send 4 different packet sizes; it is what is used when the software sends its ping to the target. The packets size proposed are: 32 bytes, 64 bytes, 128 bytes and finally 256 bytes. The response from the target will decrease with a higher packet size. Standard results are usually best read with a 32 bytes packet. Some server will not accept a packet size over or under 32 bytes as a security measure, they also might log your IP address for further references if needed. Please be always sure your ping request is a genuine one.
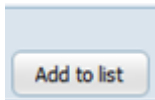
The clear button:
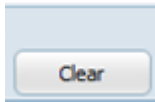
The clear button

This button as only one purpose, it resets to nil the content of the edit box when clicked.
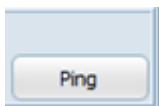
The add to list button:

The add to list button

This button permits to send your input to the list zone grid instead of a direct ping. As you input more target with various parameters (number of ping, packet size) with this button, you create a list of target to be ping later when you are ready. More about the list zone will be explained next chapter.

The ping button:

The ping button

Pinging one single target is as simple as clicking this button when valid input are done. The software will not verify the validity of your entries, neither if you are connected or not to the internet and if your firewall blocks the software. Whatever the results are when a target is pinged will show into the result or output zone, this includes error that might have occurred during ping software routine.

THE LIST ZONE

The list zone is located in the middle of the main window of the software. Just under the input zone.
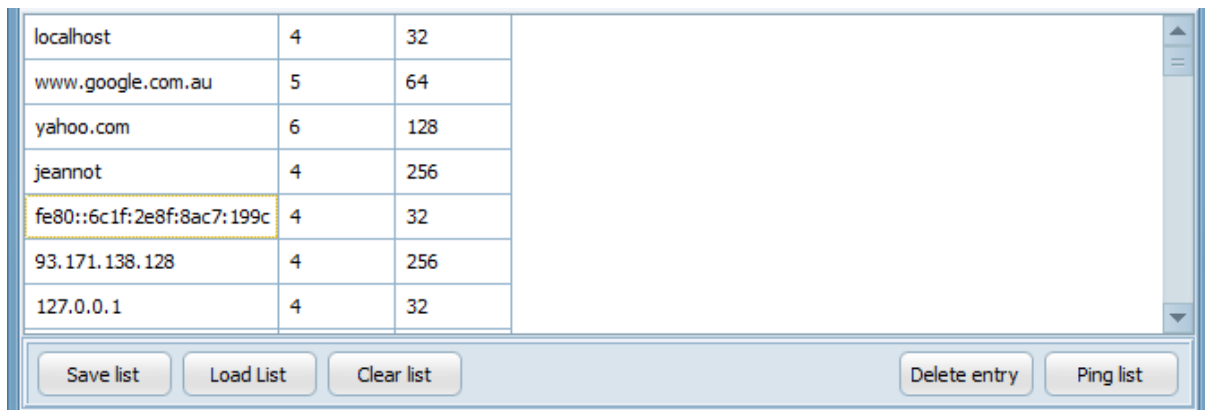
The list zone

It contains a data grid list and 5 buttons to interact with the list zone; all of these controls are explained below.

The data grid list:

The data grid list

Each time the add to list button from the input zone is clicked an entry is created into the data grid list. The last line of the data grid list is always an empty one. The software will use this last line for new input entry. On input of data, if it is not empty the line is overwritten and a new empty line is created just after it. Please note the first column adapts its size to the largest data entry.

The data of this grid has 3 columns and from left to right you can read:

- The target to ping: in the form of IPv4, IPv6, domain name or computer name,
- The number of ping to send to the target: a value from 1 to 10,
- The packet size to send with each ping expressed in bytes: 32, 64, 128, or 256.

Each entry in the list is editable. To do so just click on the selected list item you wish to edit and modify the value as desired. It is NOT recommended to modify the value of:

- Column 2:   a minimum of one ping is expected in this column and a maximum of 10 pings is more than sufficient to have a good reading result from a ping operation. 4 pings is a standard value and some server will log IP address of computer requesting more than 4 pings. It is also possible a server will log any unusual communication between itself and a remote computer; a ping request might be considered by some server as unusual communication by some server. This especially true if this server has a limited list of remote computer client.
- Column 3: the packet size in a standard ping is 32 bytes. The software permits to send packet of 64 bytes, 128 bytes and 256 bytes on top of the 32 bytes standard. The response time is of course affected by the size of the packet send to the target computer. Server might record IP address of any computer requesting ping with packet of more than 32 bytes.

Malformed packet is considered as a DoS attack and will be most likely logged and/or firewalled. The software send packet of any desired size via modification of column 3 value in a genuine way. It is NOT designed to create a DoS attack. DoS attacks are illegal. Servers will detect a DoS attack and will log computer IP addresses of the offender; lawsuit might follow. The fact you can modified the packet size to send to any target of your choice is there for legal genuine security test purpose and from people who own the right to do so and legal educational purpose only.

The save list button:
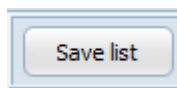
The save list button

The data contains into the grid list can be saved for later use. This is particularly convenient for a repetitive task; e.g. creation of a computer list to ping inside an internal network to check availability when it is time to update them. To save the content of the data grid list a single click on the save list button is required.

If you chose to save a list you will be require to give a name to the list:
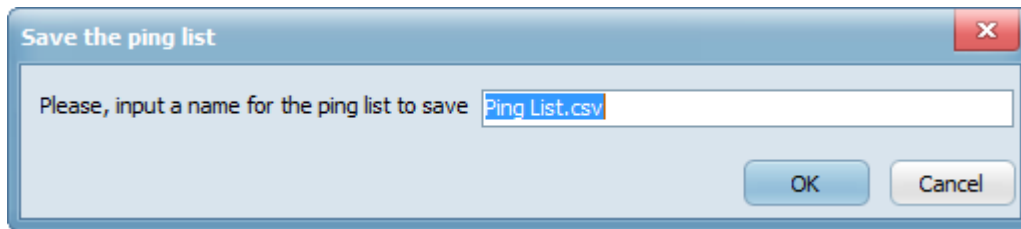
Save the ping list require a name

Any valid windows name is okay to input but choose something adequate (e.g. My home network, PC mydomain, and so on). You do not have to enter the .csv extension for the file and will be added no matter what. The default proposed name is 'Ping List.csv' which in turn would be saved as 'Ping List.csv.csv'. It is named that way to remember you the file is a CSV file when saved. The saved list is a CSV file saved into the application folder; be sure this location has enough space to contain the file and is not read only (CD-ROM, read only but for administrator, etc...). When you are happy with the name for this file you can either:

- Click the OK button to save the list into the application folder,
- Click the Cancel button to stop saving this file and return to the regular operation of the software.

The software will verify if the file exists already into the target destination folder and prompt you to overwrite the file in case this one exists already.
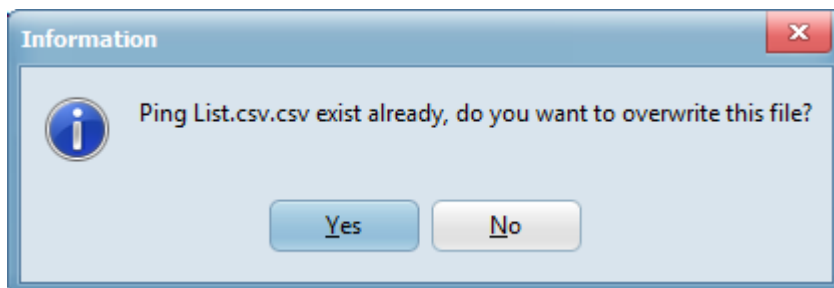
This file name exists already into the application folder and the software needs confirmation to overwrite it

After saving the file a confirmation message will show the path where saved the file.
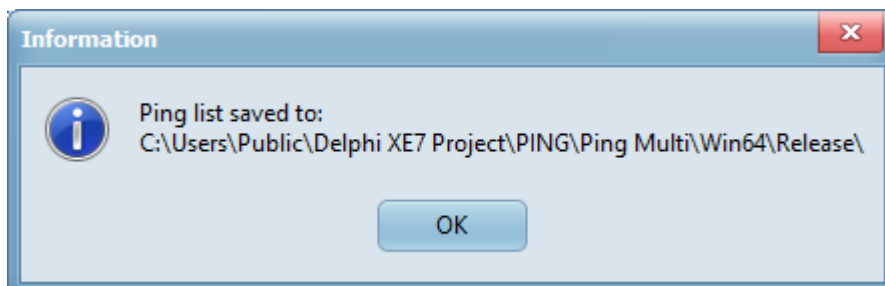
The save confirmation information message dialog

The save list is a CSV file (Comma Separated Value). It can be read in any spread sheet software able to import or read CSV file, most of them do. It also of course can be read by any text editor as a CSV file is just a primitive database saved in a text format.

More about CSV file can be read here: https://en.wikipedia.org/wiki/Comma-separated_values

You can therefore create your own list respecting the CSV rules and column value with a single text editor like the notepad. Sometime an image talks better than a thousand words. Here is the previous saved data grid list under edition inside a text editor:

```
localhost,4,32
www.google.com.au,5,64
yahoo.com,6,128
jeannot,4,256
fe80::6c1f:2e8f:8ac7:199c,4,32
93.171.138.128,4,256
127.0.0.1,4,32
,,
```

A data grid list under edition

Please note there is NO field definition/title. Each data entry is separated by a new line (carriage return and new line) each data inside an entry is separated by a comma and a space character (for readability only but not mandatory) as shown in the sample image above. The last line is always two commas (,) not a double quote. Remember, the last entry is always an empty one as the software will use this last line for new input entry. On input of data, if it is not empty the line is overwritten and a new empty line is created. The last line is never pinged when the list is pinged

The load list button:
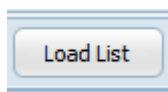
The load list button

This button permits to load previous saved data grid list. Please note it does not append data to the grid list; data already present are cleared and new data are loaded into the grid list. The software will not verify the validity of the CSV data when loading it. Parsing the CSV file would dramatically increase the size of this software and therefore this type of code is not implemented yet. Be sure to load a list compatible with the software.

To load a previous saved list into the data grid list a single click on the load list button is required. An open dialog will show.
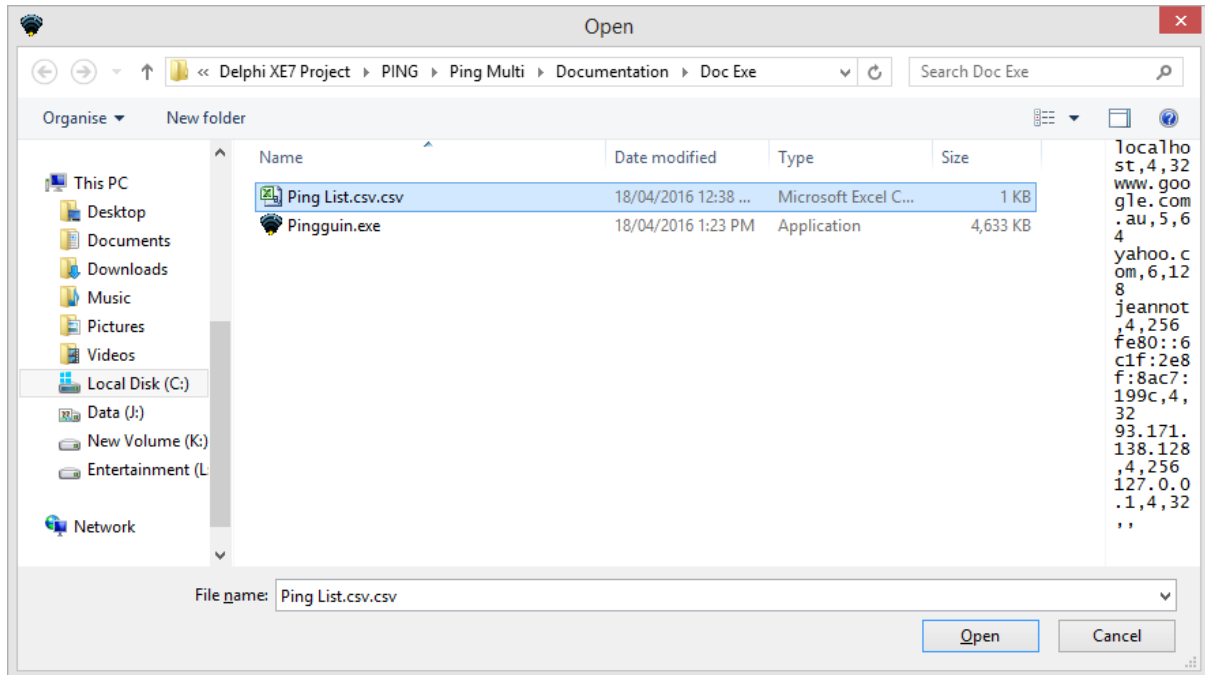

The open dialog window

The initial directory or folder for finding the file is the application folder as shown in the example above.

At the opposite of the save list button where the list is always saved into the application folder, the open dialog permits you to use explorer to find the adequate CSV file thus importing list from various place; such as thumb drive, CD-ROM, network drive and so on.

Once you have located the ping list, whatever its name is but must be a CSV file, just select it by clicking on it then click the open button to load the file into the data grid list. You can also choose to cancel the operation at once by clicking the cancel button.

Again, remember when loading a saved list the actual data inside the data grid list is cleared. You might want to save the actual data first if it is relevant to you and/or need to be kept for later use.
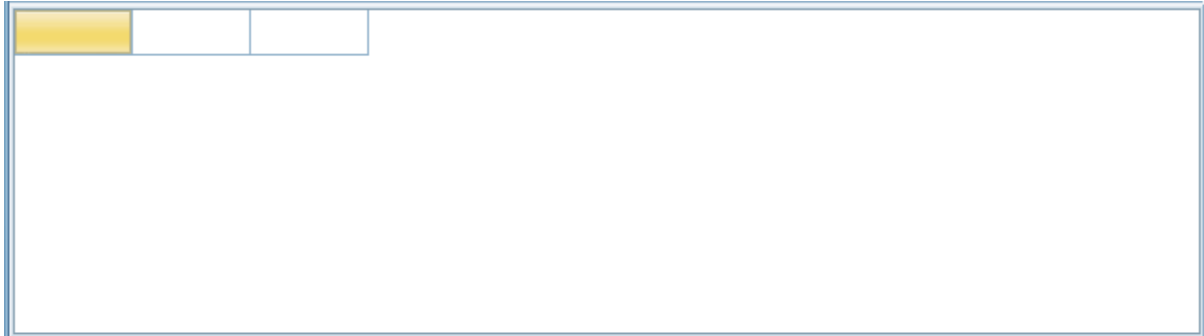

The clear list button:
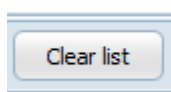
The clear list button

This button has only one purpose to clear the data grid list inside the list zone.

It does not prompt to save present data in this grid at all. So, if you need to keep these data for later use, you need to save them first via the save list button explained before.

To clear the list and return it to its original state, 3 empty columns, a single click is required on the clear list button.

Original state of the data grid list. It occurs without prompt when the clear list button is clicked

**The delete entry button:**
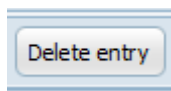
The delete entry button

The delete entry permits to delete a whole row when a data of this row is selected. The last row cannot be deleted. The delete entry is not enabled if a valid selection is not made, e.g. selecting the last row inside the data grid list.

To delete an entry you need to select any data of an entry or record inside the data grid list but the last row; once a valid entry is selected the delete entry button become available and a single click will delete the whole record /whole row without prompt/warning. As such, use this button with caution as there is no undo.

The ping list button:
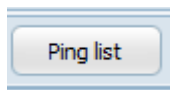
The ping list button

This button works the same as the single ping button in the input zone. However it does not ping what is inside the input zone but the list zone. It does it also in a sequential way, record after record or row after row from to bottom of the data grid list. There is no way to stop the process once started but by pressing the escape key on your keyboard; it is however

slow to respond regarding where the ping progress is and this known problem will be optimised in future release of PINGGUIN.

THE RESULT OR OUTPUT ZONE

The result or output zone is located at the bottom of the main window just under the list zone.
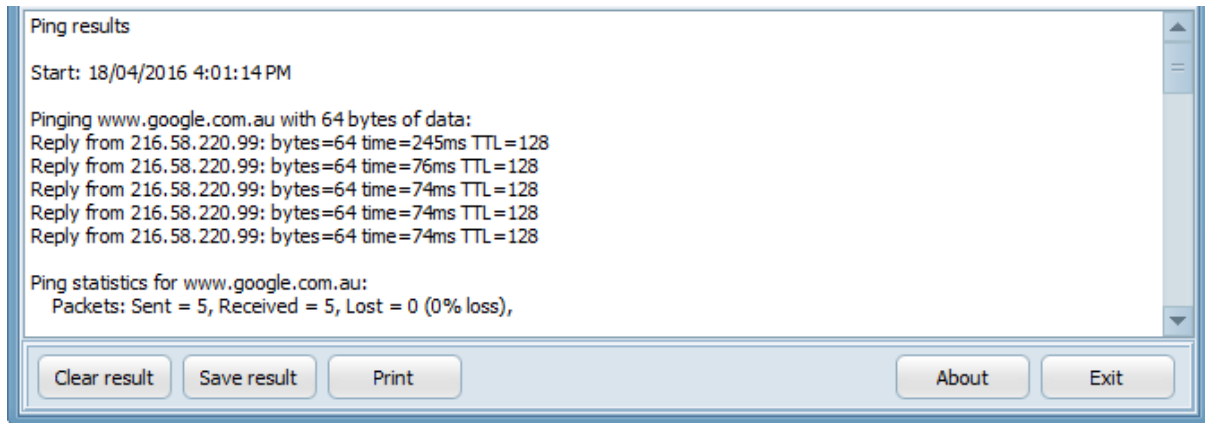
The result or output zone

The result or output zone contains a primitive text editor and 5 buttons. The primitive editor or output memo is where are really displayed the result of a single/list of ping. 3 buttons are really interacting with the output memo. These buttons are:
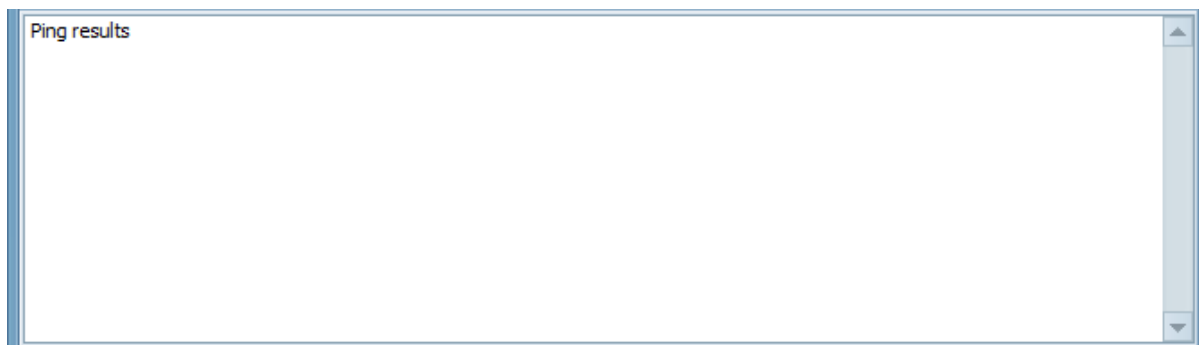
- The clear result button
- The save result button
- The print button

There are 2 other buttons not interacting with the output memo and clearly separated from the other 3 buttons. These buttons are:

- The about button
- The exit button

These last two buttons will be however explained in this chapter. They are places on this zone for winning space inside the Graphic User Interface.

The output memo:

The output memo at start of the software or just cleared from its results.

When the software starts the output memo contains only one line. The content of this line is: Ping results. It is also the same content when you use the clear result button.
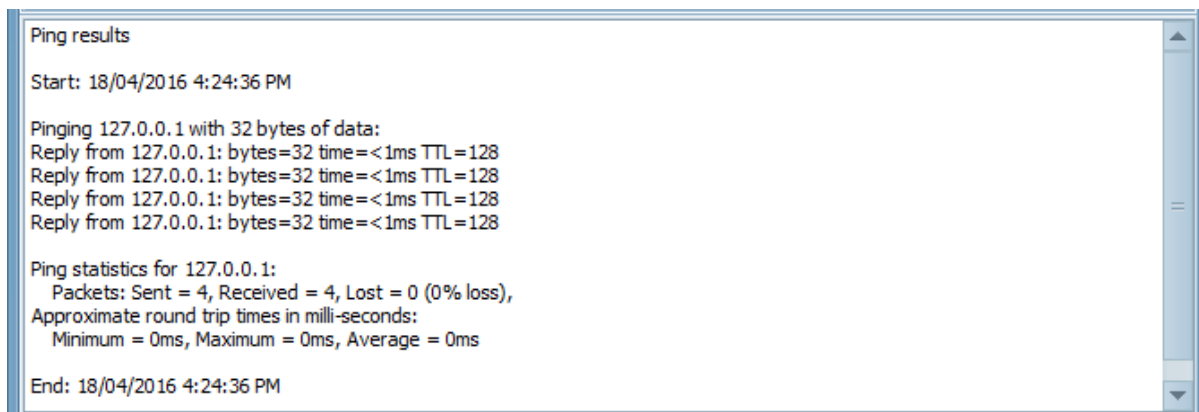
The output memo is editable before and after ping operation is done. All results are date and time stamped at the beginning and the end of a ping operation:

    Start: <local date stamp> <local time stamp>

    …

    End: <local date stamp> <local time stamp>

Results of ping(s) are in between Start and End stamps. Date and time stamp are using your local time and date local system preferences.


E.g.: single ping result of the IPv4 127.0.0.1

Result of pings is the same as expected by the console binary counterpart but are date/time stamped (start and end of pings operation) and ping operation is faster with PINGGUIN too.

Each time a list is pinged or a single ping is done it is append to the result with another Start and End date stamp unless you cleared the result before.

It will happen results cannot be seen in its entirety. The scroll bar on the right side of the output memo permits to scroll up or down like you would do with any window software. A context menu is also available for the memo output and accessible via a right click on it. This is the standard context menu for text file manipulation. Clipboard operation like cut, copy and paste works also the same way. Memo output works the same as the OS notepad counterpart. They are some limitations however like changing the size/type of the font in use.

The clear result button:
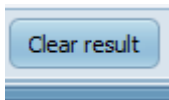
The clear result button

The purpose of this button is to reset or to clear the content of the memo output. It does so without prompt/warning. If you need to keep the results of ping operation you need to save it prior the use of this button. When the results are cleared, the whole content is deleted and one line is written on top of the output memo which is: Ping results. Therefore the clear result button acts as a reset to software default of the output memo.

To reset the output memo to software default or clear the result a single click on the clear result button is required.

The save result button:
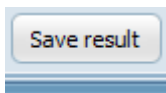
The save result button

This button permits to save the content of the memo output as a text file as you would do with any text file. The content is saved as is via a single click on the save result button. When you click on this button a save as dialog shows. The initial directory or folder for saving the software is the application folder. You can explore to find the location of the memo output as you would do with file explorer. You can also give a name to the file different from the default one: Ping Result.txt. Once happy with the folder where to save the file and its name you can save the file to a writable media with a single click on the save button of this save as dialog. You can also choose to abort the save by clicking the cancel button instead of the save button. Alternatively closing the dialog window will also cancel the save.
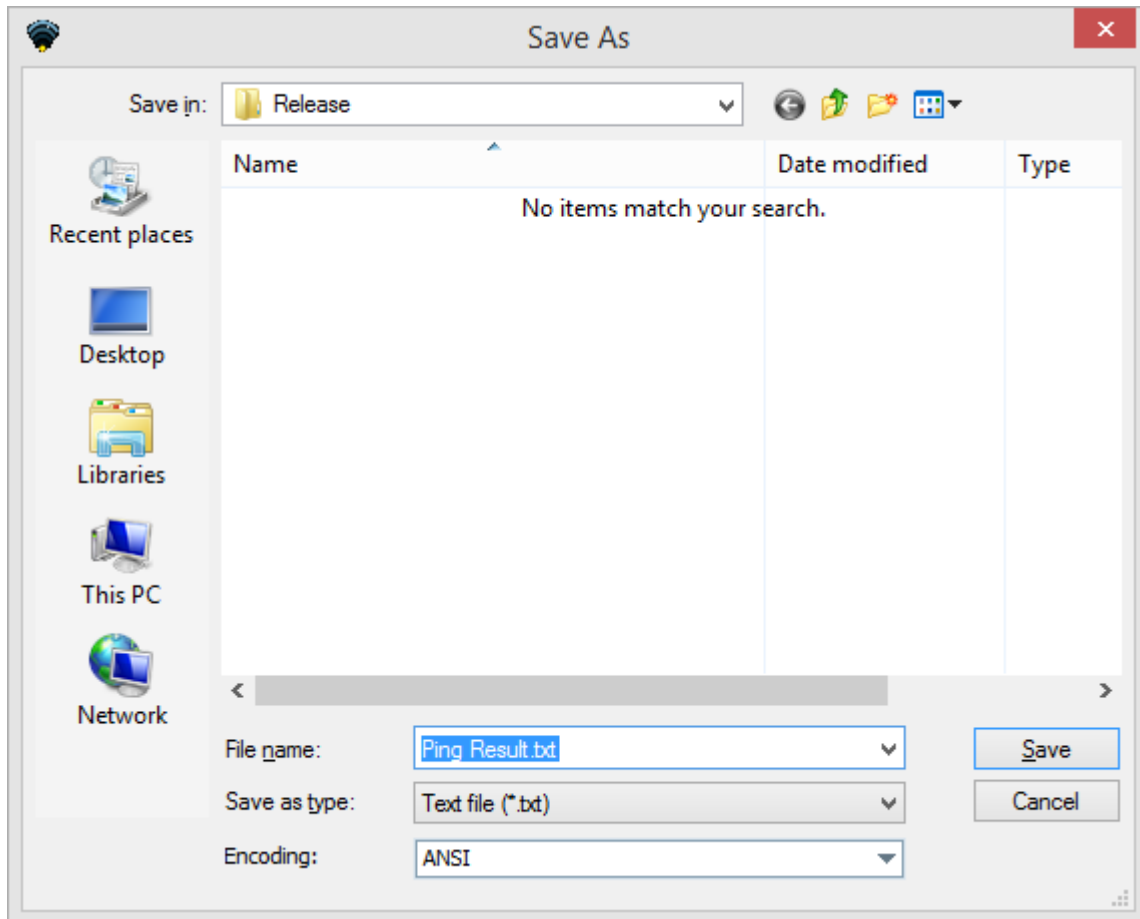
The save as dialog

The print button:
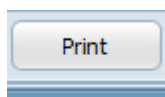
The print button

This button permits a fast print to the default printer. It does not open any print dialog but send the content of the memo output to the OS default printer directly via its spooler. To do a fast print of the memo output to the default printer a single click on the print, your printer should also be ready to print before the button is clicked. A better print function will be implemented in future release of the software. To cancel/delete a print job in progress you can either delete it from the queue inside its spooler or stop and restart the printer spooler service; stoping the printer spooler service will clear the queue of any present print job in the queue and is therefore not recommended.

The about button:
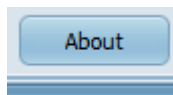
The about button

This button shows the about box when clicked. The about box displays:

- The name of the software,
- The version of the software,
- The current edition of the running software (32 or 64 bits edition),
- The copyright of the software,
- The type of license of the software.
- Two pictures are also displayed:
- The logo of the software and the logo of TacTicToe software. Both pictures are copyrighted.

The about box

To close the about box and return to the main software window click the OK button.

The exit button:
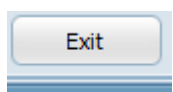
The exit button

To exit the software a single click on the Exit button is required. However as the software will close without prompting you to save any created list of target to ping or result of ping, you will need to save information you need to keep prior to click this exit button.

NOTES