# Configuring JANOS for Email

In order for the JNIOR 410 to send email you must first configure the email client interface using the `ipconfig` command.  A valid email account on your email server (Mailhost) is required. This may either be a personal account, business account or an account created specifically for the JNIOR 410. Any number of JNIORs can utilize a common email account whether it is your personal account, your business account or an account created specifically for JNIOR use.

For security reasons JANOS encrypts the password using a strong 2048-bit encryption with a unique secret key.  The password is then stored in the Registry in an unreadable form. That encrypted password can only be used by the JNIOR that encrypted it and it cannot be deciphered by anyone else. It is for this reason that the `ipconfig` command must be used to setup the email client account. That one account is used for all email transmission regardless of purpose (boot notification, alarm, etc.).

## The ipconfig command

This command is used primary to establish the correct network setup. There are a few options that pertain specifically to email account configuration.

```
JANOS /> help ipconfig
ipconfig [options]

Configure or display the network settings.
 [-a IP -m mask]      Set IPv4 address and subnet mask.
 [-n domainname]      Set domain name
 [-g IP]              Set gateway address
 [-p IP]              Set primary DNS address
 [-s IP]              Set secondary DNS address
 [-t dnstimeout]      Set DNS timeout (set to 0 for backoff/retry)
 [-d]                 Use DHCP to lease an IP address
 [-r]                 Release currently held DHCP IP address
 [-h mailhost]        Set mailhost
 [-f emailaddr]       Set email address
 [-u username]        Set username and password
 [-x]                 Remove email user credentials
```

## mailhost

All email is handled by an Email Server.  The JNIOR must be able to contact that server and therefore needs either an IP address (for instance 10.0.0.4) or a server name (such as 'smtp.comcast.net').  This information is available for any server as it is commonly required to set up email client programs like Outlook Express. This is configured using the '-h' option in the `ipconfig` command.

## emailaddr

When you establish an email account you are given a specific email address. All email must be sent 'from' this email address. You set this address using the '-f' option in the `ipconfig` command.

## username

It is very common these days that some form of authentication is required before email will be accepted by the server. Login credentials are entered using the '-u' option in the `ipconfig` command. When a username is defined, JANOS will request the password and ask that you repeat it for verification before it is encrypted and saved.

Depending on the requirements of your email server, the username may be just the part of your email address prior to the '@' sign, your entire email address, or an otherwise unique user name. These details are provided to you when the account is created along with the password assignment.

For example the ipconfig command here is used to set both the Email Server (Mailhost), the account's email address, and to enter the login credentials.

```
JANOS /> ipconfig -h integpg.com -f bcloutier@integpg.com -u bcloutier
  Enter password: ********
Reenter password: ********

JANOS /> ipconfig
Current IPv4 addr.: 10.0.0.60/24 (255.255.255.0) (active)
Current IPv6 addr.: 0000:0:0:0:000:0000:0000:0000/00 (unsupported)
Default IPv4 GW   : 10.0.0.1
Ethernet Address  : 9c:8d:1a:00:00:01
Primary DNS       : 10.0.0.4
Secondary DNS     : 4.2.2.1
DNS Timeout       : 5000 (ms)
DHCP Server       : 0.0.0.0
DHCP Enabled      : false
Domain            : integpg.com
Mailhost          : integpg.com
Email Address     : bcloutier@integpg.com
Email Username    : bcloutier
```

This establishes the following Registry keys.

```
IpConfig/MailHost = integpg.com

IpConfig/EmailAddress = bcloutier@integpg.com

IpConfig/Username = bcloutier

IpConfig/Password = *****
```

Where the password is not normally displayed but if viewed in the jnior.ini file would contain a lengthy unintelligible encryption of your password.

## Sending email

The `sendmail` command can be used to send an email on demand. This is useful for testing. The command provides a number of options that allow you to specify the subject, include both CC'd and BCC'd (blind) recipients, include attachments (like a log file), and append a text file to the message body.

```
JANOS /> help sendmail
sendmail recipients [subject] [options]

Send an email to designated recipients (lists separated by semicolons).
 [-c cc's]        Recipients closed-copied
 [-b bbc's]       Recipients blind-copied
 [-i file]        Text file included in message
 [-a files]       One or more attachments
```

For example here I will send myself the current jniorsys.log for later review. Note that if the subject is to contain spaces it must be enclosed in quotes on the command line. The command then allows me to entry the body of the message. You can edit current line. The message is completed by placing the period '.' alone on the last line.

Note that if at any time you wish to abort the command, you may use Ctrl-C to exit without sending the message.

```
JANOS /> sendmail bcloutier@integpg.com "latest log file" -a jniorsys.log
Enter message. Place a '.' alone on the last line.
----- Ctrl-C to interrupt -----
This log file shows the status of email and registry changes today.
Save for future reference.
.
```

The message is received within seconds with the expected attachment.



```
From:        bdoutier@integpg.com                                    Sent:  Thu 3/14/2013 11:55 AM
To:          bdoutier@integpg.com
Cc:
Subject:     latest log file
Attachments:    jniorsys.log (17 KB)

    This log file shows the status of email and registry changes today.
    Save for future reference.


    Sent from JANOS_Bruce
    INTEG JNIOR Model 410 (S/N 612080001) running JANOS v0.6.4-b0.4
```

Note that you can define multiple recipients and multiple attachments using the semicolon ';' separator.

The `ipconfig` command also allows you to use the '-x' option to remove the user credentials (deletes the related keys).
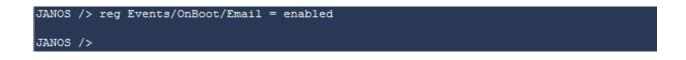
## Events

As with the Model 310 JNIOR emails can be sent for a number of situations. For JANOS these are configured through the Registry in an identical manner using the same Registry keys as before. There are but two differences:

1. You cannot define a `FromAddress`. This must be defined in the `ipconfig` command.

2. Each Event now has its own default `EmailBlock`.

The default email blocks are as follows and are named according to the events.

```
Email/OnBoot

Email/OnConfig

Email/OnAlarm

Email/OnAlarm1

Email/OnAlarm2

Email/OnUsage
```

Default email notifications are defined and the associated `EmailBlock` can be used to customize should the default behavior not be what is desired.

With the `ipconfig` settings shown herein the following is all that is required to be notified on JNIOR boot.

```
JANOS /> reg Events/OnBoot/Email = enabled

JANOS />
```

And the result (default behavior) after a reboot looks like this.

| From: | bcloutier@integpg.com | | | | | Sent: Thu 3/14/2013 12:14 PM |
| To: | bcloutier@integpg.com | | | | | |
| Cc: | | | | | | |
| Subject: | JNIOR Boot Notification | | | | | |

```
This unit has completed booting. The boot log follows.

03/14/13 12:13:52.955, Model 410 - JANOS v0.6.4-b0.4
03/14/13 12:13:52.958, Copyright (c) 2012-2013 INTEG Process Group, Inc., Gibsonia PA USA
03/14/13 12:13:52.960, JANOS developed and written by: Bruce Cloutier
03/14/13 12:13:52.962, Serial Number 612080001
03/14/13 12:13:52.964, File system mounted
03/14/13 12:13:52.967, Registry enabled
03/14/13 12:13:53.058, Sensor Port initialized
03/14/13 12:13:53.092, Initialized I/O services
03/14/13 12:13:53.121, Network Initialized
03/14/13 12:13:53.125, FTP server started
03/14/13 12:13:53.128, Protocol server started on port 9200
03/14/13 12:13:53.130, WebServer started on port 80
03/14/13 12:13:53.132, Telnet server started
03/14/13 12:13:53.138, POR: 63
03/14/13 12:13:53.139, Boot Completed [0.4 seconds]


Sent from JANOS_Bruce
INTEG JNIOR Model 410 (S/N 612080001) running JANOS v0.6.4-b0.4
```