

Running SAS® Applications on the Web

Prepared by Destiny Corporation

Starting The Web Server

A Web Server is required to execute SAS/Intrnet software. It must be up and running for a web browser and SAS to be able to interact.

A Web Server and SAS can run under any supported platform, including Unix, Windows NT, etc...

For the purposes of the following demonstrations, we will use a Personal Web Server available through Apache. (Apache for Windows 1.3.4) See www.apache.org for more details.

Configuring A Local Web Server

We must determine the Internet Protocol Configurations available and choose the appropriate one as our IP address.

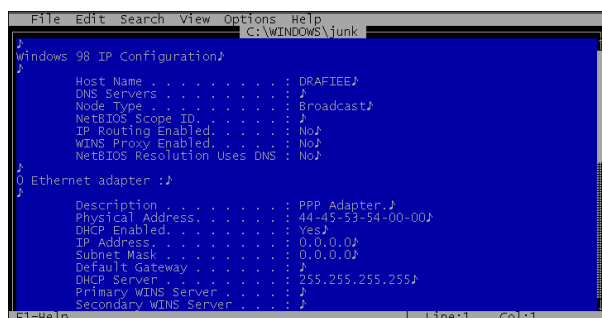
To do this, type IPCONFIG /ALL > junk at the command line.

```
C:\WINDOWS>ipconfig /all > junk_
```

Edit the junk. file.

```
C:\WINDOWS>edit junk.
```

Determine the IP address to use.

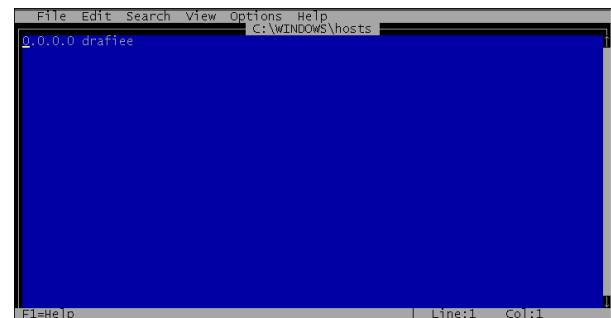


```
File Edit Search View Options Help
C:\WINDOWS\junk
Windows 98 IP Configuration
Host Name . . . . . : DRAFIEE
DNS Servers . . . . . :
Node Type . . . . . : Broadcast
NetBIOS Scope ID. . . . :
IP Routing Enabled. . . . : No
WINS Proxy Enabled. . . . : No
NetBIOS Resolution Uses DNS : No
Ethernet adapter :
Description . . . . . : PPP Adapter
Physical Address. . . . . : 44-45-53-54-00-00
DHCP Enabled. . . . . : Yes
IP Address. . . . . : 0.0.0.0
Subnet Mask . . . . . : 0.0.0.0
Default Gateway . . . . . :
DHCP Server . . . . . : 255.255.255.255
Primary WINS Server . . . . :
Secondary WINS Server . . . . :
```

We will use IP address 0.0.0.0

The HOSTS. file under the C:\WINDOWS subdirectory must list the IP address, along with the servername, so it can be found easily by the local browser.

Change the HOSTS. file under C:\WINDOWS to read:



```
File Edit Search View Options Help
C:\WINDOWS\hosts
0.0.0.0 drafiee
F1=Help Line:1 Col:1
```

Loading The Web Server

We load the Web Server with the following command:

```
C:\Program Files\Apache Group\Apache>apache -C "ServerName drafiee"
```

The name of the server is **drafiee**.

The following message appears.

```
Apache/1.3.4 (win32) running...
```

Minimize the window.

Loading the Application Dispatcher and Broker

The Application Dispatcher is an integral part of executing SAS/Intrnet Software. It:

- Is a Gateway that connects Web browsers with SAS software
- Allows for executing SAS programs from a Web browser.

Note: Installation of SAS/IntrNet Software is required prior to loading it.

To load it, simply double click on the appropriate icon:



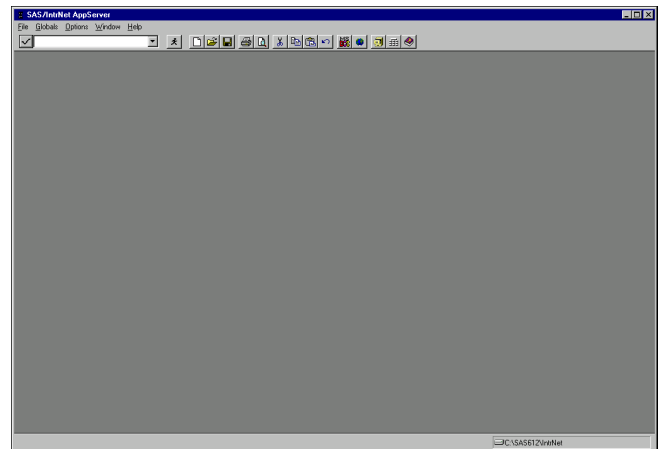
Its properties are as follows:

```
C:\SAS612\sas.exe -config
C:\SAS612\config.sas -dmsbatch -
initcmd "af c=sashelp.web.appstart.scl
port=5001 srvroot='C:\SAS612\IntrNet'"
-altlog C:\SAS612\IntrNet\appsrv.log -
splashlocation
C:\SAS612\IntrNet\splash.bmp -awstitle
'SAS/IntrNet AppServer'
```

Double clicking produced the following splash screen:



And the following non-interactive SAS session.



Minimize it.

Testing the Broker

Now, we can test the broker.exe file.

The following SAS supplied files must live in the *cgi-bin* subdirectory of the Web Server.

- BROKER.EXE
- BROKER.CFG

On this demonstration machine, these files live in:

C:\Program Files\Apache Group\Apache\cgi-bin

Test them with the following commands at the command prompt:

```
broker
"_service=default&_program=ping"
```

The following message should appear.

```
C:\Program Files\Apache Group\Apache\cgi-bin>broker "_service=default&_program=ping"
Content-type: text/html

<P><B>Ping!</B> The Application Server is functioning properly.</P>
<HR>
<ADDRESS>
This request took 2.47 seconds of real time (v1.0 build 1036).
</ADDRESS>
C:\Program Files\Apache Group\Apache\cgi-bin>
```

For more debugging, specify:

```
broker
"_service=default&_program=ping&_debug
=2305" > junk.
```

Returns the following in the junk. file.

```
Content-type: text/html

<H2>Symbols passed to SAS</H2>
<PRE>
#symbols: 13
  "_RMTHOST" = ""
  "_RMTADDR" = ""
  "_RMTUSER" = ""
  "_HTCOOK" = ""
  "_HTUA" = ""
  "_HTREFER" = ""
  "_service" = "default"
  "_program" = "ping"
  "_debug" = "2305"
  "_VERSION" = "1.0"
  "_URL" = "http://drafilee/cgi-
bin/broker.exe"
  "_ADMIN" = "Dana Rafiee"
  "_ADMAIL" =
"drafiee@destinycorp.com"
</PRE>
Using timeout: 60
<BR>
rcv gethostname...ok
rcv gethostbyname...ok
rcv socket...ok
rcv bind...ok
rcv getsockname...ok (1041)
rcv listen...ok
Trying...drafilee:5001 (1 of 1)
gethost...ok
socket...ok (56)
bind...ok
connect...ok
write...ok
shutdown...ok
accept...ok
select...ok (1)
  recv...24
select...ok (1)
  recv...69
Content-type: text/html

<P><B>Ping!</B> The Application Server
is functioning properly.</P>
select...ok (1)
  recv...0
accept...ok
select...ok (1)
  recv...129
select...ok (1)
```

recv...0

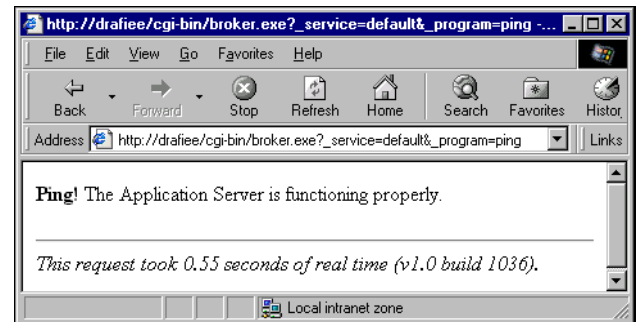
Notice the valid **URL** value.

Testing the Browser

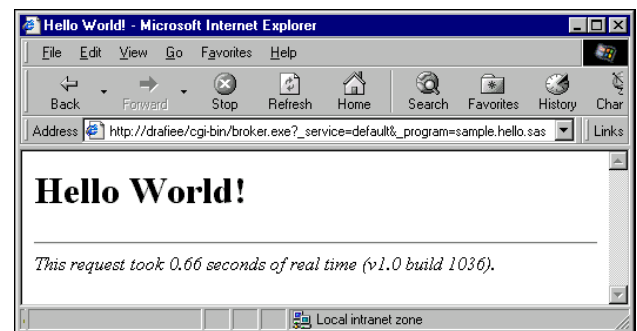
Load the browser. For this demonstration, we will use Microsoft Internet Explorer version 4.



Specify something similar to the following in the web address line to PING the system and the following should be returned.

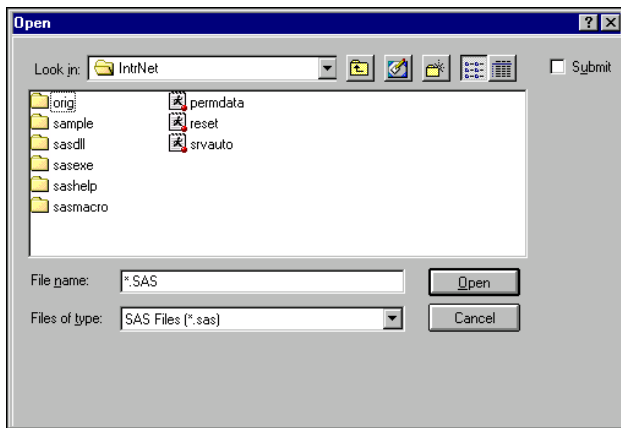


To run a sample program supplied with SAS Software, type:



Sample Programs

Several Sample programs come with SAS/Intrnet Software. They are typically located under the `sas\intrnet` subdirectory.



Server Auto File

This file is designed to reference locations for SAS programs. It automatically loads when the Application Dispatcher loads.

```

PROGRAM EDITOR - srvauto
command ==>
0001 /*macro variable available for use by application server programs*/
0002 %let _TMPDIR=C:\temp\;
0003
0004 /*****
0005 /* Any libnames issued at server startup are */
0006 /* server administered libraries. Each library */
0007 /* will be a valid library from which code can */
0008 /* be executed. DO NOT issue libnames at server */
0009 /* startup to directories which you do not want */
0010 /* code executed from. */
0011 /*
0012 /* These server administered libraries will be */
0013 /* stored in a data set so that they can be */
0014 /* cleared and reassigned as needed. This way */
0015 /* libraries are segregated between sas jobs */
0016 /* that the server executes */
0017 *****/
0018
0019 /* you may have to change the path in quotes below */
0020 /* depending on your installation */
0021
0022 libname sample 'C:\SAS612\IntrNet\sample' access=readonly;
0023

```

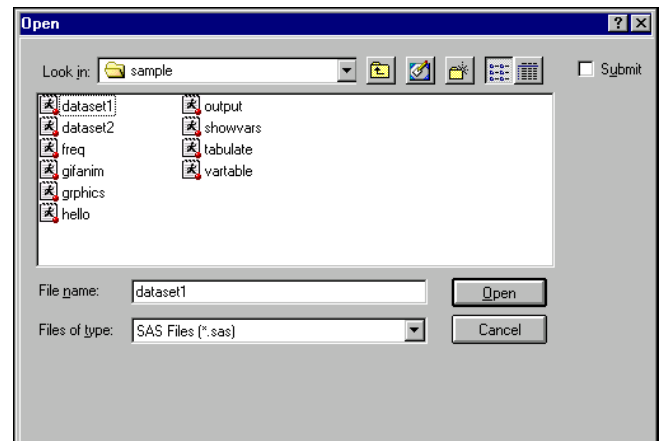
It can be tailored to fit your needs. See the reference to *sample*. This is why the call for the SAS program has a three level name.

sample.hello.sas

means

libref.programname.filetype

The following is a listing of the sample programs that are shipped with SAS/Intrnet software.



Let's open each one and examine the design. Features displayed here will be discussed in upcoming modules.

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