BBj Logs Revisited

By Bruce Gardner
Technical Support
Supervisor

Nine years have passed since our first Advantage article spotlighted the details of BBj® logging. BBj has grown immensely during that time with the addition of powerful new features such as data replication, BUI, the Jetty web server, and auditing. BBj logging has necessarily kept pace with the changes, as has the tool used to manage them – the Enterprise Manager (EM). With that, it seems time for a fresh look at how BBj manages the logs and where to find them.

Q: *Where are BBj's installation logs located?*

A: BBj's installation logs now appear inside the user's home directory, in a directory named **BASIS** as shown below, where **<username>** is the name of the user account used to install BBj.

	Windows		**Mac**		**Linux**
	`%UserProfile%\BASIS`		`/Users/<username>/BASIS`		`/home/<username>/BASIS`

If you encounter installation problems, the BASIS Technical Support team will request the following logs from this BASIS directory:
- `install.log`
- `install.properties`

Q: *Where can I find BBj's run-time logs?*

A: The default location for BBj's run-time logs is **<bbjhome>/log**. BASIS Support will often request all of the logs in this directory. In addition to providing clues about any errors that are occurring, the logs in this directory provide important information about memory usage, important property settings, JVM version, and much more.

Q: *How do I send the logs to BASIS Technical Support?*

A: Just zip the entire log directory and email it to support@basis.com. The more information you can send, the better. Occasionally, you may see a large **<PID>.hprof** file in your log directory; EM can generate this manually or it can occur on its own if BBjServices encounters memory problems. Ask whether to include this before proceeding. If the attachment is too large to send via email, you may upload the file to our secure server at upload.basis.com.

Q: *How do I compress the log files into a .zip file?*

A: All modern operating systems have a utility that allows you to compress files or folders.

Windows
- Use the File Explorer to navigate to your **<bbjhome>** directory.
- Right-click the log directory and select Send to > Compressed (zipped) folder.

Mac
- Use Finder to navigate to your **<bbjhome>** directory.
- [Ctrl]+click the log folder and select 'Compress' log.

Linux
- At the shell, navigate to the **<bbjhome>** directory.
- Type the command: `tar cvzf log.tar.gz ./log`

Q: *Can I change the location of these log files or any other settings?*

A: Yes, you can change the location, as well such settings as the maximum log size and log file rotation frequency. Occasionally, BASIS Support may ask you to change the debug levels for some of the logs. Make these changes in EM under the Settings module.
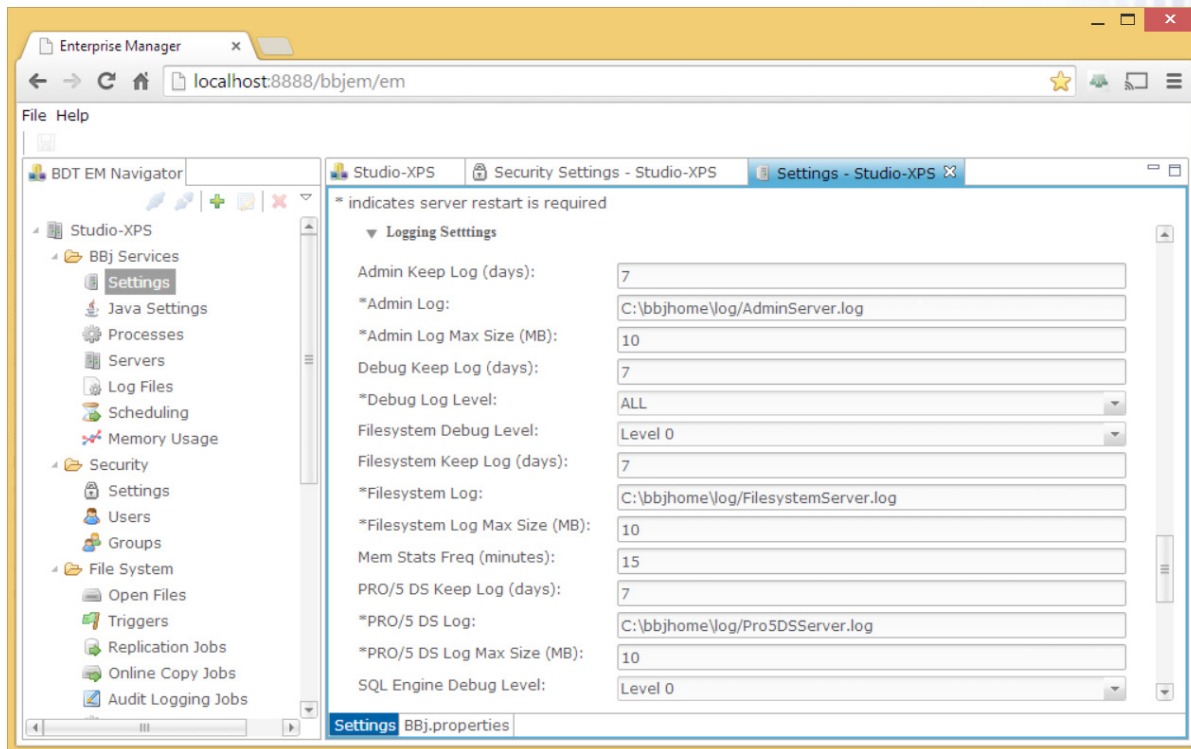

Figure 1. Log settings in BBj's browser EM

Q: *How do I review the logs and what am I looking for?*

A: You can view various logs directly in the 'Enterprise Manager/Log Files' module. You will notice that separate logs are created for each individual service (see **Figure 2**).
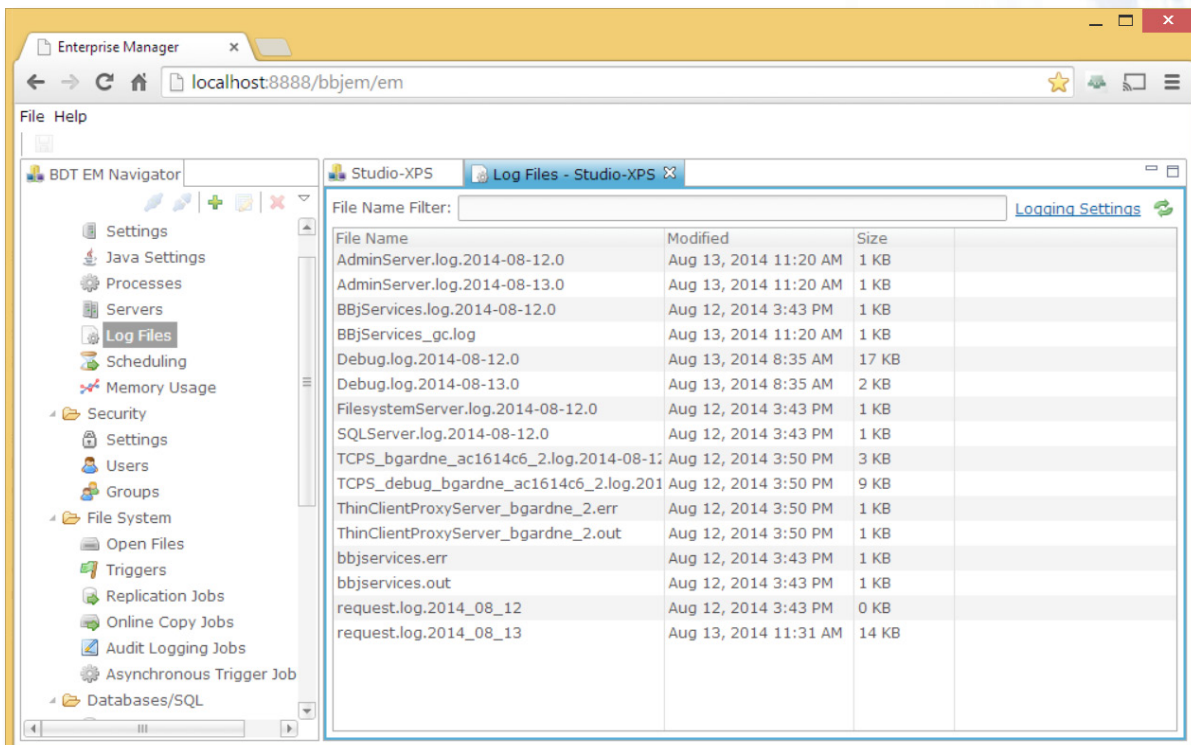

Figure 2. Viewing the BBj logs in the Enterprise Manager Log Files module.

If you're encountering SQL problems, take a look at the **<bbjhome>/log/SQLServer.log.<date>**. Problems with the BBj PRO/5 Data Server®? Look at the **<bbjhome>/log/BBjPRO5DSServer.log**. The new EM even enables searching for occurrences of text using matches or regular expressions. This is very powerful and has a number of uses. For example, you can quickly find out which programs should be SAVE'd in an updated format simply by filtering for the word 'Upgrading' (see **Figure 3**).
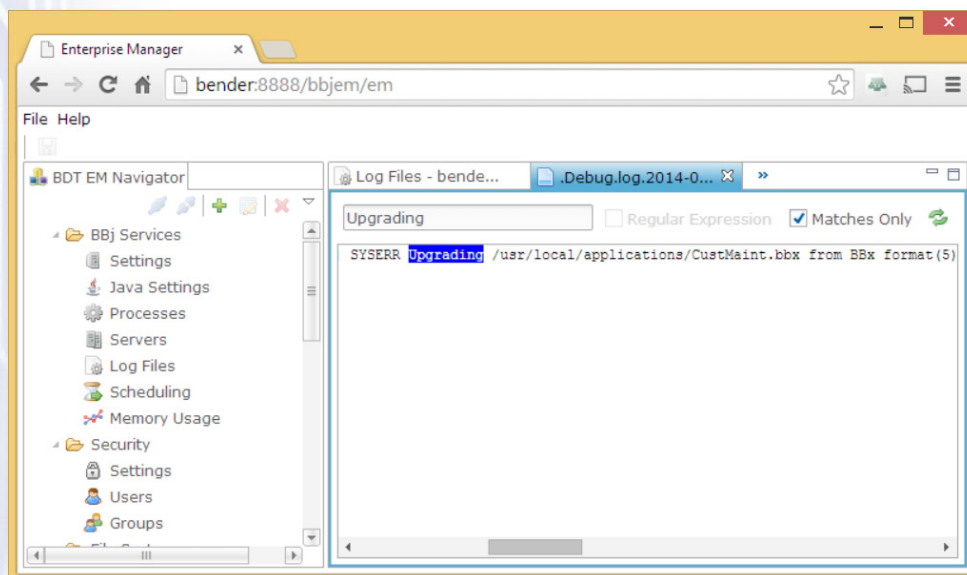

Figure 3. Filtering BBj log content by keyword

BASIS engineers strive to empower the end user by providing meaningful, human-understandable logging whenever possible. Once you've identified an error that coincides with your BBj problem, search our website for the error. Our support team is continuously creating and updating Knowledge Base articles, providing solutions to common errors.

Another resource is the BBj Developer list (subscribe at www.basis.com/discussion-forums). In operation for over ten years, a quick search of the list for an error will often turn up a thread in which someone else has encountered the same error. If a new problem has suddenly cropped up in your deployment, try comparing the current logs to those from previous days. You'll often find the hint you're looking for to resolve your problem.

Q: *When Tech Support asks me to perform a "thread dump" or "heap dump," what are these dumps and how do I create them?*

A: Thread Dump: This log contains information about the threads and processes currently running and can be a very helpful troubleshooting tool. To generate the thread dump, right-click the server name in EM and select 'Dump JVM Threads' (**Figure 4**). BBj then writes the thread dump information into the **Debug.log.[date].# log file**.

Heap Dump: This log is useful for analyzing memory-related problems in the Java stack. To generate the heap dump, right-click the server name in EM and select 'Dump Heap' (**Figure 4**). The file usually writes out to the **<bbjhome>/log** directory in the following form: **memoryDump<PID>.hprof**.
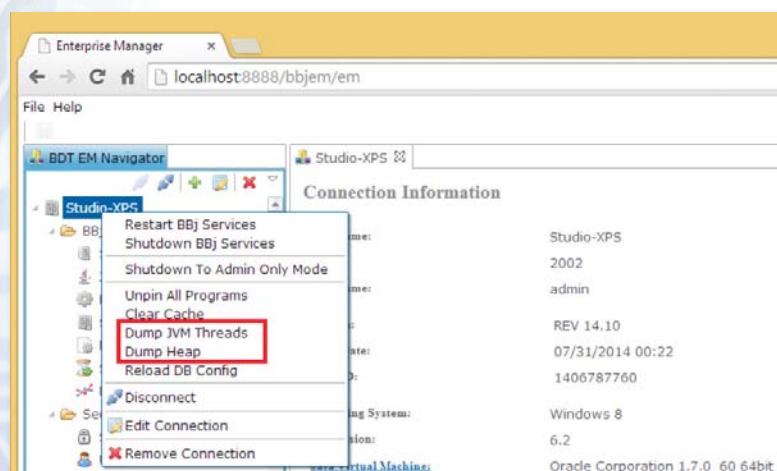

Figure 4. Performing a Thread Dump or Heap Dump from the Enterprise Manager

Q: *I am having problems with my Web Start application, which logs should I provide to BASIS Technical Support?*

A: Java Web Start is the most popular method of deploying BBj thin clients. If you encounter problems with your Web Start application, you should send the server-side logs mentioned above and the Java Console output from the client. The Java Console is enabled under the Advanced setting in the Java Control Panel as follows:

1. In the 'Java Control Panel', click the 'Advanced' tab.

2. Expand the 'Java console' option.

3. Select 'Show console' (see **Figure 5**) and click [OK].

When running the Web Start application the next time, a Java Console similar to **Figure 6** will appear. Click [Copy] to copy the contents of the console to the clipboard and then paste the contents into a new document in your favorite text editor.

Summary

Today's BBj logging capabilities are stronger than ever before, providing a clear picture of the everyday workings of a BBj deployment. If you are unable to read the tea leaves, the BASIS Support team stands ready to help. Remember, when in doubt, send more files instead of less! ■
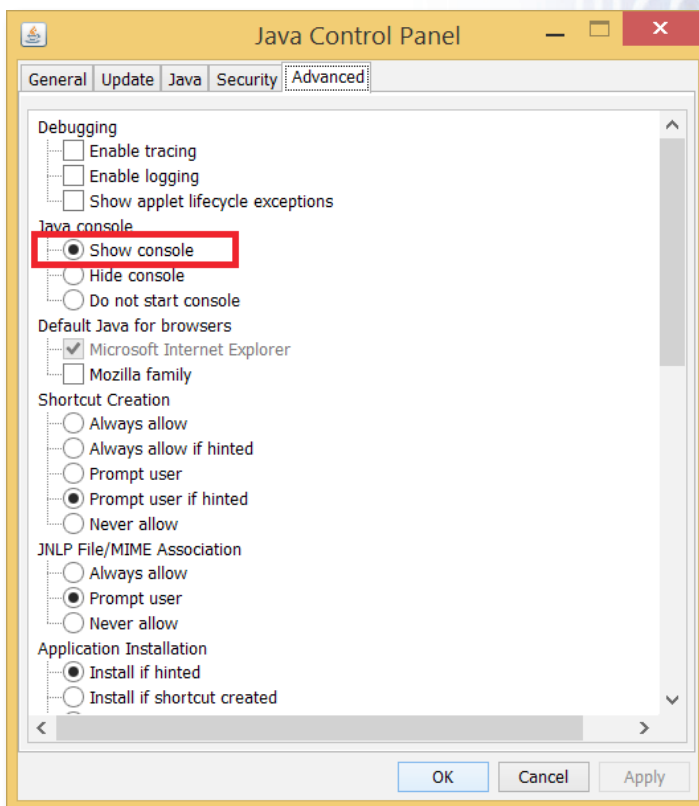

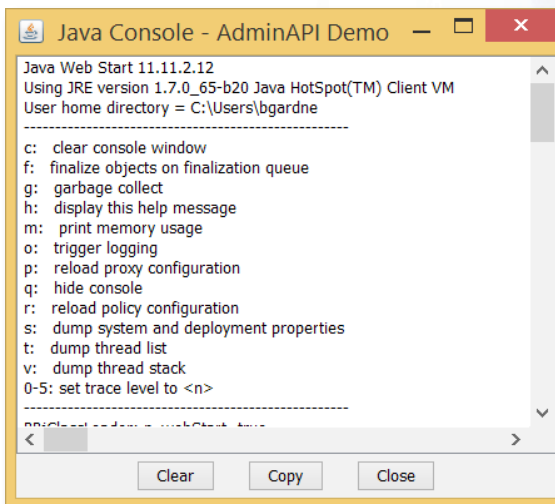**Figure 5.** Java Control Panel Advanced Settings where the Java Console is enabled

Figure 6. Sample Java Console output