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**Introduction**

This document describes special operating modes of CIS services.

**Q. How to start server with jvm debugging, but from the monitor daemon.**

In some limited cases and only at the recommendation of Cisco DV Support, you may need to run the server in a jvm debug mode for an extended period of time. This particular debug mode is the one where the server is started from this command:

```
# ./composite_server.sh debug
```

This starts the Cisco Information Server as a foreground process in debug mode (default debug listening port= 8000). The Cisco Monitor Daemon process is not started in this case. Once in this mode, Cisco support will want to attach a debugger to your port 8000.

*Note:* This debug mode is not the same as the more conventional type of DEBUG tracing, where you are asked to enable various debug levels from the `/conf/server/log4j.properties` file, or to enable debugging from the Studio configuration UI. Only run this when instructed by Cisco Support.

**An issue to consider in this case:**

When starting the server like this, the server process is running in the foreground and could be terminated if you accidentally close the session or cancel the process with a cntl-c. If you need to leave the server running in this mode for extended periods, it may be risky to leave your session open. Also, without the monitor daemon running, it will not be present to restart your server automatically, if it stops for any reason.

Instructions to avoid the foreground mode and start server normally:

1) in `/conf/server/server.properties`, edit this line (depends on the os you’re using. here, linux is used as an example and is in bold)

```
```

2) Insert this line (shown in Bold)
>>&Xdebug -Xnoagent -Djava.compiler=NONE -Xrunjdwp:transport=dt_socket,server=y,suspend=n,address=8000

into the vmargs.

In this example, it is inserted just before the terminal double-quote.


This now allows the server to run in debug mode and make it also listen on port 8000 for our debug tool that you will use later.

The server result will be the same as when you run /bin/composite_server.sh debug, except now, with this server.properties modification, you can start the services normally by invoking our monitor daemon, instead of running the composite_server.sh file.

3) Start the server normally, like this /bin/composite.sh monitor start

4) Verify the server is running (can login with Studio to test)

5) Allow Cisco Support to use a debugging tool to attach to your server.