Here’s how to run your application with **Application Verifier** and **Page Heap** enabled on Windows:

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1. Install Application Verifier

* Download from Microsoft: Application Verifier
* Install it on your development machine.

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2. Enable Application Verifier for Your Application

1. **Open Application Verifier** (**appverif.exe**).
2. Click the **"Add Application"** button (the green plus sign).
3. Browse to your executable (e.g., **Control.exe**) and add it.
4. In the left pane, select your application.
5. In the right pane, check the following:
   * **Basics**: Enable at least "Heaps", "Handles", "Locks", and "Memory".
   * **Additional Checks**: You can enable "Threadpool", "TLS", etc., if you want more coverage.
6. Click **Save** or close the window (settings are saved automatically).

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3. Enable Full Page Heap

1. Open a **Command Prompt as Administrator**.
2. Run the following command (replace **Control.exe** with your executable name):

gflags /p /enable Control.exe /full

"C:\Program Files (x86)\Windows Kits\10\Debuggers\x86\gflags" /p /enable D:\Florian\OpticsFoundry\OpticsFoundryControl\OpticsFoundry\_Control\_AQuRA\u\Control.exe /full

If you want to disable later, use:

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"C:\Program Files (x86)\Windows Kits\10\Debuggers\x86\gflags" /p /disable D:\Florian\OpticsFoundry\OpticsFoundryControl\OpticsFoundry\_Control\_AQuRA\u\Control.exe

```

* **gflags.exe** is included with the Windows SDK (in the Debugging Tools for Windows).

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4. Run Your Application

* Start your application as usual (from Explorer or Visual Studio).
* If a heap or memory error occurs, your app will crash at the point of corruption, and you’ll get a detailed error message or a debugger break.

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5. Debugging

* Run your app under the debugger (Visual Studio: **Debug > Start Debugging**).
* When a problem is detected, the debugger will break at the offending code, making it much easier to diagnose.

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6. Remove Application Verifier/Heap Checks

* In Application Verifier, select your app and click the red X to remove it.
* Or, use the **gflags** command above to disable page heap.

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**Summary:**

* Use Application Verifier to catch handle/memory/resource issues.
* Use Page Heap to catch heap corruption and use-after-free.
* Both tools will help you catch subtle bugs that cause random crashes.

If you need more details or run into issues, let me know!