Assembly in .NET

They are fundamental units of deployment, version control, reuse, activation scoping and security permissions for a .NET application. It is the working together of the logical functionality. It tells the CLR to be aware of the type of implementation.

Assembly can be of process assemblies i.e. .exe (executable) or library assemblies i.e. .dll (dynamic link library) format.

Library Assembly can be –

* Private Assembly- requires us to copy separately in all app folder where we want to use. We exclusively copy into the BIN folder of each application folder.
* Public or Shared Assembly- Only one copy is required at the system level, there is no need to copy the assembly into the application folder. Public assembly should install in GAC (Global Assembly Cache).
  + The Global Assembly Cache stores assemblies specifically designated to be shared by several applications on the computer.

Steps to add DLL in GAC

1. Create a class library (.NET Framework)
2. Create a solution name different from class name.
3. Add a method and build. Dll file is created.
4. Create a project in the same solution console app (.NET Framework)
5. Add using <dll file name>;
6. Go to references in project add new project reference and add the dll file.
7. Call the dll method in main method and build. .exe file is generated.
8. now, to add the dll to gac, make the dll have a strong name.
9. add key to make it strong.
10. Go the the class library path and give this command- sn -k <key\_name>.snk
11. Now go to properties of the class library and in signing
12. Check the sigin the assembly option
13. Under choose a string sigin key file select new
14. Give the snk file name that we created, give password
15. Now clean and build the class library
16. Open developer cmd as administrator and go the directory where the dll file is created
17. Give command gacutil /i <dll file name>
18. The dll has been successfully added in gac
19. Check ur assembly in gacutil /l