# Multi-Tier Application Architecture Badge One

Multi-tier applications is a way to create an application using a database. You have the presentation layer, business layer, and then the database. I start with the database first and work up from there. It is easier this way because by the time you get to the presentation layer you are sure about how you want to accomplish what you want.

The goal with multi-tier architectures is that you can replace the database with another similar and it should still work. If you want to change the way something is called you only have to change it in one spot instead of multiple areas. You should be able to replace any tier and the program should still work alright.

As I was stating before I work with the database first. For myself, it is easier to get all of my thoughts out there at least getting the tables and if you realize you need to add more columns it is easier before all of the classes are made because then you would have to change properties in the classes.

Then working on the business layer is where the classes and repositories sit. I would work on classes then the repositories because you need a place for the repositories to point towards. The classes are for the business rules and the repositories is where the CRUD operations are at. The repositories is where you decide what the application can do basically. If you want certain searches or custom CRUD type operations.

The presentation layer is the forms that are displayed for the user to see. Behind the scenes is where you can link it to the repositories. At this point it is mostly easy to do it. Just call the methods and give it there parameters from the proper areas and you are good to go.