

CIS560

Using a Database from an Application



Reviewing Routines

- Types we've seen:
 - User-Defined Functions
 - Stored Procedures
 - Triggers
- Stored Procedures
 - Encapsulate logic
 - Provide flexibility with security
 - Error handling in one place
 - Some performance benefits



Application-Accessible Objects

- Tables
- Views
- SQL Commands
- Stored Procedures
- Stored procedures are recommended in most scenarios



Reviewing Error Handling

- In SQL, we can
 - Throw errors
 - Handling errors
- Most common in an application
 - Most errors/exceptions are thrown from the data engine
 - SQL can throw custom errors if appropriate
 - Application typically handles the errors



Accessing from an Application

- Four main constructs:
 - Connection
 - Command
 - Reader
 - Transaction
- Be sure to cleanup!
They all implement IDisposable in .NET
- Others may exist depending on libraries



Team Recommendations

- Use a distributed version control system
 - Github.com
 - Azure DevOps
- Every team member work local machines
- Use Repository Pattern
 - Write tests around repository objects
- Maintain a script to rebuild the database on demand
 1. Pull latest
 2. Rebuild database

