**Entity Framework & LINQ**

**Preparation**

1. Delete the EDMX file and remove the connection string from the data library configuration file.
2. Delete the database from SQL server
3. Minimize all scaffolding code regions and all demo code methods
4. Exclude the file “Demo7” from the UI project

**Demo**

1. Display and explain the database schema and domain
2. Publish the database and run the demo data script
3. Demonstrate adding the entity data model
   1. Name the model as “DemoModel”
   2. Establish connection
   3. Name the connection string as “DemoEntities”
   4. Include all tables in the model
      * + Explain the options
   5. Show the entity model diagram
   6. Show the generated entity classes
4. Start SQL Profiler, filter by app name: , leave it paused
5. Ctrl+F5
6. Click on “Demo 1”
7. “Attach to Process”
8. Refresh the web page - break point
9. Step through the code
   1. Describe dynamic proxies in brief
10. Complete method and show data
11. Show grid view
12. Un-pause SQL profiler
13. Run again and show SQL query
14. Home page > “Demo 2”
15. “Search By ID” = “8” > click “Search” – break point
16. Explain the “Where” method
    1. Selecting all records and then filtering them would be very slow
    2. Show the effect of the Where method in SQL profiler
17. “Search by Name” = “sh” > click “Search 1” – break point
    1. Demonstrate why an error occurs when using string.Format() in a query
18. Click “Search 2” - show how to work around the string.Format() issue
19. Home page > “Demo 3”
20. Clear profiler
21. Click “Regular Query” - introduce the new “Gender ID” property
    1. Show the Gridview
22. Show SQL query > Clear profiler
23. Click “Query with External Property” - show the more helpful “Gender” Property
24. Show the difference between the two grid views for “Gender”
25. Show SQL queries > Clear profiler
26. Click “Query with External Property Filtered” – break point
27. Show SQL queries > Clear profiler
28. Home page > “Demo 4”
29. Click “Regular Query” > explain “Lazy Loading”
    1. Reintroduce dynamic proxies
    2. Show SQL queries as seen in “Demo 3”
30. Click “Regular Query with Proxies Disabled”
    1. Step through to show the different types returned
    2. Show error that occurs
31. Click “Query with Include” > explain “Eager Loading”
    1. Show SQL queries with join to prevent multiple lookups
32. Home page > “Demo 5”
33. Insert new customer – break point
    1. Show customer ID = 0
    2. Step over save changes and show SQL
    3. Show cutomer ID is now set
34. Delete the new customer – break point
    1. Show errors on navigation properties
    2. Step over “Attach” and show navigation properties with no errors
    3. Step over save changes and show SQL
35. Edit customer and change one field – break point
    1. Show loading /attaching object
    2. Show properties being updated
    3. Step over save changes and show SQL – only one property updated
36. Home page > “Demo 6”
37. Enter “st” in the name and “BluRay” in the category > Search – break point
38. Step through the filtering process
    1. Show the row count method for the pager
    2. “Order By” must come before “Skip”
    3. “Take” correct number for the page
    4. Step over “ToList” and show SQL
    5. ZRecruiter HitList!!!!
39. Show the SQL changes when paging
40. Stop debugger
41. Show stored procedure code
    1. Execute and show returned data
42. Open the Database Model > Update Model from Database…
    1. Add stored procedure to the model
    2. Show generated class and changes to context
43. Include “Demo7.aspx” in Solution Explorer
44. Ctrl + F5
45. Home page > “Demo 7”
46. Click “Generate”
47. Step through stored procedure call
    1. Show LINQ grouping
    2. Show binding and inner binding process