**Lesson 12**

**Plan of the lesson**

* Access and modify identity information by using the *System.Security.Principal* classes. (Refer *System.Security.Principal* namespace.)
  + *GenericIdentity* class and *GenericPrincipal* class
  + *WindowsIdentity* class and *WindowsPrincipal* class
  + *NTAccount* class and *SecurityIdentifier* class
  + *IIdentity* interface and *IPrincipal* interface
  + *WindowsImpersonationContext* class
  + *IdentityReference* class and *IdentityReferenceCollection* class
* Implement a custom authentication scheme by using the *System.Security.Authentication* classes. (Refer *System.Security.Authentication* namespace.)

Implement access control by using the *System.Security.AccessControl* classes.

* + *DirectorySecurity* class, *FileSecurity* class, *FileSystemSecurity* class, and *RegistrySecurity* class
  + *AccessRule* class
  + *AuthorizationRule* class and *AuthorizationRuleCollection* class
  + *CommonAce* class, *CommonAcl* class, *CompoundAce* class, *GeneralAce* class, and *GeneralAcl* class
  + *AuditRule* class
  + *MutexSecurity* class, *ObjectSecurity* class, and *SemaphoreSecurity* class
* Encrypt, decrypt, and hash data by using the *System.Security.Cryptography* classes. (Refer *System.Security.Cryptography* namespace)
  + *DES* class and *DESCryptoServiceProvider* class
  + *HashAlgorithm* class
  + *DSA* Class and *DSACryptoServiceProvider* Class
  + [*SHA1*](http://microsofteref.books24x7.com/viewer.asp?bkid=14336&destid=2398#2398) class and *SHA1CryptoServiceProvider* class
  + *TripleDES* and *TripleDESCryptoServiceProvider* class
  + [*MD5*](http://microsofteref.books24x7.com/viewer.asp?bkid=14336&destid=2383#2383) class and *MD5CryptoServiceProvider* class
  + *RSA* class and *RSACryptoServiceProvider* class
  + *RandomNumberGenerator* class
  + *CryptoStream* class
  + *CryptoConfig* class
  + [*RC2*](http://microsofteref.books24x7.com/viewer.asp?bkid=14336&destid=2392#2392) class and *RC2CryptoServiceProvider* class
  + *AsymetricAlgorithm* class
  + *ProtectedData* class and *ProtectedMemory* class
  + *RijndaelManaged* class and *RijndaelManagedTransform* class
  + *CspParameters* class
  + *CryptoAPITransform* class
  + Hash-based Message Authentication Code (HMAC)