

Notepad Data Encryption & Decryption Algorithm

- ✓ There are total two database tables, two controllers and one view page, which need to update.
- ✓ We also must have to encrypt the bookmark data, which have already stored in database.
- Database Table Name :
 1. gt_ResearchTopic
 2. gt_notePadDetail
- Application's Controller Name :
 1. HomeController
 2. ResearchToolController
- Application's View Name :
 1. GenerateWord File
- ❖ Followings are fieldname, which we need to encrypt & decrypt.
 - gt_ResearchTopic :
 - Title
 - Description
 - gt_notePadDetail:
 - ModuleType
 - Title
 - LinkTag
 - LinkTitle

✓ Followings are the Encryption & Decryption Algorithm.

Encryption:

```
string EncryptionKey = "HNP200218SBK05MKUAX";
byte[] clearBytes =
using (Aes encryptor = Aes.Create())
{
    Rfc2898DeriveBytes pdb = new Rfc2898DeriveBytes(EncryptionKey, new byte[] { 0x49, 0x76, 0x61, 0x6e, 0x20, 0x4d, 0x65,
0x64, 0x76, 0x65, 0x64, 0x65, 0x76 });
    encryptor.Key = pdb.GetBytes(32);
    encryptor.IV = pdb.GetBytes(16);
    using (MemoryStream ms = new MemoryStream())
    {
        using (CryptoStream cs = new CryptoStream(ms, encryptor.CreateEncryptor()),
        {
            cs.Write(clearBytes, 0, clearBytes.Length);
            cs.Close();
        }
        clearText = Convert.ToBase64String(ms.ToArray());
    }
}
```

Decryption:

```
string DecryptionKey = "HNP200218SBK05MKUAX";
byte[] cipherBytes = Convert.FromBase64String(cipherText);
using (Aes decryptor = Aes.Create())
{
    Rfc2898DeriveBytes pdb = new Rfc2898DeriveBytes(DecryptionKey, new byte[] { 0x49, 0x76, 0x61, 0x6e, 0x20, 0x4d, 0x65,
0x64, 0x76, 0x65, 0x64, 0x65, 0x76 });
    decryptor.Key = pdb.GetBytes(32);
    decryptor.IV = pdb.GetBytes(16);
    using (MemoryStream ms = new MemoryStream())
    {
        using (CryptoStream cs = new CryptoStream(ms, decryptor.CreateDecryptor(), CryptoStreamMode.Write))
        {
            cs.Write(cipherBytes, 0, cipherBytes.Length);
            cs.Close();
        }
        cipherText = Encoding.Unicode.GetString(ms.ToArray());
    }
}
```