

Criptografia - Entity Framework

C# - .NET 7 → Encriptar e Desencriptar

```
protected override void OnModelCreating(ModelBuilder modelBuilder)
{
    modelBuilder.Entity<User>()
        .ToTable("User")
        .Property(e => e.UserId).ValueGeneratedOnAdd();

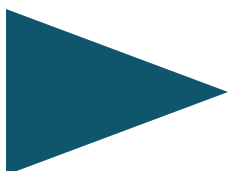
    modelBuilder.Entity<User>()
        .Property(e => e.Password)
        .HasConversion<Cryptography>();

    base.OnModelCreating(modelBuilder);
}
```



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```
public class Cryptography : ValueConverter<string, string>
{
    public Cryptography() : base(toDb => Encrypt(toDb), fromDb => Decrypt(fromDb)) { }

    private static string Encrypt(string plainText)
    {

    }

    private static string Decrypt(string cipherText)
    {

    }

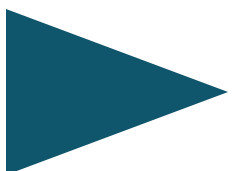
    private static Tuple<byte[], byte[]> AesConfiguration()
    {

    }
}
```



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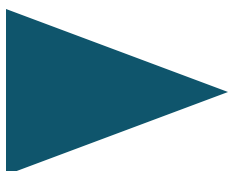
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```
3  using (EfCryptographyContext context = new())
4  {
5      User user = new("martinho@mas.ao", "D@tN#t7");
6
7      // Criar o banco de dados caso não exista
8      context.Database.EnsureCreated();
9
10     context.Add(user);
11     await context.SaveChangesAsync();
12
13     string name = user.GetName();
14     Console.WriteLine($"Hello {name}, .NET Core is life!");
15
16     var _user = context.Users.FirstOrDefault();
17
18     Console.WriteLine($"Password from Database is {_user?.Password}");
19 }
```



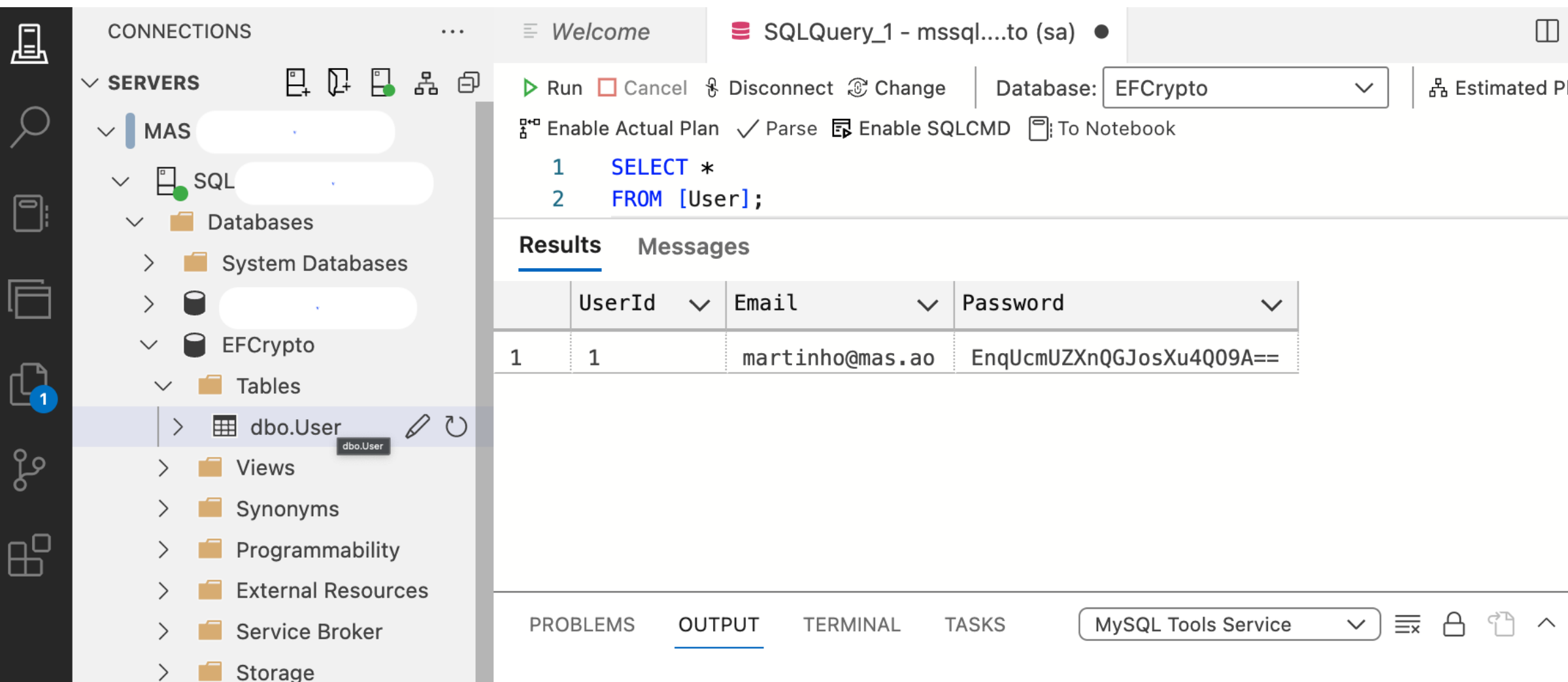
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The screenshot shows the SQL Server Enterprise Manager interface. On the left, the 'SERVERS' tree is expanded to 'MAS' > 'SQL' > 'Databases' > 'EFCrypto' > 'Tables' > 'dbo.User'. The 'dbo.User' table is selected. The main pane shows a query window with the following SQL query:

```
1 SELECT *
2 FROM [User];
```

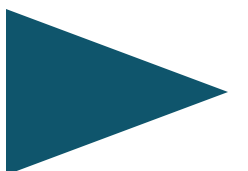
The query has been executed, and the results are displayed in the 'Results' tab. The results table has four columns: 'UserId', 'Email', and 'Password'. The first row contains the values: 1, martinho@mas.ao, and EnqUcmUZXnQGJosXu4Q09A==.

	UserId	Email	Password
1	1	martinho@mas.ao	EnqUcmUZXnQGJosXu4Q09A==



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```
martinhosebastiao@EFCryptography % dotnet run
Hello martinho, .NET Core is life!
Password from Database is D@tN#t7
```



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