

# Value Conversions

Entity Framework 2.1.0+



What?

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“Value converters allow property **values to be converted** when reading from or writing to the database. This conversion can be **from one value to another of the same type** (for example, encrypting strings) or **from a value of one type to a value of another type** (for example, converting enum values to and from strings in the database.)”

How?

# How?

```
C# Copy  
  
public class Rider  
{  
    public int Id { get; set; }  
    public EquineBeast Mount { get; set; }  
}  
  
public enum EquineBeast  
{  
    Donkey,  
    Mule,  
    Horse,  
    Unicorn  
}
```

# How?

C#

 Copy

```
protected override void OnModelCreating(ModelBuilder modelBuilder)
{
    modelBuilder
        .Entity<Rider>()
        .Property(e => e.Mount)
        .HasConversion(
            v => v.ToString(),
            v => (EquineBeast)Enum.Parse(typeof(EquineBeast), v));
}
```

Why?

You can tell Entity Framework  
how to handle custom types!



# NodaTime

(Subtle link back to Jon Skeet at the last event)

# NodaTime <-> Base Types

- Duration
- Instant
- LocalDateTime
- LocalDate
- LocalTime
- OffsetDateTime
- Offset
- ZonedDateTime
- TimeSpan
- Long (ticks)
- DateTime
- DateTime
- Long (ticks since midnight)
- DateTimeOffset
- Long (nanoseconds)
- DateTimeOffset

# Proof of Concept

<https://github.com/tomlane/NodaTime.EntityFrameworkCore.Conversions>

# Limitations

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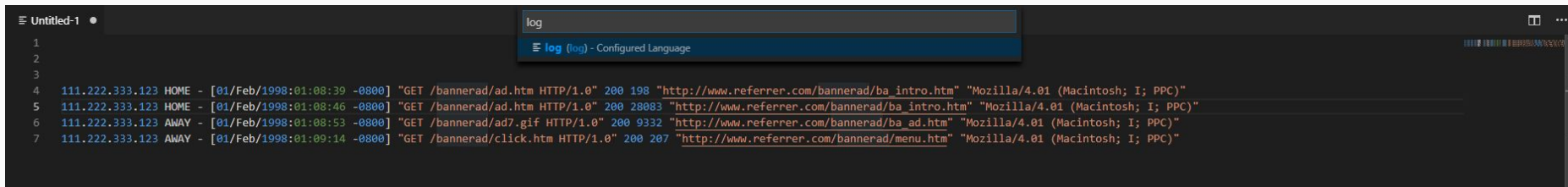
- NULL can not be converted.
- There is no way to map a property to multiple columns or vice-versa.
- Some conversions may impact Entity Framework generating SQL statements. Warnings will be logged in these cases.

# The Docs

<https://docs.microsoft.com/en-us/ef/core/modeling/value-conversions>

# Bonus Unrelated Thing

# Visual Studio Code Log (Language Mode)



```
log
log (log) - Configured Language

1
2
3
4 111.222.333.123 HOME - [01/Feb/1998:01:08:39 -0800] "GET /bannerad/ad.htm HTTP/1.0" 200 198 "http://www.referrer.com/bannerad/ba_intro.htm" "Mozilla/4.01 (Macintosh; I; PPC)"
5 111.222.333.123 HOME - [01/Feb/1998:01:08:46 -0800] "GET /bannerad/ad.htm HTTP/1.0" 200 28083 "http://www.referrer.com/bannerad/ba_intro.htm" "Mozilla/4.01 (Macintosh; I; PPC)"
6 111.222.333.123 AWAY - [01/Feb/1998:01:08:53 -0800] "GET /bannerad/ad7.gif HTTP/1.0" 200 9332 "http://www.referrer.com/bannerad/ba_ad.htm" "Mozilla/4.01 (Macintosh; I; PPC)"
7 111.222.333.123 AWAY - [01/Feb/1998:01:09:14 -0800] "GET /bannerad/click.htm HTTP/1.0" 200 207 "http://www.referrer.com/bannerad/menu.htm" "Mozilla/4.01 (Macintosh; I; PPC)"
```



# Thanks!

Tom Lane

<https://github.com/tomlane>

@neverontarget

