.NET > C#.NET > OOP

Type Conversion

- by Harsha Vardhan

Type Conversion

1. Implicit Casting
2. Explicit Casting
3. Parsing
4. TryParse
5. Conversion Methods

1. Implicit Casting

- The lower-numerical data type can be automatically (implicitly) converted into higher-numerical data type.

Conversion From		Conversion To
sbyte	→	short, int, long, float, double, decimal
byte	→	short, ushort, int, uint, long, ulong, float, double, decimal
short	→	int, long, float, double, decimal
ushort	→	int, uint, long, ulong, float, double, decimal
int	→	long, float, double, decimal
uint	→	long, ulong, float, double, decimal
long	→	float, double, decimal
ulong	→	float, double, or decimal
float	→	double
double	→	[none]
decimal	→	[none]
char	→	ushort, int, uint, long, ulong, float, double, decimal

2. Explicit Casting

- We can manually convert a value from one data type to another data type, by specifying the destination data type within brackets, at left-hand-side of the source value.
- **Syntax:** (DestinationDataType)SourceValue

3. Parsing

- The string value can be converted into any numerical data type, by using "Parsing" technique.
- The source value must contain digits only; shouldn't contain spaces, alphabets or special characters.
- If the source value is invalid, it raises FormatException.
  Syntax: DestinationDataType.Parse(SourceValue)

4. TryParse

- The string value can be converted into any numerical data type, by using "Parsing" technique.
- The source value must contain digits only; shouldn't contain spaces, alphabets or special characters.
- It checks the source value, before converting.
- If the source value is invalid, it returns false; otherwise it returns true [if conversion is successful]
- **Syntax:**
  BooleanVariable = DestinationDataType.TryParse(SourceValue, out DestinationVariable)

5. Conversion Methods

- The System.Convert is a static class, which contains a set of pre-defined methods to convert a value from "any standard data type" to "any standard data type".
- It raises exception, if the source value is invalid.
- For each data type, we have a conversion method.

Conversion To	Conversion Method
sbyte	System.Convert.ToSByte(value)
byte	System.Convert.ToByte(value)
short	System.Convert.ToInt16(value)
ushort	System.Convert.ToUInt16(value)
int	System.Convert.ToInt32(value)

uint	System.Convert.ToUInt32(value)
long	System.Convert.ToInt64(value)
ulong	System.Convert.ToUInt64(value)
float	System.Convert.ToSingle(value)
double	System.Convert.ToDouble(value)
decimal	System.Convert.ToDecimal(value)
char	System.Convert.ToChar(value)
bool	System.Convert.ToBoolean(value)
DateTime	System.Convert.ToDateTime(value)