

SENA

Centro De Electricidad Electrónica Y Telecomunicaciones (CEET)

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Ficha:2057746

CARBOGRES SAS

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CARBOGRES SAS

## INTRODUCCION

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## IMÁGENES

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Por medio de este documento, aclararemos todo o necesario para funcionalidad del

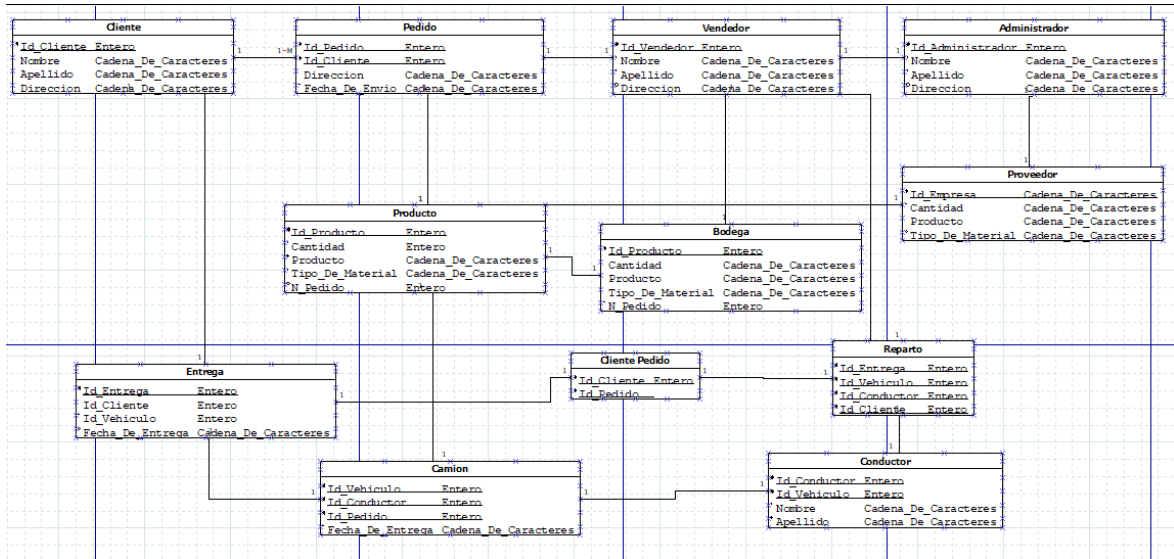


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software creado para la empresa CARBOGRES SAS el cual tiene como funcionalidad final administrar la información básica del personal contratado además llevar un control del inventario que sale e ingresa a las distintas bodegas

## 1. Modelo relacional de la base de datos

Este diagrama representa la base de datos y la relación entre sus clases la cual esta compuesta por tres cinco tablas las cuales se relacionan entre si para una correcta funcionalidad del aplicativo



El Script de la base de datos con sus correspondientes tablas lo veremos a continuación:

```

SCRIPT CARBOGRESS
USE [master]
GO
/***** Object: Database [CARBOGRES12]    Script Date: 28/06/2021 10:23:32 a. m. *****/
CREATE DATABASE [CARBOGRES12]
CONTAINMENT = NONE
ON PRIMARY
( NAME = N'CARBOGRES12', FILENAME = N'C:\Program Files\Microsoft SQL
Server\MSSQL15.SQLEXPRESS01\MSSQL\DATA\CARBOGRES12.mdf', SIZE = 8192KB , MAXSIZE = UNLIMITED,
FILEGROWTH = 65536KB )
LOG ON
( NAME = N'CARBOGRES12_log', FILENAME = N'C:\Program Files\Microsoft SQL
Server\MSSQL15.SQLEXPRESS01\MSSQL\DATA\CARBOGRES12_log.ldf', SIZE = 8192KB , MAXSIZE = 2048GB ,
FILEGROWTH = 65536KB )
WITH CATALOG_COLLATION = DATABASE_DEFAULT
GO
ALTER DATABASE [CARBOGRES12] SET COMPATIBILITY_LEVEL = 150
GO
IF (1 = FULLTEXTSERVICEPROPERTY('IsFullTextInstalled'))
begin
EXEC [CARBOGRES12].[dbo].[sp_fulltext_database] @action = 'enable'
end
GO
ALTER DATABASE [CARBOGRES12] SET ANSI_NULL_DEFAULT OFF
GO
ALTER DATABASE [CARBOGRES12] SET ANSI_NULLS OFF
GO
ALTER DATABASE [CARBOGRES12] SET ANSI_PADDING OFF
GO
ALTER DATABASE [CARBOGRES12] SET ANSI_WARNINGS OFF
GO
ALTER DATABASE [CARBOGRES12] SET ARITHABORT OFF
GO
ALTER DATABASE [CARBOGRES12] SET AUTO_CLOSE OFF
GO
ALTER DATABASE [CARBOGRES12] SET AUTO_SHRINK OFF
GO
ALTER DATABASE [CARBOGRES12] SET AUTO_UPDATE_STATISTICS ON
GO

```

```
ALTER DATABASE [CARBOGRES12] SET CURSOR_CLOSE_ON_COMMIT OFF  
GO
```



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```

ALTER DATABASE [CARBOGRES12] SET CURSOR_DEFAULT GLOBAL
GO
ALTER DATABASE [CARBOGRES12] SET CONCAT_NULL_YIELDS_NULL OFF
GO
ALTER DATABASE [CARBOGRES12] SET NUMERIC_ROUNDABORT OFF
GO
ALTER DATABASE [CARBOGRES12] SET QUOTED_IDENTIFIER OFF
GO
ALTER DATABASE [CARBOGRES12] SET RECURSIVE_TRIGGERS OFF
GO
ALTER DATABASE [CARBOGRES12] SET DISABLE_BROKER
GO
ALTER DATABASE [CARBOGRES12] SET AUTO_UPDATE_STATISTICS_ASYNC OFF
GO
ALTER DATABASE [CARBOGRES12] SET DATE_CORRELATION_OPTIMIZATION OFF
GO
ALTER DATABASE [CARBOGRES12] SET TRUSTWORTHY OFF
GO
ALTER DATABASE [CARBOGRES12] SET ALLOW_SNAPSHOT_ISOLATION OFF
GO
ALTER DATABASE [CARBOGRES12] SET PARAMETERIZATION SIMPLE
GO
ALTER DATABASE [CARBOGRES12] SET READ_COMMITTED_SNAPSHOT OFF
GO
ALTER DATABASE [CARBOGRES12] SET HONOR_BROKER_PRIORITY OFF
GO
ALTER DATABASE [CARBOGRES12] SET RECOVERY SIMPLE
GO
ALTER DATABASE [CARBOGRES12] SET MULTI_USER
GO
ALTER DATABASE [CARBOGRES12] SET PAGE_VERIFY CHECKSUM
GO
ALTER DATABASE [CARBOGRES12] SET DB_CHAINING OFF
GO
ALTER DATABASE [CARBOGRES12] SET FILESTREAM( NON_TRANSACTED_ACCESS = OFF )
GO
ALTER DATABASE [CARBOGRES12] SET TARGET_RECOVERY_TIME = 60 SECONDS
GO
ALTER DATABASE [CARBOGRES12] SET DELAYED_DURABILITY = DISABLED
GO
ALTER DATABASE [CARBOGRES12] SET QUERY_STORE = OFF
GO
USE [CARBOGRES12]
GO
/***** Object: Table [dbo].[Bodega]    Script Date: 28/06/2021 10:23:33 a. m. *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[Bodega](
    [ID_Reparto] [int] NOT NULL,
    [Id_Producto] [varchar](50) NOT NULL,
    [Cantidad] [varchar](50) NOT NULL,
    [T_material] [varchar](50) NOT NULL,
    [Id_cliente] [varchar](50) NOT NULL,
    [Id_Pedido] [nchar](10) NULL,
    CONSTRAINT [PK_Bodega] PRIMARY KEY CLUSTERED
(
    [Id_Producto] ASC
)WITH (PAD_INDEX = OFF, STATISTICS NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[Cliente]    Script Date: 28/06/2021 10:23:33 a. m. *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[Cliente](
    [Id_Cliente] [int] NOT NULL,
    [Nombre] [varchar](50) NOT NULL,
    [Apellido] [varchar](50) NOT NULL,
    [Direccion] [varchar](50) NOT NULL,
    CONSTRAINT [PK_Cliente] PRIMARY KEY CLUSTERED
(
    [Nombre] ASC
)WITH (PAD_INDEX = OFF, STATISTICS NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[Material]    Script Date: 28/06/2021 10:23:33 a. m. *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[Material](
    [Fecha] [varchar](50) NOT NULL,
    [Hora] [varchar](50) NOT NULL,
    [NPedido] [varchar](50) NOT NULL,
    [Vehiculo] [varchar](50) NOT NULL,
    [Observaciones] [varchar](50) NOT NULL,
    [FMaterial] [varchar](50) NOT NULL,
    CONSTRAINT [PK_Material] PRIMARY KEY CLUSTERED

```

```
(  
    [NPedido] ASC  
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
```



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• Recorte rectangular



```

ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[MaterialSal]      Script Date: 28/06/2021 10:23:33 a. m. *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[MaterialSal](
    [Fecha] [varchar](50) NOT NULL,
    [Hora] [varchar](50) NOT NULL,
    [Materiales] [varchar](50) NOT NULL,
    [Cantidad] [int] NOT NULL,
    [Vehiculo] [varchar](50) NOT NULL,
    [Observaciones] [varchar](50) NOT NULL,
    [Obras] [varchar](50) NOT NULL,
    CONSTRAINT [PK_MaterialSal] PRIMARY KEY CLUSTERED
(
    [Materiales] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[Pedido]      Script Date: 28/06/2021 10:23:33 a. m. *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[Pedido](
    [ID_cliente] [nchar](10) NOT NULL,
    [Id_Pedido] [nchar](10) NOT NULL,
    [cantidad] [varchar](50) NOT NULL,
    [T_material] [varchar](50) NOT NULL,
    CONSTRAINT [PK_Pedido] PRIMARY KEY CLUSTERED
(
    [cantidad] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[Personal]      Script Date: 28/06/2021 10:23:33 a. m. *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[Personal](
    [Nombre] [varchar](50) NOT NULL,
    [Apellido] [varchar](50) NOT NULL,
    [Cedula] [varchar](50) NOT NULL,
    [Cargo] [varchar](50) NOT NULL,
    CONSTRAINT [PK_Personal] PRIMARY KEY CLUSTERED
(
    [Cedula] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[Producto]      Script Date: 28/06/2021 10:23:33 a. m. *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[Producto](
    [Id_Producto] [int] NOT NULL,
    [Nombre_Pro] [varchar](50) NOT NULL,
    [cantidad] [varchar](50) NOT NULL,
    [T_Material] [varchar](50) NOT NULL,
    [N_Producto] [varchar](50) NOT NULL,
    CONSTRAINT [PK_Producto] PRIMARY KEY CLUSTERED
(
    [Nombre_Pro] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[Proveedor]      Script Date: 28/06/2021 10:23:33 a. m. *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[Proveedor](
    [Id_Proveedor] [int] NOT NULL,
    [Nombre_P] [varchar](50) NOT NULL,
    [T_Producto] [varchar](50) NOT NULL,
    [Cantidad] [varchar](50) NOT NULL,
    CONSTRAINT [PK_Proveedor] PRIMARY KEY CLUSTERED
(
    [Nombre_P] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[Reparto]      Script Date: 28/06/2021 10:23:33 a. m. *****/

```

```
SET ANSI_NULLS ON  
GO  
SET QUOTED_IDENTIFIER ON
```



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```

GO
CREATE TABLE [dbo].[Reparto](
    [ID_Reparto] [int] NOT NULL,
    [Id_PProducto] [varchar](50) NOT NULL,
    [Cantidad] [varchar](50) NOT NULL,
    [T_material] [varchar](50) NOT NULL,
    [Id_cliente] [varchar](50) NOT NULL,
    [Id_Pedido] [nchar](10) NOT NULL,
    [ID_Reparto]
Id_PProducto
Cantidad
T_material
Id_cliente
Id_Pedido] [nchar](10) NOT NULL,
CONSTRAINT [PK_Reparto] PRIMARY KEY CLUSTERED
(
    [Id_PProducto] ASC
)WITH (PAD_INDEX = OFF, STATISTICS NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[Usuario]    Script Date: 28/06/2021 10:23:33 a. m. *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[Usuario](
    [Usuario] [varchar](50) NOT NULL,
    [Contraseña] [varbinary](130) NOT NULL,
    CONSTRAINT [PK_Usuario] PRIMARY KEY CLUSTERED
(
    [Usuario] ASC
)WITH (PAD_INDEX = OFF, STATISTICS NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[Vehiculo]    Script Date: 28/06/2021 10:23:33 a. m. *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[Vehiculo](
    [Vehiculo] [varchar](50) NOT NULL,
    [Placa] [varchar](50) NOT NULL,
    [Marca] [varchar](50) NOT NULL,
    [Color] [varchar](50) NOT NULL,
    [FotoVe] [varchar](50) NOT NULL,
    CONSTRAINT [PK_Vehiculo] PRIMARY KEY CLUSTERED
(
    [Placa] ASC
)WITH (PAD_INDEX = OFF, STATISTICS NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[Ventas]    Script Date: 28/06/2021 10:23:33 a. m. *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[Ventas](
    [Id_Ventas] [int] NOT NULL,
    [Cliente] [varchar](50) NOT NULL,
    [Vendedor] [varchar](50) NOT NULL,
    [Direccion] [varchar](50) NOT NULL,
    [Valor] [varchar](50) NOT NULL,
    [Material] [varchar](50) NOT NULL,
    [Cantidad] [int] NOT NULL,
    [Entrega] [varchar](50) NOT NULL,
    CONSTRAINT [PK_Ventas] PRIMARY KEY CLUSTERED
(
    [Cliente] ASC
)WITH (PAD_INDEX = OFF, STATISTICS NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
SET ANSI_PADDING ON
GO
/***** Object: Index [IX_Pedido]    Script Date: 28/06/2021 10:23:33 a. m. *****/
CREATE NONCLUSTERED INDEX [IX_Pedido] ON [dbo].[Pedido]
(
    [ID_cliente] ASC
)WITH (PAD_INDEX = OFF, STATISTICS NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF,
ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON
[PRIMARY]
GO
ALTER TABLE [dbo].[Bodega] WITH CHECK ADD CONSTRAINT [FK_Bodega_Pedido] FOREIGN KEY([Id_Producto])
REFERENCES [dbo].[Pedido] ([cantidad])
GO
ALTER TABLE [dbo].[Bodega] CHECK CONSTRAINT [FK_Bodega_Pedido]
GO
ALTER TABLE [dbo].[Bodega] WITH CHECK ADD CONSTRAINT [FK_Bodega_Producto] FOREIGN
KEY([Id_Producto])
REFERENCES [dbo].[Producto] ([Nombre_Pro])

```

```
GO  
ALTER TABLE [dbo].[Bodega] CHECK CONSTRAINT [FK_Bodega_Producto]  
GO
```



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```

ALTER TABLE [dbo].[Cliente] WITH CHECK ADD CONSTRAINT [FK_Cliente_Usuario] FOREIGN KEY([Nombre])
REFERENCES [dbo].[Usuario] ([Usuario])
GO
ALTER TABLE [dbo].[Cliente] CHECK CONSTRAINT [FK_Cliente_Usuario]
GO
ALTER TABLE [dbo].[Material] WITH CHECK ADD CONSTRAINT [FK_Material_Bodega] FOREIGN KEY([NPedido])
REFERENCES [dbo].[Bodega] ([Id_PProducto])
GO
ALTER TABLE [dbo].[Material] CHECK CONSTRAINT [FK_Material_Bodega]
GO
ALTER TABLE [dbo].[Material] WITH CHECK ADD CONSTRAINT [FK_Material_MaterialSal] FOREIGN
KEY([NPedido])
REFERENCES [dbo].[MaterialSal] ([Materiales])
GO
ALTER TABLE [dbo].[Material] CHECK CONSTRAINT [FK_Material_MaterialSal]
GO
ALTER TABLE [dbo].[Pedido] WITH CHECK ADD CONSTRAINT [FK_Pedido_Cliente] FOREIGN KEY([cantidad])
REFERENCES [dbo].[Cliente] ([Nombre])
GO
ALTER TABLE [dbo].[Pedido] CHECK CONSTRAINT [FK_Pedido_Cliente]
GO
ALTER TABLE [dbo].[Pedido] WITH CHECK ADD CONSTRAINT [FK_Pedido_MaterialSal] FOREIGN
KEY([cantidad])
REFERENCES [dbo].[MaterialSal] ([Materiales])
GO
ALTER TABLE [dbo].[Pedido] CHECK CONSTRAINT [FK_Pedido_MaterialSal]
GO
ALTER TABLE [dbo].[Pedido] WITH CHECK ADD CONSTRAINT [FK_Pedido_Personal] FOREIGN KEY([cantidad])
REFERENCES [dbo].[Personal] ([Cedula])
GO
ALTER TABLE [dbo].[Pedido] CHECK CONSTRAINT [FK_Pedido_Personal]
GO
ALTER TABLE [dbo].[Personal] WITH CHECK ADD CONSTRAINT [FK_Personal_Proveedor] FOREIGN
KEY([Cedula])
REFERENCES [dbo].[Proveedor] ([Nombre_P])
GO
ALTER TABLE [dbo].[Personal] CHECK CONSTRAINT [FK_Personal_Proveedor]
GO
ALTER TABLE [dbo].[Personal] WITH CHECK ADD CONSTRAINT [FK_Personal_Usuario] FOREIGN KEY([Cedula])
REFERENCES [dbo].[Usuario] ([Usuario])
GO
ALTER TABLE [dbo].[Personal] CHECK CONSTRAINT [FK_Personal_Usuario]
GO
ALTER TABLE [dbo].[Proveedor] WITH CHECK ADD CONSTRAINT [FK_Proveedor_Producto] FOREIGN
KEY([Nombre_P])
REFERENCES [dbo].[Producto] ([Nombre_Pro])
GO
ALTER TABLE [dbo].[Proveedor] CHECK CONSTRAINT [FK_Proveedor_Producto]
GO
ALTER TABLE [dbo].[Reparto] WITH CHECK ADD CONSTRAINT [FK_Reparto_Producto] FOREIGN
KEY([Id_PProducto])
REFERENCES [dbo].[Producto] ([Nombre_Pro])
GO
ALTER TABLE [dbo].[Reparto] CHECK CONSTRAINT [FK_Reparto_Producto]
GO
ALTER TABLE [dbo].[Reparto] WITH CHECK ADD CONSTRAINT [FK_Reparto_Vehiculo] FOREIGN
KEY([Id_PProducto])
REFERENCES [dbo].[Vehiculo] ([Placa])
GO
ALTER TABLE [dbo].[Reparto] CHECK CONSTRAINT [FK_Reparto_Vehiculo]
GO
ALTER TABLE [dbo].[Ventas] WITH CHECK ADD CONSTRAINT [FK_Ventas_Personal] FOREIGN KEY([Cliente])
REFERENCES [dbo].[Personal] ([Cedula])
GO
ALTER TABLE [dbo].[Ventas] CHECK CONSTRAINT [FK_Ventas_Personal]
GO
ALTER TABLE [dbo].[Ventas] WITH CHECK ADD CONSTRAINT [FK_Ventas_Producto] FOREIGN KEY([Cliente])
REFERENCES [dbo].[Producto] ([Nombre_Pro])
GO
ALTER TABLE [dbo].[Ventas] CHECK CONSTRAINT [FK_Ventas_Producto]
GO
ALTER TABLE [dbo].[Ventas] WITH CHECK ADD CONSTRAINT [FK_Ventas_Reparto] FOREIGN KEY([Cliente])
REFERENCES [dbo].[Reparto] ([Id_PProducto])
GO
ALTER TABLE [dbo].[Ventas] CHECK CONSTRAINT [FK_Ventas_Reparto]
GO
USE [master]
GO
ALTER DATABASE [CARBOGRES12] SET READ_WRITE
GO

```

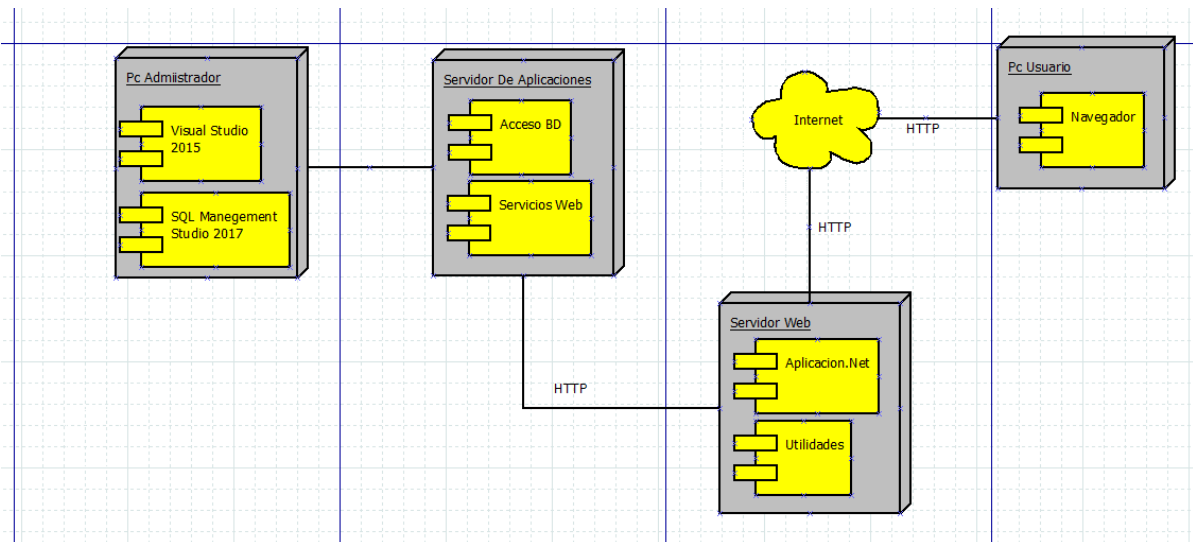
## 2. Diagrama de distribución

El diagrama de distribución representa gráficamente los componentes necesarios para su correcta funcionalidad y así tener todos los programas necesarios para efectuar una correcta funcionalidad, en este diagrama podemos ver los servidores y aplicaciones

necesarias para que el software o servidor web funcione de manera correcta

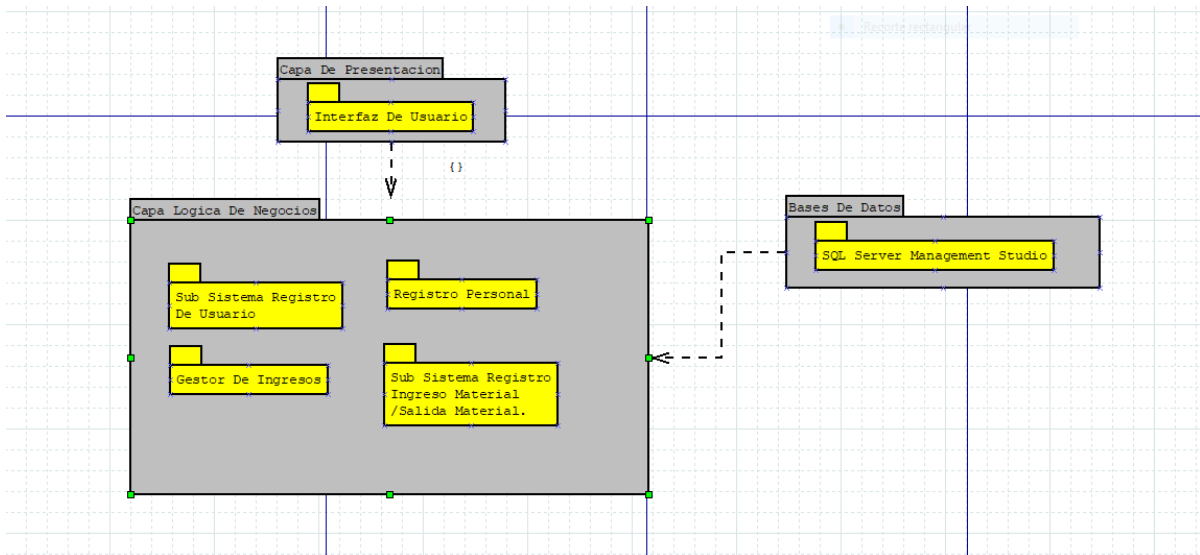


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### 3. Diagrama de paquetes

En el diagrama de paquetes vemos los paquetes en los que se divide el aplicativo los cuales se encuentra las capas lógicas, capa de presentación y capa de base de datos esto grafica de manera efectiva los componentes que trae la aplicación a la hora de funcionar



### 4. Diagrama de casos de uso

El diagrama de caso de uso nos muestra cómo trabaja la aplicación y sus usuarios a la hora de la ejecución de dicha aplicación nos muestra que funciones cumple la aplicación como un actor y las demás entidades las cuales son representadas por un muñeco





perdida de dicha información.



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## 7. Roles y sus permisos

el rol que maneja una totalidad del aplicativo es el administrador, pero este tiene una limitación la cual es que no puede ingresar libremente a las bases de datos para modificar o eliminar registro ya que esta parte nadie del personal de la empresa tiene permiso de acceso, solo los encargados del mantenimiento tienen la opción de ingresar a las bases de datos desde su gestor

## 8. Sección problemas y soluciones

El aplicativo al generar algún problema deberán llamar al personal encargado el cual será enviado al lugar donde se encuentre el equipo para así poder solucionar los errores que se puedan generar con su uso cotidiano de la aplicación

## 9. Números de contactos

Nombre	Guisli Nataly Ramirez Sanabria
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Teléfono	3024608775

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