New Item… from VS:
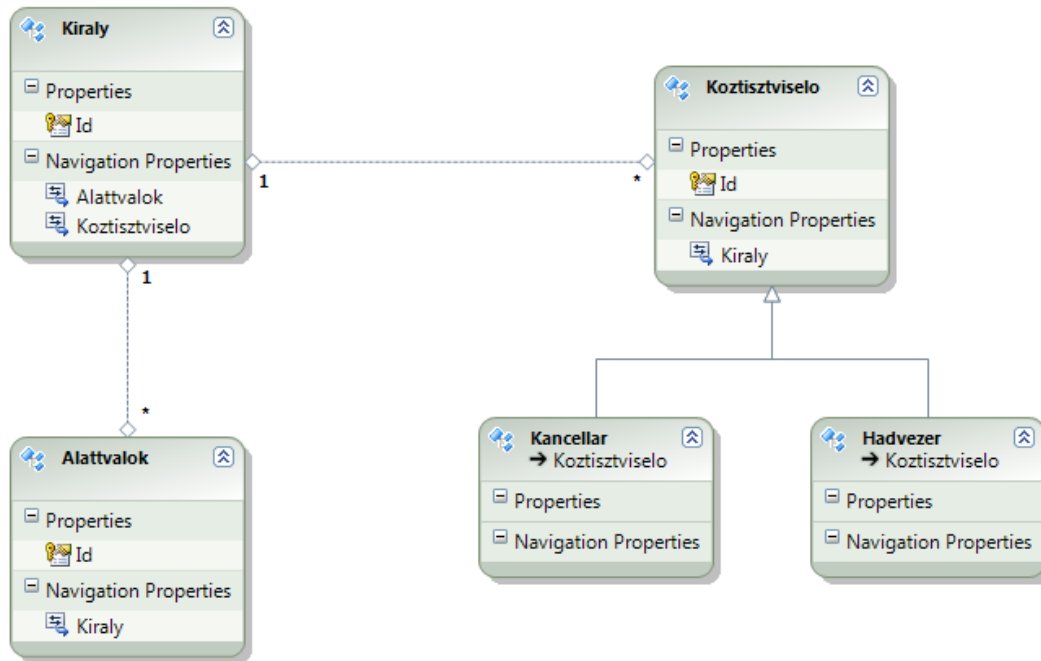
Creates an empty model as a starting point for (visually) **designing a conceptual model** from the toolbox. <u>Classes are generated from the model when the project is compiled.</u> You can specify a database connection later to *map the conceptual model to the storage model.*

Aprócska EF teszt entitások és kapcsolataik

```xml
<?xml version="1.0" encoding="utf-8"?>
<edmx:Edmx Version="2.0" xmlns:edmx="http://schemas.microsoft.com/ado/2008/10/edmx">
  <!-- EF Runtime content -->
  <edmx:Runtime>
    <!-- SSDL content -->
    <edmx:StorageModels>
      <Schema xmlns="http://schemas.microsoft.com/ado/2009/02/edm/ssdl" Namespace="Model1.Store"
Alias="Self" Provider="System.Data.SqlClient" ProviderManifestToken="2005">
        <EntityContainer Name="Model1TargetContainer" >
        </EntityContainer>
      </Schema>
    </edmx:StorageModels>
    <!-- CSDL content -->
    <edmx:ConceptualModels>
      <Schema xmlns="http://schemas.microsoft.com/ado/2008/09/edm"
xmlns:cg="http://schemas.microsoft.com/ado/2006/04/codegeneration"
xmlns:store="http://schemas.microsoft.com/ado/2007/12/edm/EntityStoreSchemaGenerator" Namespace="Model1"
Alias="Self" xmlns:annotation="http://schemas.microsoft.com/ado/2009/02/edm/annotation">
        <EntityContainer Name="Model1Container" annotation:LazyLoadingEnabled="true">
          <EntitySet Name="KiralySet" EntityType="Model1.Kiraly" />
          <EntitySet Name="AlattvalokSet" EntityType="Model1.Alattvalok" />
          <AssociationSet Name="KiralyAlattvalok" Association="Model1.KiralyAlattvalok">
            <End Role="Kiraly" EntitySet="KiralySet" />
            <End Role="Alattvalok" EntitySet="AlattvalokSet" />
          </AssociationSet>
          <EntitySet Name="KoztisztviseloSet" EntityType="Model1.Koztisztviselo" />
          <AssociationSet Name="KiralyKoztisztviselo" Association="Model1.KiralyKoztisztviselo">
            <End Role="Kiraly" EntitySet="KiralySet" />
            <End Role="Koztisztviselo" EntitySet="KoztisztviseloSet" />
          </AssociationSet>
        </EntityContainer>
        <EntityType Name="Kiraly">
          <Key>
            <PropertyRef Name="Id" />
          </Key>
          <Property Type="Int32" Name="Id" Nullable="false" annotation:StoreGeneratedPattern="Identity" />
          <NavigationProperty Name="Alattvalok" Relationship="Model1.KiralyAlattvalok" FromRole="Kiraly"
ToRole="Alattvalok" />
          <NavigationProperty Name="Koztisztviselo" Relationship="Model1.KiralyKoztisztviselo"
FromRole="Kiraly" ToRole="Koztisztviselo" />
```

```xml
      </EntityType>
      <EntityType Name="Alattvalok">
        <Key>
          <PropertyRef Name="Id" />
        </Key>
        <Property Type="Int32" Name="Id" Nullable="false" annotation:StoreGeneratedPattern="Identity" />
        <NavigationProperty Name="Kiraly" Relationship="Model1.KiralyAlattvalok" FromRole="Alattvalok"
ToRole="Kiraly" />
      </EntityType>
      <Association Name="KiralyAlattvalok">
        <End Type="Model1.Kiraly" Role="Kiraly" Multiplicity="1" />
        <End Type="Model1.Alattvalok" Role="Alattvalok" Multiplicity="*" />
      </Association>
      <EntityType Name="Koztisztviselo">
        <Key>
          <PropertyRef Name="Id" />
        </Key>
        <Property Type="Int32" Name="Id" Nullable="false" annotation:StoreGeneratedPattern="Identity" />
        <NavigationProperty Name="Kiraly" Relationship="Model1.KiralyKoztisztviselo"
FromRole="Koztisztviselo" ToRole="Kiraly" />
      </EntityType>
      <EntityType Name="Kancellar" BaseType="Model1.Koztisztviselo">
      </EntityType>
      <EntityType Name="Hadvezer" BaseType="Model1.Koztisztviselo">
      </EntityType>
      <Association Name="KiralyKoztisztviselo">
        <End Type="Model1.Kiraly" Role="Kiraly" Multiplicity="1" />
        <End Type="Model1.Koztisztviselo" Role="Koztisztviselo" Multiplicity="*" />
      </Association>
    </Schema>
  </edmx:ConceptualModels>
  <!-- C-S mapping content -->
  <edmx:Mappings>
    <Mapping xmlns="http://schemas.microsoft.com/ado/2008/09/mapping/cs" Space="C-S">
      <Alias Key="Model" Value="Model1" />
      <Alias Key="Target" Value="Model1.Store" />
      <EntityContainerMapping CdmEntityContainer="Model1Container"
StorageEntityContainer="Model1TargetContainer">
      </EntityContainerMapping>
    </Mapping>
  </edmx:Mappings>
</edmx:Runtime>
<!-- EF Designer content (DO NOT EDIT MANUALLY BELOW HERE) -->
<edmx:Designer xmlns="http://schemas.microsoft.com/ado/2008/10/edmx">
  <edmx:Connection>
    <DesignerInfoPropertySet>
      <DesignerProperty Name="MetadataArtifactProcessing" Value="EmbedInOutputAssembly" />
    </DesignerInfoPropertySet>
  </edmx:Connection>
  <edmx:Options>
    <DesignerInfoPropertySet>
      <DesignerProperty Name="ValidateOnBuild" Value="true" />
      <DesignerProperty Name="EnablePluralization" Value="False" />
    </DesignerInfoPropertySet>
  </edmx:Options>
  <!-- Diagram content (shape and connector positions) -->
  <edmx:Diagrams>
(sok elhelyezés infó, grafikus megjelenítéshez)
  </edmx:Diagrams>
</edmx:Designer>
</edmx:Edmx>
```
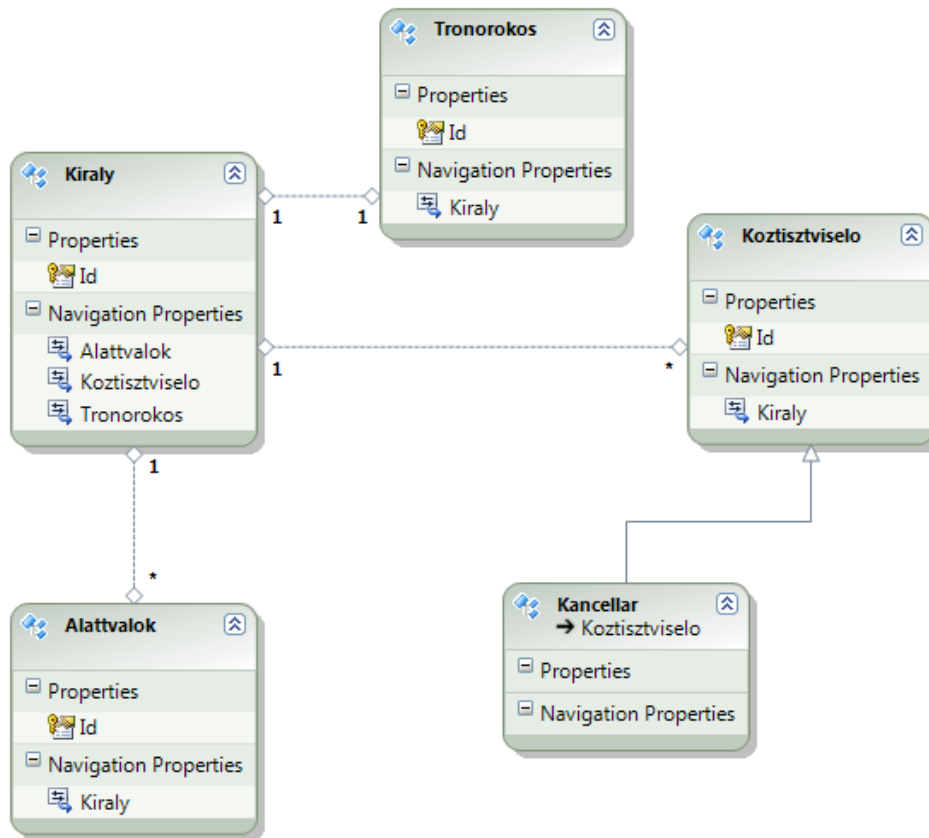
Generált XML-based edmx fájl (ezt kell generálnunk)

- *Conceptual schema definition language* (**CSDL**) defines the conceptual model. CSDL is the Entity Framework's implementation of the Entity Data Model. The file extension is *.csdl*.
- *Store schema definition language* (**SSDL**) defines the storage model, which is also called the logical model. The file extension is *.ssdl*.
- *Mapping specification language* (**MSL**) defines the mappings between the storage and conceptual models. The file extension is *.msl*.

Módosított entitások (nincs hadvezér, de megjelent a trónörökös)

i.   Save *.edmx -> `designer.cs` módosul.
ii. Build project: `*.csdl` `*.ssdl` `*.msl` módosul.

Az EDMX felépítése

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <edmx:Edmx xmlns:edmx="http://schemas.microsoft.com/ado/2008/10/edmx" Version="2.0">
        <!-- EF Runtime content -->
  + <edmx:Runtime>
        <!-- EF Designer content (DO NOT EDIT MANUALLY BELOW HERE) -->
  - <edmx:Designer xmlns="http://schemas.microsoft.com/ado/2008/10/edmx">
      + <edmx:Connection>
      + <edmx:Options>
            <!-- Diagram content (shape and connector positions) -->
      + <edmx:Diagrams>
    </edmx:Designer>
</edmx:Edmx>
```

Runtime és design content

```xml
        <!-- EF Runtime content -->
  - <edmx:Runtime>
            <!-- SSDL content -->
      + <edmx:StorageModels>
            <!-- CSDL content -->
      + <edmx:ConceptualModels>
            <!-- C-S mapping content -->
      + <edmx:Mappings>
    </edmx:Runtime>
        <!-- EF Designer content (DO NOT EDIT MANUALLY BELOW HERE) -->
```

Runtime content felépítése (SSDL-CSDL-mapping)

A lényeg a CSDL-ben van (EF Entity Data Model, conceptual schema layer), íme:

```
- <edmx:ConceptualModels>
    - <Schema Alias="Self" Namespace="Model1" xmlns="http://schemas.microsoft.com/ado/2008/09/edm"
        xmlns:annotation="http://schemas.microsoft.com/ado/2009/02/edm/annotation"
        xmlns:store="http://schemas.microsoft.com/ado/2007/12/edm/EntityStoreSchemaGenerator" xmlns:cg="http://schemas.microsoft.cc
        - <EntityContainer Name="Model1Container" annotation:LazyLoadingEnabled="true">
            <EntitySet Name="KiralySet" EntityType="Model1.Kiraly"/>
            <EntitySet Name="AlattvalokSet" EntityType="Model1.Alattvalok"/>
          + <AssociationSet Name="KiralyAlattvalok" Association="Model1.KiralyAlattvalok">
            <EntitySet Name="KoztisztviseloSet" EntityType="Model1.Koztisztviselo"/>
          + <AssociationSet Name="KiralyKoztisztviselo" Association="Model1.KiralyKoztisztviselo">
          </EntityContainer>
        - <EntityType Name="Kiraly">
          + <Key>
            <Property Name="Id" annotation:StoreGeneratedPattern="Identity" Nullable="false" Type="Int32"/>
            <NavigationProperty Name="Alattvalok" ToRole="Alattvalok" FromRole="Kiraly" Relationship="Model1.KiralyAlattvalok"/>
            <NavigationProperty Name="Koztisztviselo" ToRole="Koztisztviselo" FromRole="Kiraly" Relationship="Model1.KiralyKoztisztviselo"/>
          </EntityType>
        - <EntityType Name="Alattvalok">
          + <Key>
            <Property Name="Id" annotation:StoreGeneratedPattern="Identity" Nullable="false" Type="Int32"/>
            <NavigationProperty Name="Kiraly" ToRole="Kiraly" FromRole="Alattvalok" Relationship="Model1.KiralyAlattvalok"/>
          </EntityType>
        - <Association Name="KiralyAlattvalok">
            <End Role="Kiraly" Type="Model1.Kiraly" Multiplicity="1"/>
            <End Role="Alattvalok" Type="Model1.Alattvalok" Multiplicity="*"/>
          </Association>
        - <EntityType Name="Koztisztviselo">
          + <Key>
            <Property Name="Id" annotation:StoreGeneratedPattern="Identity" Nullable="false" Type="Int32"/>
            <NavigationProperty Name="Kiraly" ToRole="Kiraly" FromRole="Koztisztviselo" Relationship="Model1.KiralyKoztisztviselo"/>
          </EntityType>
          <EntityType Name="Kancellar" BaseType="Model1.Koztisztviselo"> </EntityType>
          <EntityType Name="Hadvezer" BaseType="Model1.Koztisztviselo"> </EntityType>
        - <Association Name="KiralyKoztisztviselo">
            <End Role="Kiraly" Type="Model1.Kiraly" Multiplicity="1"/>
            <End Role="Koztisztviselo" Type="Model1.Koztisztviselo" Multiplicity="*"/>
          </Association>
      </Schema>
  </edmx:ConceptualModels>
    <!-- C-S mapping content -->
```

*A **CSDL** réteg, az entitások, a set-ek és a kapcsolatok*

Példa egy új elemre:

```
<EntityType Name="Tronorokos">
  <Key>
    <PropertyRef Name="Id" />
  </Key>
  <Property Type="Int32" Name="Id" Nullable="false" annotation:StoreGeneratedPattern="Identity" />
  <NavigationProperty  Name="Kiraly"  Relationship="Model1.KiralyTronorokos"  FromRole="Tronorokos"
ToRole="Kiraly" />
</EntityType>
<Association Name="KiralyTronorokos">
  <End Type="Model1.Kiraly" Role="Kiraly" Multiplicity="1" />
  <End Type="Model1.Tronorokos" Role="Tronorokos" Multiplicity="1" />
</Association>
```

A dizájn tartalom pedig így néz ki:

```
- <Diagram Name="Model1">
    <EntityTypeShape EntityType="Model1.Kiraly" Height="1.211080729166667" PointY="1.375" PointX="2.125" Width="1.5"/>
    <EntityTypeShape EntityType="Model1.Alattvalok" Height="1.4033821614583339" PointY="4.125" PointX="2.125" Width="1.5"/>
  - <AssociationConnector Association="Model1.KiralyAlattvalok">
      <ConnectorPoint PointY="2.97068359375" PointX="2.875"/>
      <ConnectorPoint PointY="4.125" PointX="2.875"/>
    </AssociationConnector>
    <EntityTypeShape EntityType="Model1.Koztisztviselo" Height="1.211080729166667" PointY="1.75" PointX="6.25" Width="1.5"/>
    <EntityTypeShape EntityType="Model1.Kancellar" Height="1.0187792968749996" PointY="4" PointX="5.125" Width="1.5"/>
    <EntityTypeShape EntityType="Model1.Hadvezer" Height="1.0187792968749996" PointY="4" PointX="7.25" Width="1.5"/>
  - <AssociationConnector Association="Model1.KiralyKoztisztviselo">
      <ConnectorPoint PointY="2.360341796875" PointX="3.625"/>
      <ConnectorPoint PointY="2.360341796875" PointX="6.25"/>
    </AssociationConnector>
  - <InheritanceConnector EntityType="Model1.Kancellar">
      <ConnectorPoint PointY="3.1533821614583339" PointX="7"/>
      <ConnectorPoint PointY="3.625" PointX="7"/>
      <ConnectorPoint PointY="3.625" PointX="5.875"/>
      <ConnectorPoint PointY="4" PointX="5.875"/>
    </InheritanceConnector>
  - <InheritanceConnector EntityType="Model1.Hadvezer">
      <ConnectorPoint PointY="3.1533821614583339" PointX="7"/>
      <ConnectorPoint PointY="3.625" PointX="7"/>
      <ConnectorPoint PointY="3.625" PointX="8"/>
      <ConnectorPoint PointY="4" PointX="8"/>
    </InheritanceConnector>
  </Diagram>
```

A generálást (módosításokat) az EDMX-ben kell elvégezni. Empty project-be betöltve generálás után létre is jön a 3 speciális fájl, a *.cs stb. és lehet csinálni belőle az adatbázist stb.