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## Actions and Functions

Server Procedures are exposed with the [ExposedService](#) attribute, which marks methods, within assemblies. These are dynamically referenced when the EDM model is constructed, the values of the attribution will determine how they are generated in OData terms.

```
[ExposedService(ExposedServiceType.Action, "TestActionV3", UID: "SP_TestActionV3", includeAtRoot: true, Version = Enum.ServicesVersion.V3)]
public void TestActionV3()
{
}

[ExposedService(ExposedServiceType.Function, "TestFunctionV3", UID: "SP_TestFunctionV3", includeAtRoot: true, Version = Enum.ServicesVersion.V3)]
public bool TestFunctionV3()
{
    return true;
}

[ExposedService(ExposedServiceType.Function, "TestUnboundFunctionV3", UID: "SP_TestUnboundFunctionV3", includeAtRoot: true, Version = Enum.ServicesVersion.Any, IsAsync = true, IsComposable = false)]
public bool TestUnboundFunctionV3()
{
    return true;
}

[ExposedService(ExposedServiceType.Function, "TestUnboundArgFunctionV3", UID: "SP_TestUnboundArgFunctionV3", includeAtRoot: true, Version = Enum.ServicesVersion.Any, IsAsync = true, IsComposable = false)]
public bool TestUnboundArgFunctionV3(string opt1)
{
    return true;
}
```

The metadata will reflect these entries and will show

- An OData Action or Function
- Whether the Action/Function is bound to an EntityType
- Any parameters the Action/Function requires
- The return type of the Action/Function

```
<Action Name="TestActionV3" IsBound="true">
  <Parameter Name="entity" Type="Intergraph.SPF.Server.API.Model.SPFPlantItem" Nullable="false" />
</Action>

<Function Name="TestUnboundFunctionV3">
  <ReturnType Type="Edm.Boolean" Nullable="false" />
</Function>

<Function Name="TestUnboundArgFunctionV3">
  <Parameter Name="opt1" Type="Edm.String" />
  <ReturnType Type="Edm.Boolean" Nullable="false" />
</Function>

<Function Name="TestFunction2V3" IsBound="true">
  <Parameter Name="entity" Type="Intergraph.SPF.Server.API.Model.SPFPlantItem" Nullable="false" />
  <Parameter Name="opt1" Type="Edm.String" />
  <Parameter Name="opt2" Type="Edm.Boolean" Nullable="false" />
  <ReturnType Type="Edm.Boolean" Nullable="false" />
</Function>
```

The following example load file shows how Actions and Functions relating to Server Procedures can be defined in the model.

```
<Container>

<-- Define Server Procedures -->
<SPFAPIServerProcedure>
  <IObject UID="SP_TestActionV3" Name="TestActionV3" />
  <ISPFAPIServerProcedure />
  <ISPFAdminItem />
</SPFAPIServerProcedure>

<SPFAPIServerProcedure>
  <IObject UID="SP_TestFunctionV3" Name="TestFunctionV3" />
  <ISPFAPIServerProcedure />
  <ISPFAdminItem />
</SPFAPIServerProcedure>

<SPFAPIServerProcedure>
  <IObject UID="SP_TestUnboundFunctionV3" Name="TestUnboundFunctionV3" />
  <ISPFAPIServerProcedure />
  <ISPFAdminItem />
</SPFAPIServerProcedure>

<SPFAPIServerProcedure>
  <IObject UID="SP_TestUnboundArgFunctionV3" Name="TestUnboundArgFunctionV3" />
  <ISPFAPIServerProcedure />
  <ISPFAdminItem />
</SPFAPIServerProcedure>

<-- Relate Server Procedures to an API Group -->
<Rel>
  <IObject UID="APIG_ADW.SP_TestActionV3" />
  <ISchemaObj />
  <IRel UID1="APIG_ADW" DefUID="SPFAPIGroupServerProcedure" UID2="SP_TestActionV3" OrderValue="1000" />
</Rel>

<Rel>
  <IObject UID="APIG_ADW.SP_TestFunctionV3" />
  <ISchemaObj />
  <IRel UID1="APIG_ADW" DefUID="SPFAPIGroupServerProcedure" UID2="SP_TestFunctionV3" OrderValue="1000" />
</Rel>

<Rel>
  <IObject UID="APIG_ADW.SP_TestUnboundFunctionV3" />
  <ISchemaObj />
  <IRel UID1="APIG_ADW" DefUID="SPFAPIGroupServerProcedure" UID2="SP_TestUnboundFunctionV3" OrderValue="1000" />
</Rel>

<Rel>
  <IObject UID="APIG_ADW.SP_TestUnboundArgFunctionV3" />
  <ISchemaObj />
  <IRel UID1="APIG_ADW" DefUID="SPFAPIGroupServerProcedure" UID2="SP_TestUnboundArgFunctionV3" OrderValue="1000" />
</Rel>
```

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Categories

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```

<!-- Bind Server Procedures to Class and Interface Definitions -->
<Rel>
  <IRel UID1="APIG_ADN" DefUID="SPFAPIGroupServerProcedure" UID2="SP_TestUnboundAngFunctionV3" OrderValue="1000" />
</Rel>

<!-- Bind Server Procedures to Class and Interface Definitions -->
<Rel>
  <IObject UID="ISPFPlantItem.SP_TestActionV3" />
  <ISchemaObj />
  <IRel UID1="ISPFPlantItem" DefUID="SPFAPIInterfaceDefServerProcedure" UID2="SP_TestActionV3" OrderValue="1000" />
</Rel>

<Rel>
  <IObject UID="ISPFPlantItem.SP_TestFunctionV3" />
  <ISchemaObj />
  <IRel UID1="ISPFPlantItem" DefUID="SPFAPIInterfaceDefServerProcedure" UID2="SP_TestFunctionV3" OrderValue="1000" />
</Rel>

<Rel>
  <IObject UID="DEVTag.SP_TestFunctionV3" />
  <ISchemaObj />
  <IRel UID1="DEVTag" DefUID="SPFAPIClassDefServerProcedure" UID2="SP_TestFunctionV3" OrderValue="1000" />
</Rel>

</Container>

```