

SAP PI/PO REST TO SAP Uygulaması

Dışarıdan alınan bir REST servisi SAP sistemine entegre etme ve bu servisi WSDL formatına çevirip SOAPUI üzerinden test etme işlemini yapacağız.

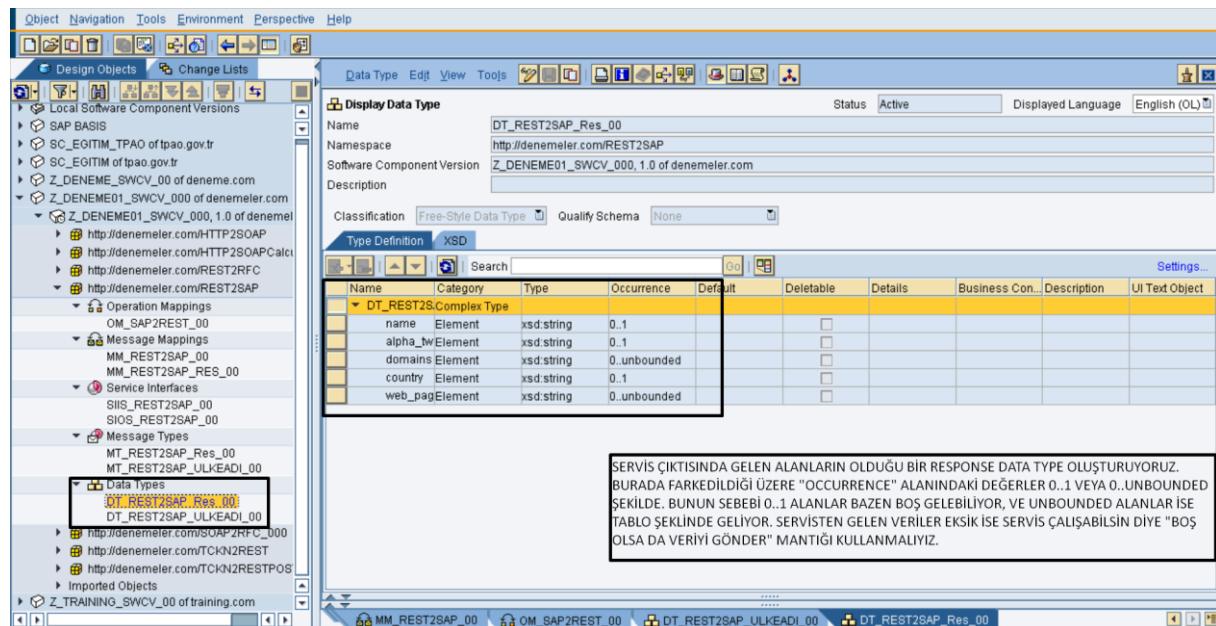
Sırasıyla yapmamız gerekenler;

1. SSL sertifikası olmayan (http) REST servisi ayarlamak.
2. Enterprise Service Builder (ESB) ile altyapıyı oluşturmak.
3. Integration Builder ile bağlantıları yapmak.
4. SOAPUI üzerinden servisi test etmek.

Kullanacağımız servis şu şekilde : http://universities.hipolabs.com/search?country={req_country}

Servisin sonundaki "req_country" alanına ülke adı girdiğinizde o ülkedeki üniversite isimleri, hangi şehirde oldukları, domain adları ve üniversitelerin web siteleri gözükmemektedir.

Data Type Oluşturma



Object Navigation Tools Environment Perspective Help

Design Objects Change Lists

Display Data Type

| Name | DT_REST2SAP_ULKEADI_00 | Status | Active | Displayed Language | English (OL) | | | | | | | | | | | | | | | | | | | | |
|--|---|----------------|------------|--------------------|--------------|---------|-----------------|-------------|----------------|---------|-----------|---------|-----------------|-------------|----------------|------------------------|---------|------------|---|--|--|--|--|--|--|
| Namespace | http://denemeler.com/REST2SAP | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Component Version | Z_DENEME01_SWCV_000, 1.0 of denemeler.com | | | | | | | | | | | | | | | | | | | | | | | | |
| Description | | | | | | | | | | | | | | | | | | | | | | | | | |
| Classification | Free-Style Data Type | Qualify Schema | None | | | | | | | | | | | | | | | | | | | | | | |
| Type Definition | XSD | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Name</th> <th>Category</th> <th>Type</th> <th>Occurrence</th> <th>Default</th> <th>Deletable</th> <th>Details</th> <th>Business Con...</th> <th>Description</th> <th>UI Text Object</th> </tr> </thead> <tbody> <tr> <td>DT_REST2SAP_ULKEADI_00</td> <td>Element</td> <td>xsd:string</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | | | | Name | Category | Type | Occurrence | Default | Deletable | Details | Business Con... | Description | UI Text Object | DT_REST2SAP_ULKEADI_00 | Element | xsd:string | 1 | | | | | | |
| Name | Category | Type | Occurrence | Default | Deletable | Details | Business Con... | Description | UI Text Object | | | | | | | | | | | | | | | | |
| DT_REST2SAP_ULKEADI_00 | Element | xsd:string | 1 | | | | | | | | | | | | | | | | | | | | | | |
| REQUEST DATA TYPE'MIZ İÇİN TEK BİR PARAMETREMİZ VAR. BUNUN "OCCURRENCE"SI "1" OLMAK ZORUNDA YOKSA VERİ GELMEZ :) | | | | | | | | | | | | | | | | | | | | | | | | | |

MM_REST2SAP_00 OM_SAP2REST_00 DT_REST2SAP_ULKEADI_00 DT_REST2SAP_Res_00

Message Type Oluşturma

Object Navigation Tools Environment Perspective Help

Design Objects Change Lists

Display Message Type

| Name | MT_REST2SAP_Res_00 | Status | Active | Displayed Language | English (OL) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---------------|-------------------------------|--------------------|--------------|---------|------------------|-------------|------------|---------|-----------|---------|------------------|-------------|---------------------|---------|---------------|--|--|--|--|--|--|------|---------|------------|------|--|--|--|--|--|-----------|---------|------------|------|--|--|--|--|--|---------|---------|------------|--------------|--|--|--|--|--|---------|---------|------------|------|--|--|--|--|--|----------|---------|------------|--------------|--|--|--|--|--|
| Namespace | http://denemeler.com/REST2SAP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Component Version | Z_DENEME01_SWCV_000, 1.0 of denemeler.com | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Name * | MT_REST2SAP_Res_00 | Namespace * | http://denemeler.com/REST2SAP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Data Type Used | DT_REST2SAP_Res_00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| XML Namespace | http://denemeler.com/REST2SAP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type Definition | XSD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Name | Category | Type | Occurrence | Default | Deletable | Details | Business Context | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MT_REST2SAP_Element | Element | DT_REST2SAP_R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| name | Element | xsd:string | 0..1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| alpha_two | Element | xsd:string | 0..1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| domains | Element | xsd:string | 0..unbounded | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| country | Element | xsd:string | 0..1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| web_page | Element | xsd:string | 0..unbounded | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DATA TYPE'LERE BAĞLI MESSAGE TYPE'LER OLUTURUYORUZ. OK İLE İŞARETLendiği gibi DATA TYPE'LERI SÜRÜKLE BIRAK MANTIĞI İLE OLUTURABİLİRİZ. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

MT_REST2SAP_Res_00 SIIS_REST2SAP_00 MM_REST2SAP_Res_00 MM_REST2SAP_00 OM_SAP2REST_00

Service Interface Oluşturma (Request Message Type)

Object Navigation Tools Environment Perspective Help

Design Objects Change Lists

Local Software Component Versions

- SAP BASIS
- SC_EGITIM_TPAO of tpaogov.tr
- Z_DENEME_SWCV_00 of deneme.com
- Z_DENEME01_SWCV_000 of denemeler.com
 - http://denemeler.com/HTTP2SOAP
 - http://denemeler.com/HTTP2SOAPCalc
 - http://denemeler.com/REST2RFC
 - http://denemeler.com/REST2SAP
 - Operation Mappings OM_SAP2REST_00
 - Message Mappings MM_REST2SAP_00 MM_REST2SAP_RES_00
 - Service Interfaces SII_S REST2SAP_00 SIOS_REST2SAP_00
 - Message Types MT_REST2SAP_Res_00
 - MT_REST2SAP_ULKEADI_00**
 - Data Types DT_REST2SAP_Res_00 DT_REST2SAP_ULKEADI_00
 - http://denemeler.com/SOAP2RFC_000
 - http://denemeler.com/TCKN2REST
 - http://denemeler.com/TCKN2RESTPOS
 - Imported Objects

Z_TRAINING_SWCV_00 of training.com

Message Type Edit View Tools

Display Message Type

Name: **MT_REST2SAP_ULKEADI_00**

Namespace: <http://denemeler.com/REST2SAP>

Software Component Version: Z_DENEME01_SWCV_000, 1.0 of denemeler.com

Description:

Data Type Used: **DT_REST2SAP_ULKEADI_00**

XML Namespace: <http://denemeler.com/REST2SAP>

Structure XSD

| Name | Category | Type | Occurrence | Default | Deletable | Details | Business Context | Description |
|---------------------------|---------------|------------|------------|---------|-----------|---------|------------------|-------------|
| MT_REST2SAPElement | DT_REST2SAP_L | | | | | | | |
| country | Element | xsd:string | 1 | | | | | |

AYNI İŞLEMİ REQUEST MESSAGE TYPE'SI İÇİN DE UYGULUYORUZ.

OM_SAP2REST_00 DT_REST2SAP_ULKEADI_00 DT_REST2SAP_Res_00 MT_REST2SAP_ULKEADI_00

Service Interface Oluşturma

Service Interface Oluşturma (Service Interface Definition)

Object Navigation Tools Environment Perspective Help

Design Objects Change Lists

Local Software Component Versions

- SAP BASIS
- SC_EGITIM_TPAO of tpaogov.tr
- Z_DENEME_SWCV_00 of deneme.com
- Z_DENEME01_SWCV_000 of denemeler.com
 - http://denemeler.com/HTTP2SOAP
 - http://denemeler.com/HTTP2SOAPCalc
 - http://denemeler.com/REST2RFC
 - http://denemeler.com/REST2SAP
 - Operation Mappings OM_SAP2REST_00
 - Message Mappings MM_REST2SAP_00 MM_REST2SAP_RES_00
 - Service Interfaces SII_S REST2SAP_00 **SII_S REST2SAP_00**
 - Message Types MT_REST2SAP_Res_00 MT_REST2SAP_ULKEADI_00
 - http://denemeler.com/SOAP2RFC_000
 - http://denemeler.com/TCKN2REST
 - http://denemeler.com/TCKN2RESTPOS
 - Data Types DT_REST2SAP_Res_00 DT_REST2SAP_ULKEADI_00
 - http://denemeler.com/SOAP2RFC_000
 - http://denemeler.com/TCKN2REST
 - http://denemeler.com/TCKN2RESTPOS
 - Imported Objects

Z_TRAINING_SWCV_00 of training.com

Service Interface Edit View Tools

Definition WSDL Matching Service Interfaces Classifications

Attributes

Category: Outbound

Interface Pattern: Stateless

Security Profile: Low

Event interface: Sensitive Data

Operations

Operation SII_S REST2SAP_00

Attributes

Operation Pattern: Normal Operation

Mode: **Synchronous**

Messages

Role: Request Type: Message Type Name: MT_REST2SAP_ULKEADI_00 Namespace: http://denemeler.com/REST2SAP

Role: Response Type: Message Type Name: MT_REST2SAP_Res_00 Namespace: http://denemeler.com/REST2SAP

Role: Fault Type: Fault Message Type

"OUTBOUND" VE "INBOUND" SERVICE INTERFACE'LER OLUTURUYORUZ. "OUTBOUND" ILE BAŞLIYORUZ. AŞAĞIDAKİ OK İLE BELİRTİLEN YERLERE REQUEST VE RESPONSE "MESSAGE TYPE'LERİ" SÜRÜKLEYİP BIRAKIYORUZ.

DT_REST2SAP_ULKEADI_00 DT_REST2SAP_Res_00 MT_REST2SAP_ULKEADI_00 SII_S REST2SAP_00

Service Interface Edit View Tools Description Software Component Version Z_DENEME01_SWCV_000, 1.0 of denemeler.com

Attributes

- Category: Inbound
- Interface Pattern: Stateless
- Security Profile: Low
- Event interface:
- Sensitive Data:

Operations

Operation SIIS_REST2SAP_00

Description: AYNI İŞLEMİ İKİNCİ SERVICE INTERFACE İÇİN DE UYGULUYORUZ. TEK FARKI "OUTBOUND" DEĞİL, "INBOUND" BİR SERVİS YAPIYORUZ.

Attributes

- Operation Pattern: Normal Operation
- Mode: Synchronous Idempotent:

Messages

| Role | Type | Name | Namespace |
|------------|--------------------|------------------------|-------------------------------|
| Request * | Message Type | MT_REST2SAP_ULKEADI_00 | http://denemeler.com/REST2SAP |
| Response * | Message Type | MT_REST2SAP_Res_00 | http://denemeler.com/REST2SAP |
| Fault | Fault Message Type | | |

Message Mapping Oluşturma

Message Mapping Edit View Status Active Displayed Language English (OL)

Display Message Mapping

Name: MM_REST2SAP_00
Namespace: http://denemeler.com/REST2SAP
Software Component Version: Z_DENEME01_SWCV_000, 1.0 of denemeler.com

Definition

Message Type: MT_REST2SAP_ULKEADI_00

Structure

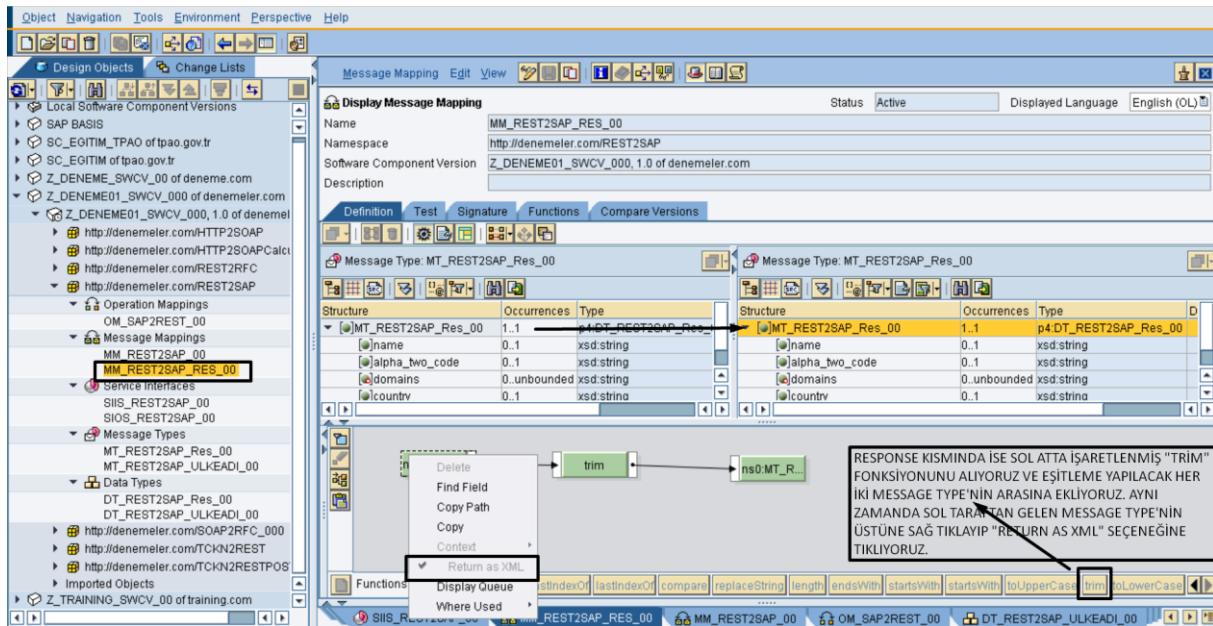
| Structure | Occurrences | Type |
|-----------|-------------|---------------------------|
| country | 1..1 | p4_DT_REST2SAP_ULKEADI_00 |

Message Type: MT_REST2SAP_ULKEADI_00

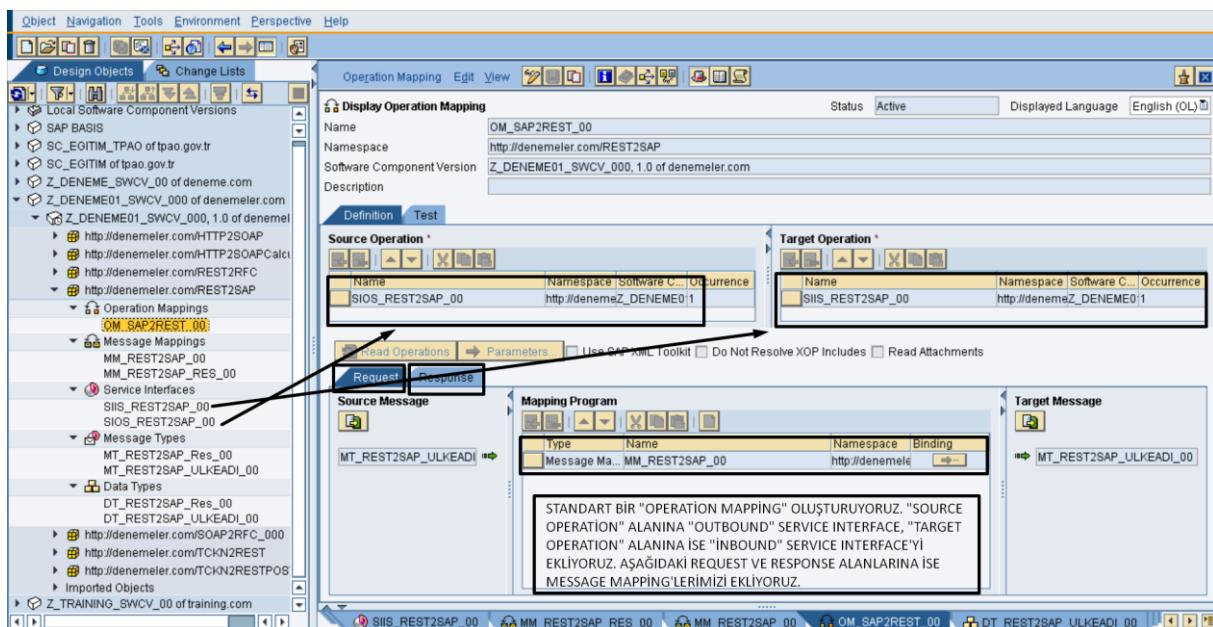
Structure

| Structure | Occurrences | Type |
|-----------|-------------|------------|
| country | 1..1 | xsd:string |

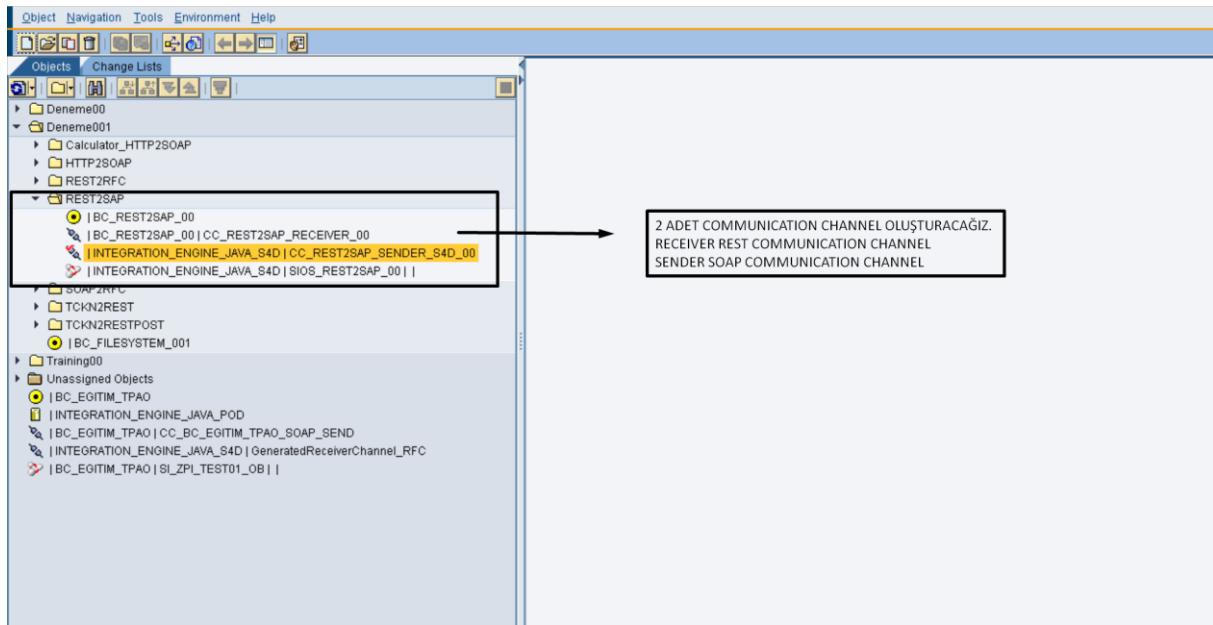
"REQUEST" MESSAGE MAPPING OLÜSTURUYORUZ.
BURADA YAPILACAK TEK İŞLEM "COUNTRY" ALANLARINI EŞLEŞTİRMEK.



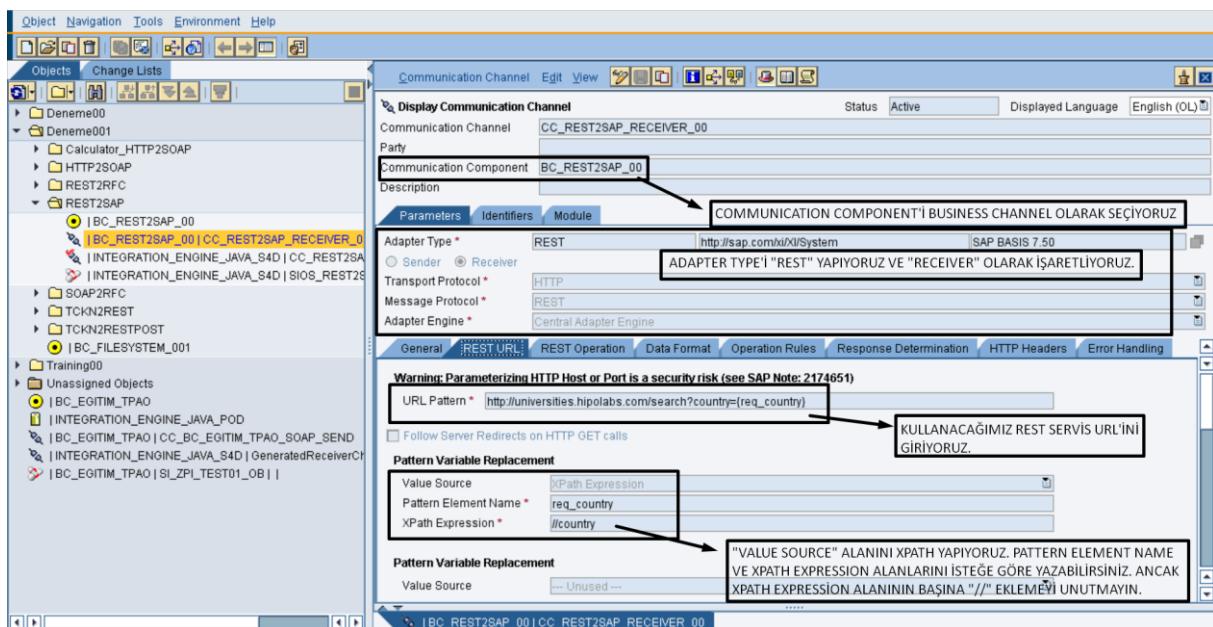
Operation Mapping Oluşturma

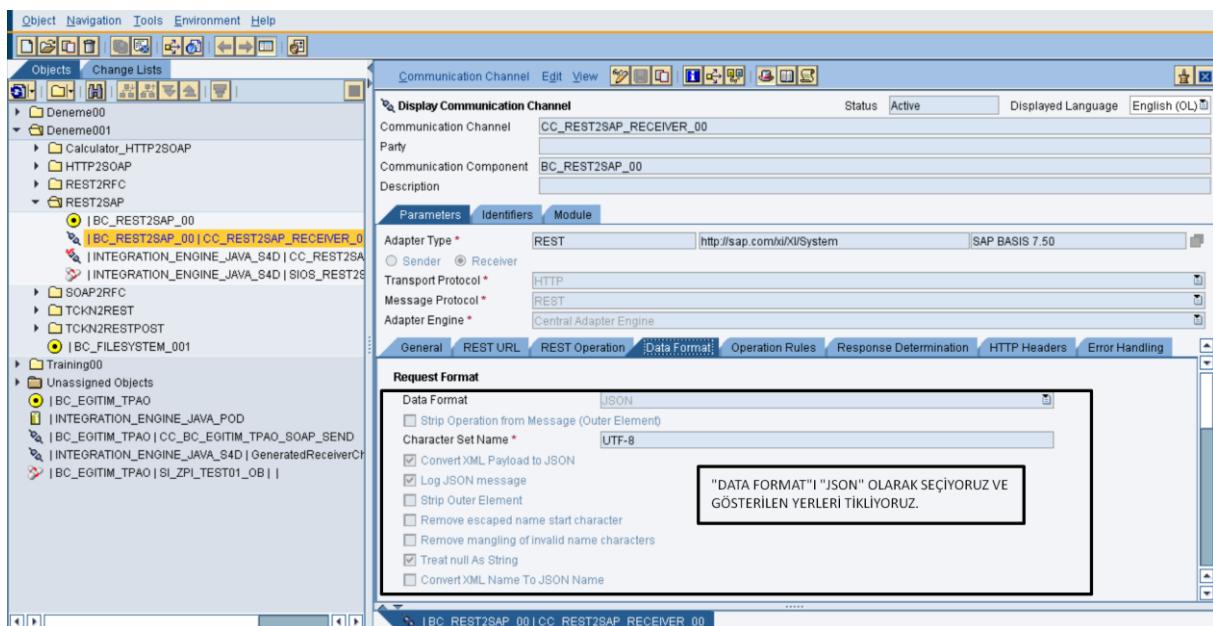
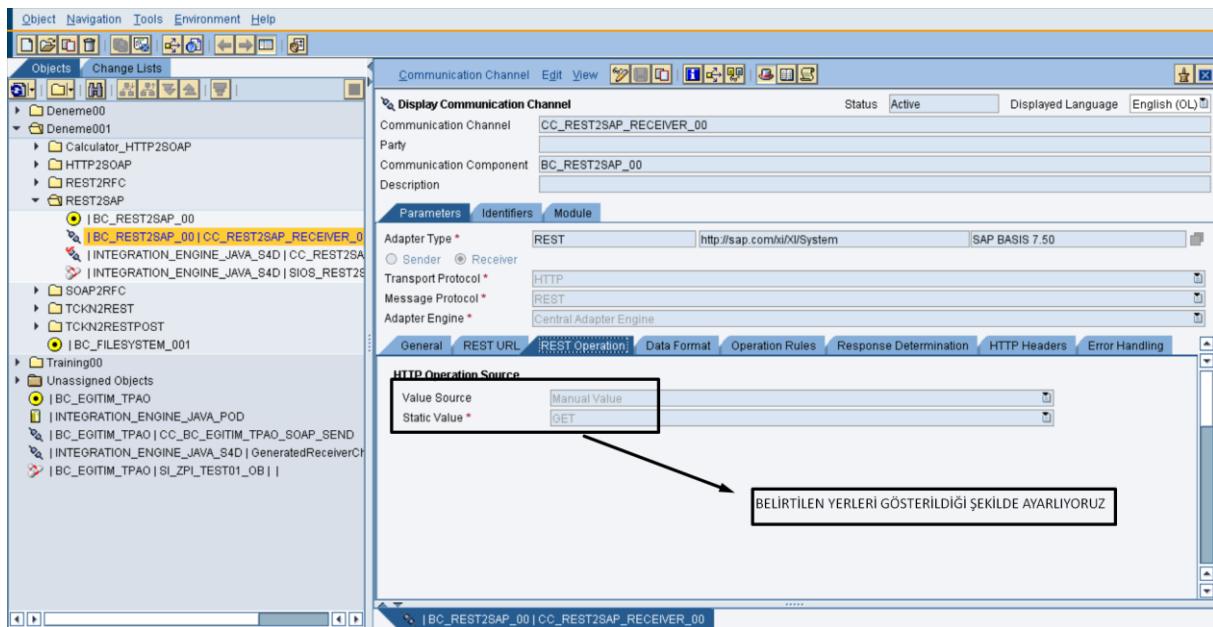


Integration Builder Ekranı



Communication Channel (Receiver) Oluşturma





Communication Channel (Receiver) Configuration

Object Navigation Tools Environment Help

Communication Channel Edit View

Display Communication Channel

Communication Channel: CC_REST2SAP_RECEIVER_00

Status: Active

Displayed Language: English (OL)

Party:

Communication Component: BC_REST2SAP_00

Description:

Parameters Identifiers Module

Adapter Type * REST http://sap.com/xi/XI/System SAP BASIS 7.50

Sender Receiver

Transport Protocol * HTTP

Message Protocol * REST

Adapter Engine * Central Adapter Engine

Response Format for Synchronous Messages

Data Format: JSON

Character Set: HTTP.Header

Convert to XML

Log JSON message

Add Wrapper Element

Element Name *: MT_REST2SAP_Res_00

Element Namespace *: http://denemeler.com/REST2SAP

Escape invalid name start character (for example, 'b4x64' -> '_b4x64')

Mangle invalid name characters (for example, "start&stop" -> <start_u0026stop>)

Treat null As String

Convert to XML 1.1 document

Convert JSON Name To XML Name

"DATA FORMAT'I "JSON" OLARAK SEÇİYORUZ."

"ELEMENT NAME" KISMINA RESPONSE OLARAK YATIĞIMIZ "MESSAGE TYPE'I YAZIYORUZ.

ELEMENT NAMESPACE ALANINA İSE MESSAGE TYPE BAĞLI OLAN NAMESPACEYİ YAZIYORUZ.

Communication Channel (Sender) Oluşturma

Communication Channel (Sender) Configuration

Object Navigation Tools Environment Help

Communication Channel Edit View

Display Communication Channel

Communication Channel: CC_REST2SAP_SENDER_S4D_00

Status: In Process

Displayed Language: English (OL)

Party:

Communication Component: INTEGRATION_ENGINE_JAVA_S4D

Description:

Parameters Identifiers Module

Adapter Type * SOAP http://sap.com/xi/XI/System SAP BASIS 7.50

Sender Receiver

Transport Protocol * HTTP

Message Protocol * SOAP 1.1

Adapter Engine * Central Adapter Engine

Inbound Security Checks

HTTP Security Level *: HTTP

Security Parameters

Select Security Profile

Conversion Parameters

Do Not Use SOAP Envelope

Keep Headers

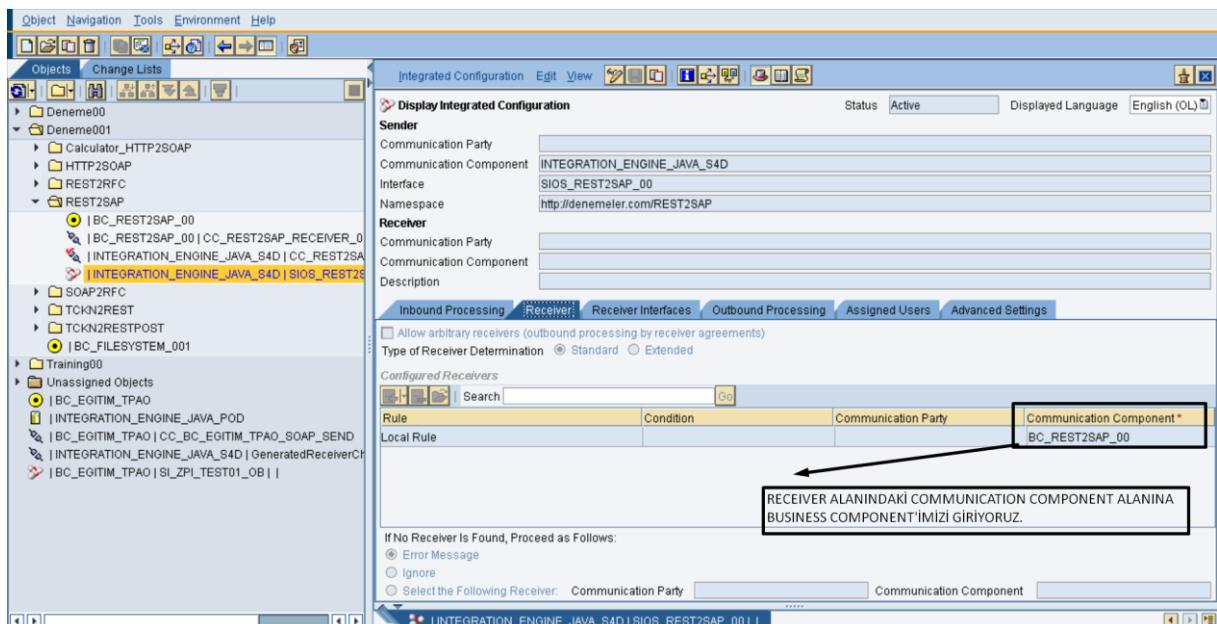
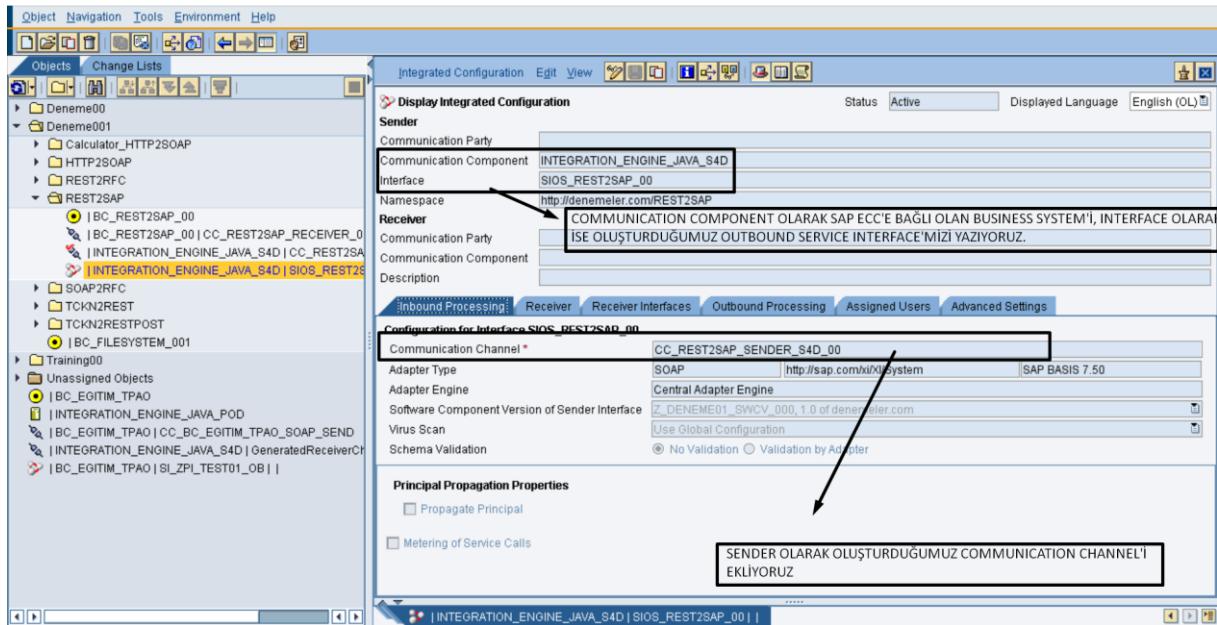
Keep Attachments

Use Encoded Headers

SAP ECC SİSTEDE BAĞLI OLACAKI İÇİN COMMUNICATION COMPONENT'I SAP ECC SİSTEDE BAĞLI OLAN BUSINESS SYSTEM'İ SEÇİYORUZ.

OLUŞTURULAN DİĞER "SENDER" COMMUNICATION CHANNEL KİSMINDA ADAPTER TYPE'I "SENDER" OLARAK SEÇİYORUZ. "MESSAGE PROTOCOL'U "SOAP1.1" ÜZERİNDEN TETİKLEYECEĞİMİZ İÇİN "SOAP 1.1" OLARAK SEÇİYORUZ.

Integrated Configuration Oluşturma



Integrated Configuration

Display Integrated Configuration

Sender

- Communication Party: INTEGRATION_ENGINE_JAVA_S4D
- Communication Component: SIOS_REST2SAP_00
- Interface: http://denemeler.com/REST2SAP
- Namespace: http://denemeler.com/REST2SAP

Receiver

- Communication Party: BC_REST2SAP_00
- Communication Component: BC_REST2SAP_00
- Description:

Inbound Processing | **Receiver** | **Receiver Interfaces** | **Outbound Processing** | **Assigned Users** | **Advanced Settings**

Receiver Interfaces

| Condition | Operation Mapping | Name * | Namespace * | Software Component | Multiplicity | Parameters |
|----------------|-------------------|--|---|--------------------|--------------|------------|
| OM_SAP2REST_00 | SIIS_REST2SAP_00 | http://denemeler.com/Z_DENEME01_SWCV_000_1.0 | http://denemeler.com/Z_DENEME01_SWCV_000_1.0 of denemeler.com | SAP BASIS 7.50 | 1 | |

**COMMUNICATION COMPONENT İ RECEİVERDEKİ GİBİ EKLİYORUZ.
RECEİVER İFİLE KİSMINA İSE OPERATİON MAPPİNG'İ GİRİYORUZ.**

Integrated Configuration

Display Integrated Configuration

Sender

- Communication Party: INTEGRATION_ENGINE_JAVA_S4D
- Communication Component: SIOS_REST2SAP_00
- Interface: http://denemeler.com/REST2SAP
- Namespace: http://denemeler.com/REST2SAP

Receiver

- Communication Party: BC_REST2SAP_00
- Communication Component: BC_REST2SAP_00
- Description:

Inbound Processing | **Receiver** | **Receiver Interfaces** | **Outbound Processing** | **Assigned Users** | **Advanced Settings**

Configuration for Interface SIIS_REST2SAP_00 http://denemeler.com/REST2SAP_00

Communication Channel *: CC_REST2SAP_RECEIVER_00

Adapter Type: REST | http://sap.com/xi/XI/System | SAP BASIS 7.50

Adapter Engine: Central Adapter Engine

Software Component Version of Receiver Interface: Z_DENEME01_SWCV_000_1.0 of denemeler.com

Virus Scan: Use Global Configuration

Schema Validation: No Validation | Validation by Adapter

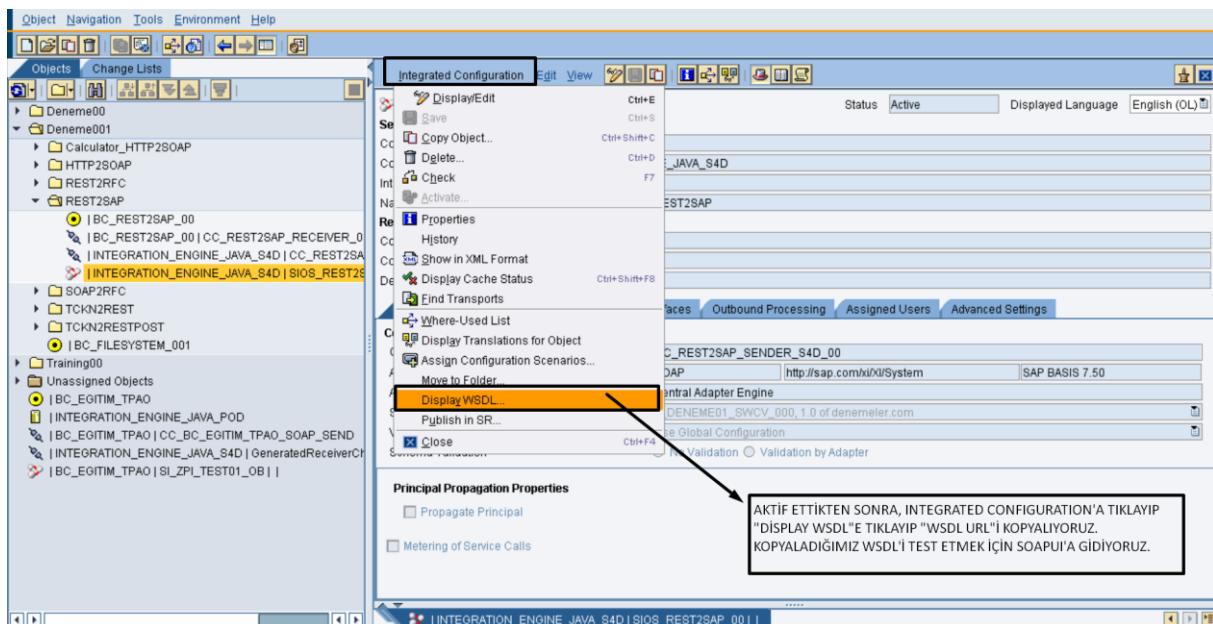
Header Mapping

- Sender Communication Party
- Sender Communication Component
- Receiver Communication Party
- Receiver Communication Component

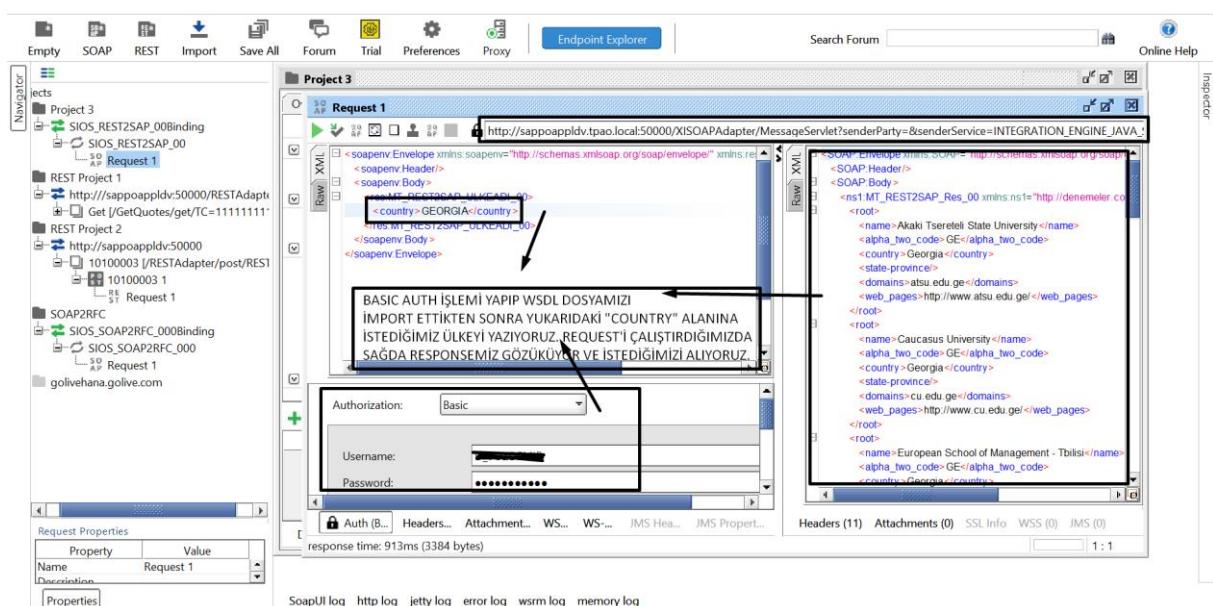
Principals Description

COMMUNICATION CHANNEL ALANINA "RECEİVER" OLARAK YAPTIĞİMİZİ EKLİYORUZ VE KAYDEDİYORUZ.

WSDL Çıktısı Alma



SOAPUI ile Dönüştürülmüş Servisi Tetikleme



Sonuç: Dışarıdan aldığımız bir REST servisi WSDL servise çevirip SOAPUI üzerinden tetikleme işlemini yaptık. Aynı zamanda bu oluşturduğumuz servisi SAP ECC sistemde de kullanabiliriz.

DEVAMI GELECEK

İyi Çalışmalar.