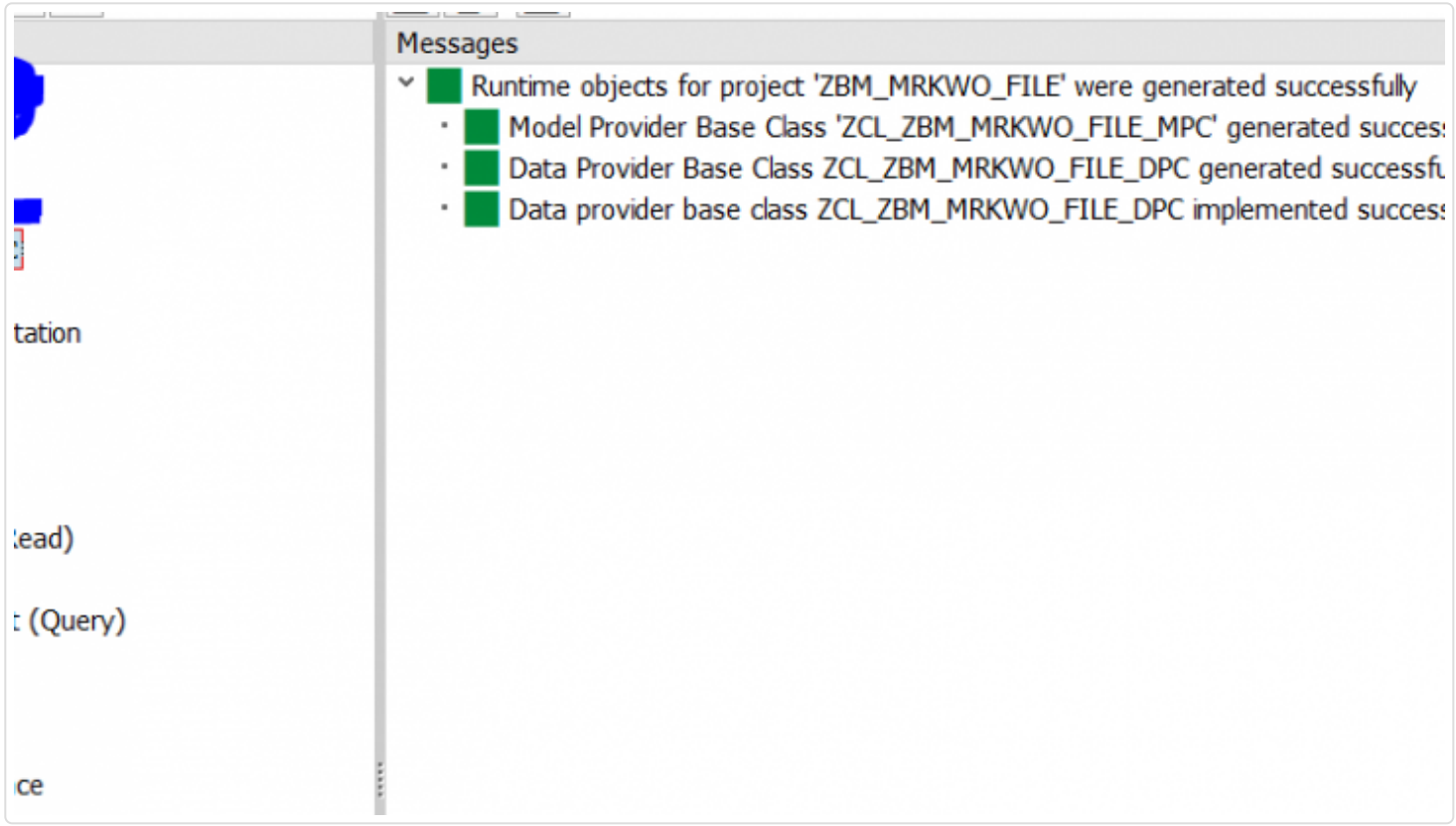


Upload/download File in SAP UI5 Application using Gateway

November 14, 2018 (http://www.sapspot.com/upload-download-file-in-sap-ui5-application-using-gateway/) webadmin (http://www.sapspot.com/author/webadmin/)

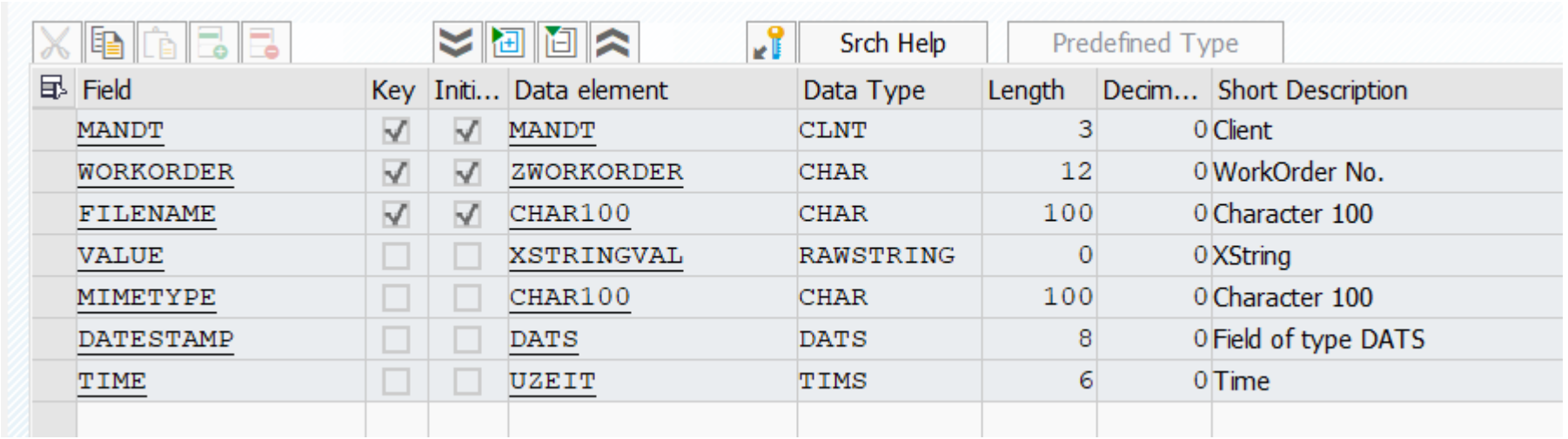
Please find below step by step how you can upload and download file.

Please note that i am implementing this on Central Hub Gateway Deployment so will be explaining this in two sections

Section I: Back End

Step-1 : Create Table

First I created a table on back-end system that will contain the uploaded files.you can add many fields you want but your table must contain Filename,Value and mimetype.



Field	Key	Initi...	Data element	Data Type	Length	Decim...	Short Description
MANDT	☑	☑	MANDT	CLNT	3	0	Client
WORKORDER	☑	☑	ZWORKORDER	CHAR	12	0	WorkOrder No.
FILENAME	☑	☑	CHAR100	CHAR	100	0	Character 100
VALUE	☐	☐	XSTRINGVAL	RAWSTRING	0	0	XString
MIMETYPE	☐	☐	CHAR100	CHAR	100	0	Character 100
DATESTAMP	☐	☐	DATS	DATS	8	0	Field of type DATS
TIME	☐	☐	UZEIT	TIMS	6	0	Time

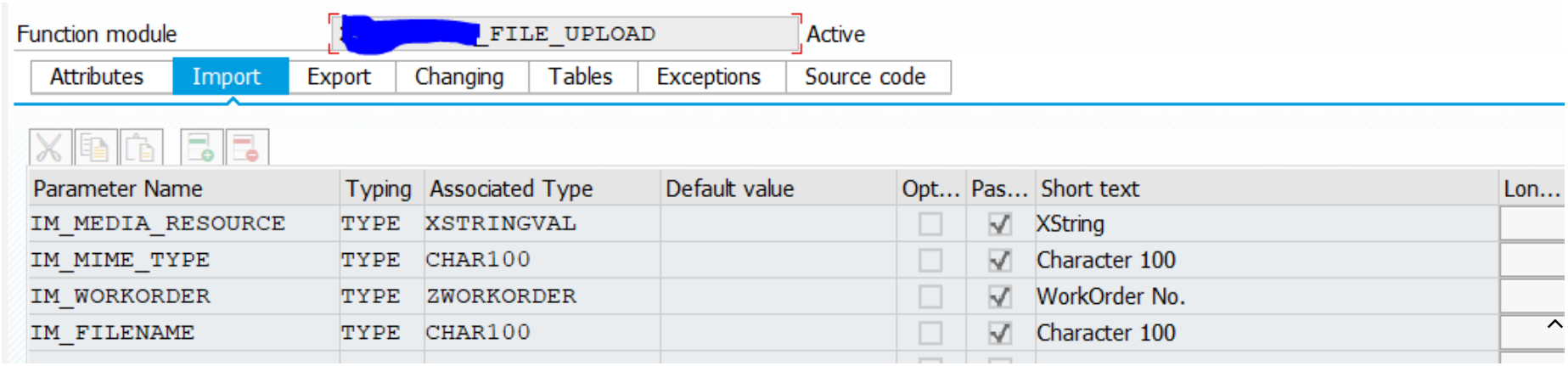
after creating table we developed three Function Modules.

Step-2: Function Modules

Please note all functions are RFC Enabled.

1. Upload

In this function you will import following parameters and store values in table.



Function module [redacted]_FILE_UPLOAD Active

Attributes | Import | Export | Changing | Tables | Exceptions | Source code

Parameter Name	Typing	Associated Type	Default value	Opt...	Pas...	Short text	Lon...
IM_MEDIA_RESOURCE	TYPE	XSTRINGVAL		☐	☑	XString	
IM_MIME_TYPE	TYPE	CHAR100		☐	☑	Character 100	
IM_WORKORDER	TYPE	ZWORKORDER		☐	☑	WorkOrder No.	
IM_FILENAME	TYPE	CHAR100		☐	☑	Character 100	

```
DATA: TEMP_WO LIKE ZBM_WORKORDERAPP-WORKORDER.
DATA: WA_UPLOAD TYPE ZBM_FILEUPLOAD.

* SELECT SINGLE WORKORDER INTO TEMP_WO FROM ZBM_WORKORDERAPP
* WHERE WORKORDER EQ IM_WORKORDER.
*
* CHECK TEMP_WO IS NOT INITIAL.

WA_UPLOAD-MANDT = SY-MANDT.
WA_UPLOAD-WORKORDER = IM_WORKORDER.
WA_UPLOAD-FILENAME = IM_FILENAME.
WA_UPLOAD-VALUE = IM_MEDIA_RESOURCE.
WA_UPLOAD-MIMETYPE = IM_MIME_TYPE.
WA_UPLOAD-DATESTAMP = SY-DATUM.
WA_UPLOAD-TIME = SY-UZEIT.

INSERT INTO ZBM_FILEUPLOAD VALUES WA_UPLOAD.
IF SY-SUBRC <> 0.
RAISE DATA_NOT_INSERTED.
ENDIF.

ENDFUNCTION.
```

please note this function module is for Create Odata service implementation

2. Get List of files

In my case user can add multiple files for specific workorder. To implement this functionality i created function module which returns table with file name and file type.

Function module [redacted]_GET_FILENAMES Active

Attributes | Import | Export | Changing | Tables | Exceptions | Source code

Parameter Name	Typing	Associated Type	Optional	Short text	Long Text
INFO_TAB	LIKE	ZBM_FILENAMES	☐	MrkWO - Work Order File Attachment Table	

please note this function module is for GetEntitySet Odata service implementation

3. Download

In this function i pass two parameters and get related file.

Function module [redacted]_FILE_DOWNLOAD Active

Attributes | Import | Export | Changing | Tables | Exceptions | Source code

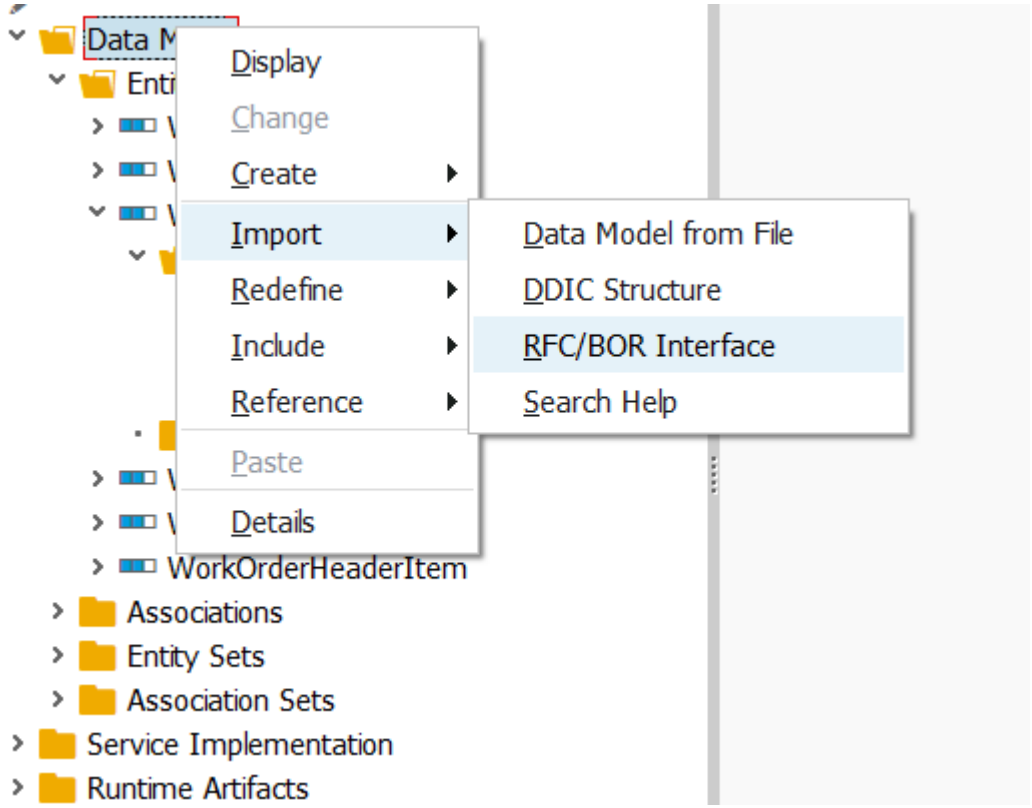
Parameter Name	Typing	Associated Type	Pass Value	Short text	Long Text
EX_MEDIA_RESOURCE	TYPE	XSTRINGVAL	☑	XString	
EX_MIME_TYPE	TYPE	CHAR100	☑	Character 100	
EX_FILENAME	TYPE	CHAR100	☑	Character 100	
EX_DATESTAMP	TYPE	DATE	☑	Date in CHAR format	
EX_TIME	TYPE	UZEIT	☑	Time	
			☐		

please note this function module is for GetEntity Odata service implementation

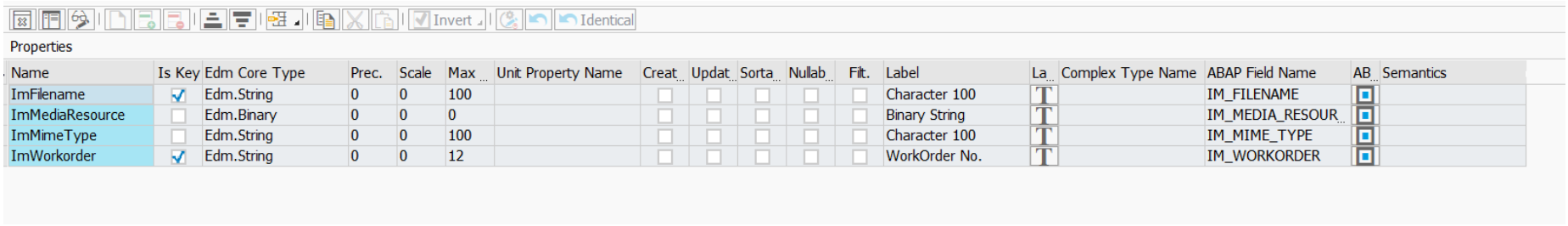
Section II: Front-End SAP Gateway

Step-1: Service Creation

I have created a project in SEGW and an entity type based upload function



following properties were created.

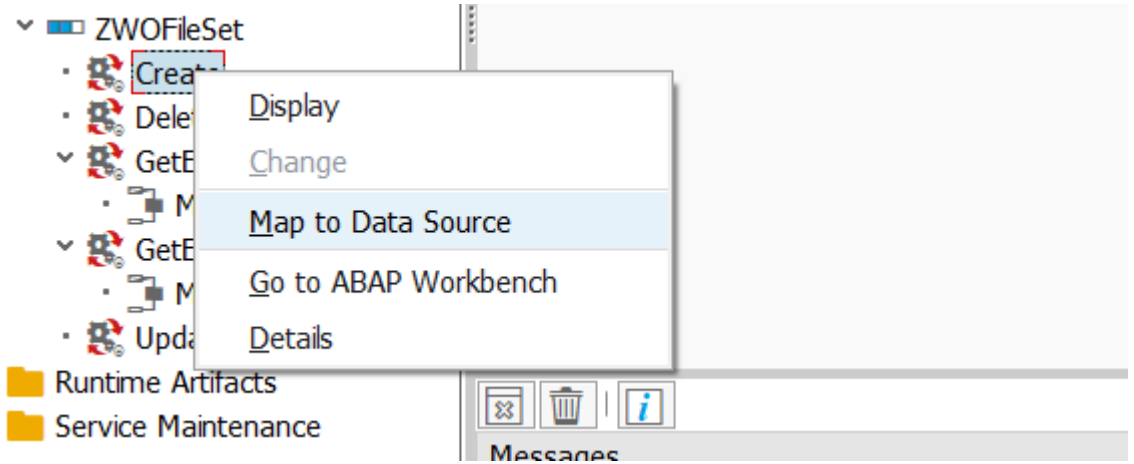


Properties

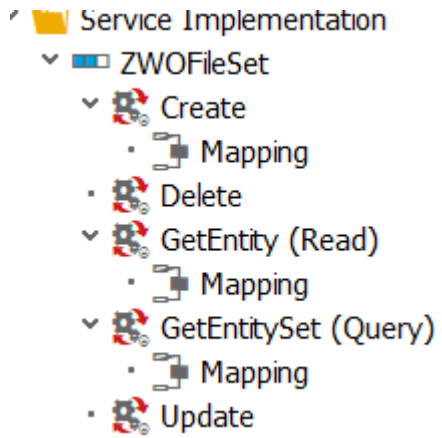
Name	Is Key	Edm Core Type	Prec.	Scale	Max	Unit Property Name	Creat	Updat	Sorta	Nullab	Filt.	Label	La	Complex Type Name	ABAP Field Name	AB	Semantics
ImFilename	☑	Edm.String	0	0	100		☐	☐	☐	☐	☐	Character 100	T		IM_FILENAME		
ImMediaResource	☐	Edm.Binary	0	0	0		☐	☐	☐	☐	☐	Binary String	T		IM_MEDIA_RESOUR		
ImMimeType	☐	Edm.String	0	0	100		☐	☐	☐	☐	☐	Character 100	T		IM_MIME_TYPE		
ImWorkorder	☑	Edm.String	0	0	12		☐	☐	☐	☐	☐	WorkOrder No.	T		IM_WORKORDER		

Step-2 : Service Implementation

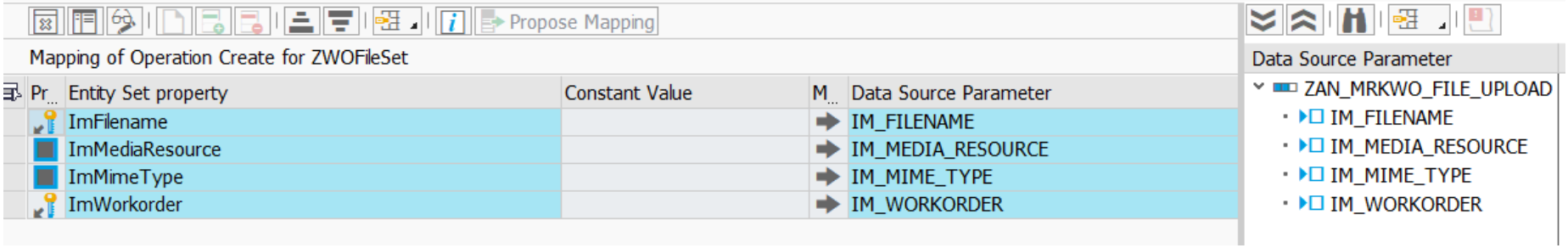
we will use mapping



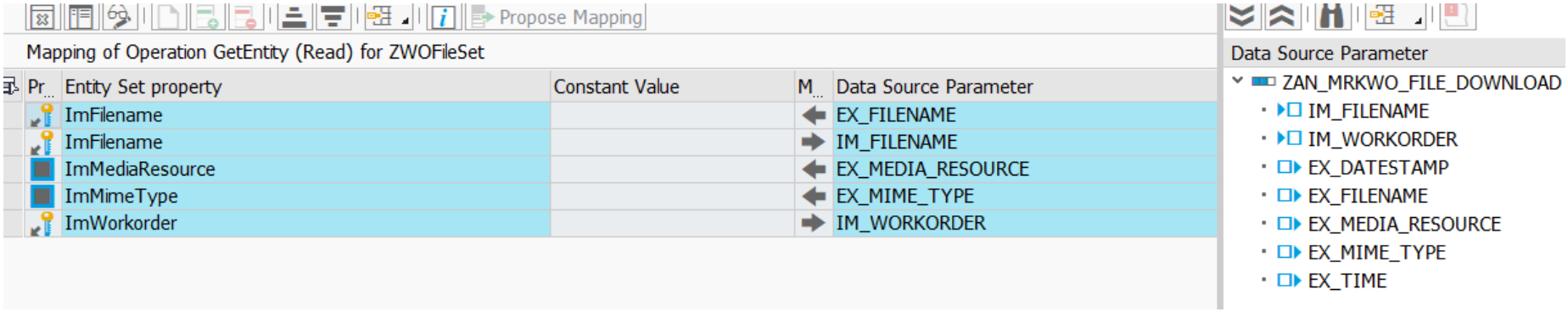
we have implement following services



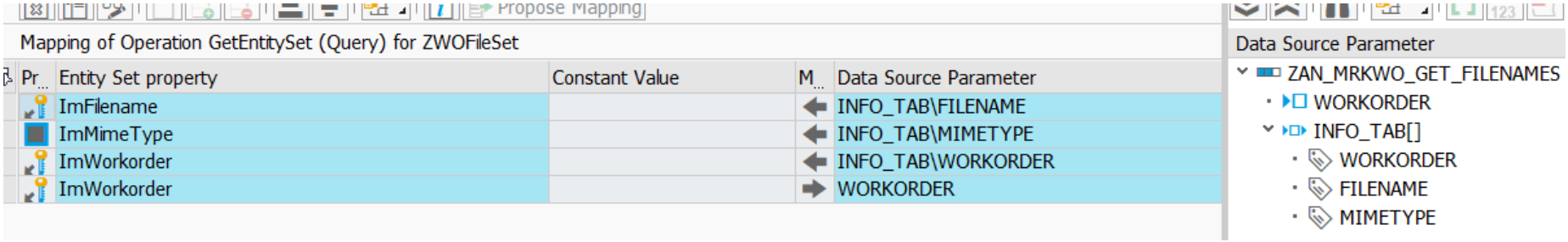
For Create we used upload function,



for Get Entity we used download

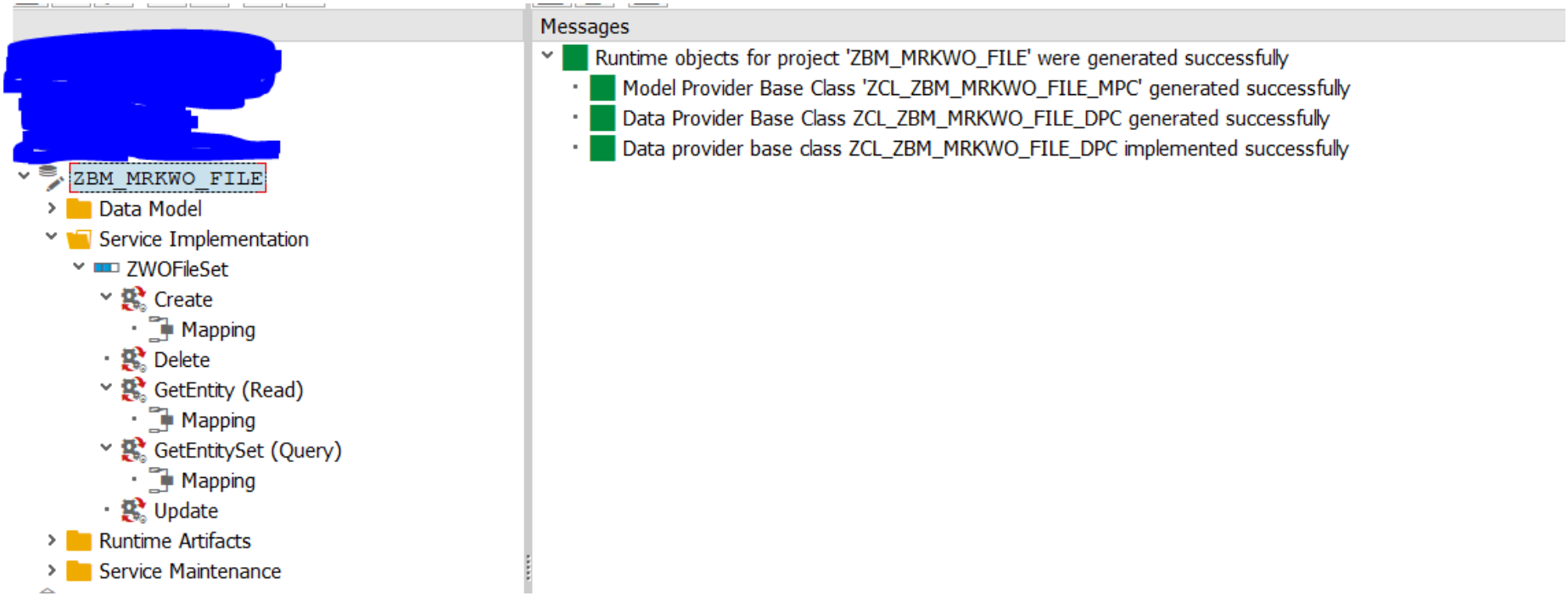


and for Get Entity Set we used Get file names function



thats it !

lets generate.



So we have implemented odata service successfully.

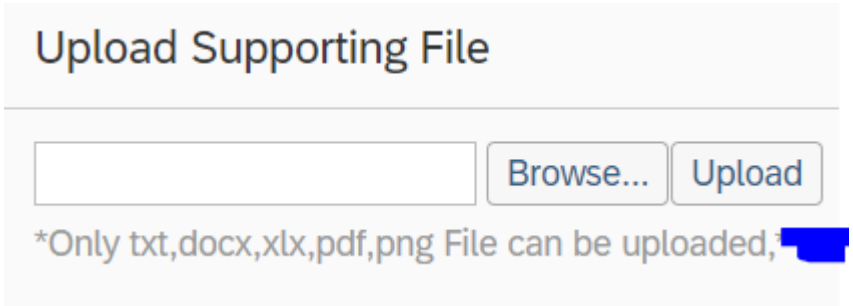
Section III: WebIDE

In this section we will see we can use above service in UI5 application

In this Ist we will upload the file to back end system,and the we will download file using UI5 application.

Step-1: Upload file using file uploader.

I will be using file uploader component.



On upload i have implemented postFiletobackend

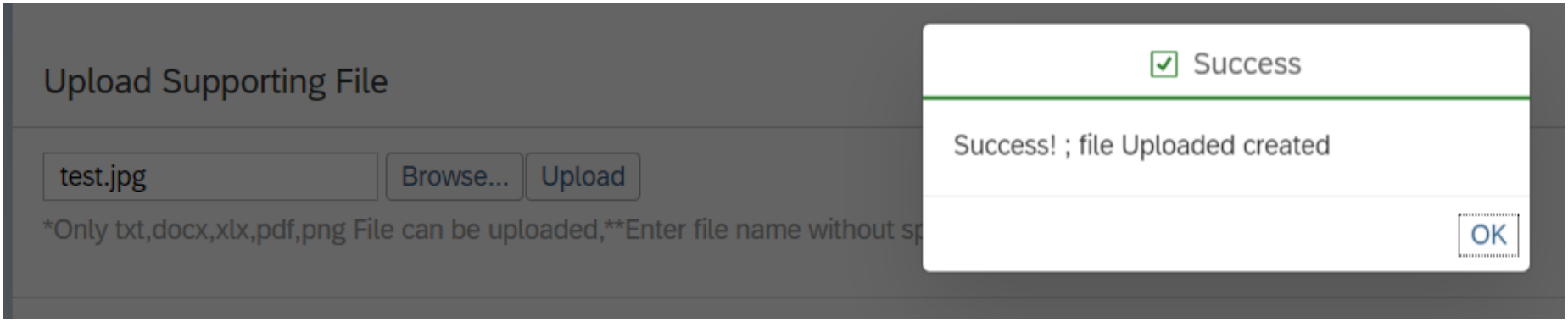
```
postFileToBackend: function (workorderId, fileName, fileType, Content) {
    var itemString = "/ZWOFileSet/";
    var serviceURI = "[redacted]";
    var oDataModel = new sap.ui.model.odata.v2.ODataModel(serviceURI);
    var payload = {
        "ImWorkorder": workorderId,
        "ImFilename": fileName,
        "ImMediaResource": btoa(Content),
        "ImMimeType": fileType
    };
    oDataModel.create(itemString, payload, {
        success: function () {
            sap.m.MessageBox.success("Success! ; file Uploaded created");
        }
    }, {
        error: function (oError) {}
    });
},
```

we have used JavaScript function btoa for encoding the file content

question arise from where filename,filetype and content come from.below is the code how get details from uploader.

onUpload: function (oEvent) {
var oFileUpload = this.getView().byId(“fileUploader”);
var domRef = oFileUpload.getFocusDomRef();
var file = domRef.files[0];
var that = this;
this.fileName = file.name;
this.fileType = file.type;
var reader = new FileReader();
reader.onload = function (e) {var vContent = e.currentTarget.result.replace(“data:” + file.type + “; base64,”, “”);
that.postFileToBackend(workorderId, that.fileName, that.fileType, vContent);

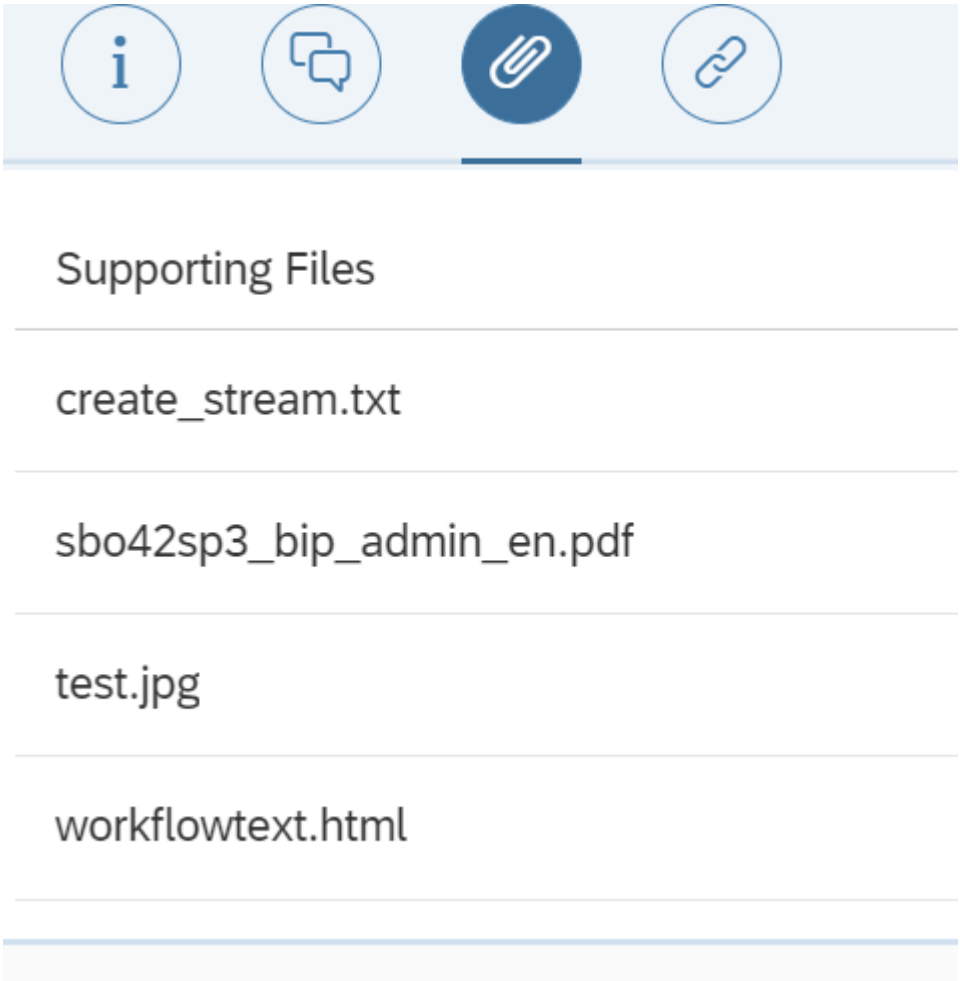
};
reader.readAsDataURL(file);
}
once the file uploaded you will get success message



Step-2: Download file

I didn’t use upload collection.Instead of that i have just list down the file related to workorder using list object.

and by using get entity set we will get following view.



Now i have implemented download function on click of row.

```
downloadFile: function (oEvent) {
    //This code was generated by the layout editor.
    var workorder = oEvent.getSource().getBindingContext().getProperty("Workorder");
    var filename = oEvent.getSource().getBindingContext().getProperty("Filename");
//  sap.m.MessageBox.success(workorder + "with     " + filename);

    var itemString = "/ZWOFileSet(ImFilename='" + filename + "',ImWorkorder='" + workorder + "')";
    var serviceURI = "[redacted]";
    var oModelFile = new sap.ui.model.odata.v2.ODataModel(serviceURI);
    oModelFile.read(itemString, {
        success: function (odata, response) {
            var fName = odata.ImFilename;
            var fType=odata.ImMimeType;
            var fMres=atob(atob(odata.ImMediaResource));
        //  sap.m.MessageBox.success("Success! ; file received  with Name :"+fName+"with type :"+fType+" with
            if (fType === "text/plain") {

                sap.ui.core.util.File.save(fMres, fName.replace(".txt", ""), "txt", fType, "utf-8", true);
            } else {
                var byteNumbers = new Array(fMres.length);
                for (var i = 0; i < fMres.length; i++) {
                    byteNumbers[i] = fMres.charCodeAt(i);
                }
                var byteArray = new Uint8Array(byteNumbers);
                var blob = new Blob([byteArray], {
                    type: fType
                });
                var url = URL.createObjectURL(blob);
                window.open(url, '_blank');
            }

        },
        error: function (oError) {}
    });
```

I have tried to use sap.ui.core.util.File.save() function but only getting blank or corrupt file.only text file was working fine.

To achieve the goal i have used native JavaScript functionality by creating blob from the file “Value” and open the blob by using url.

SAPUI5 (http://www.sapspot.com/category/sapui5/) NW ABAP Gateway (OData) (http://www.sapspot.com/tag/nw-abap-gateway-odata/), sap fiori (http://www.sapspot.com/tag/sap-fiori/), sapui5 (http://www.sapspot.com/tag/sapui5/). permalink (http://www.sapspot.com/upload-download-file-in-sap-ui5-application-using-gateway/).

SRM UI5 Boosting and Ranking (http://www.sapspot.com/srm-ui5-boosting-and-ranking/)

Smart Data Integration: Increase Initial Load Performance for Replication Tasks (http://www.sapspot.com/smart-data-integration-increase-initial-load-performance-for-replication-tasks/)

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