

Kam pershtatur sistemin per kater rastet e biznesit, duke bere ndryshime ne te dy anet, ate te front-end dhe back-end. Perdora TypeScript dhe Plugins, zhvillova ne Visual Studio dhe perdora mjete si Plugin Registration, XRM Toolbox dhe Fetch XML Builder.

### Business Scenario 1

Si fillim kam krijuar Entitetin Skills me fusaht Skill Proficiency Rating(Choice) dhe User(Lookup)  
Kam ndertuar nje Lookup Polymorphic I cili kerkon njekohesisht ne Entitetin Skills dhe System User kjo eshte per te identifikuar lehtesisht Userat qe kan nje Skill qe une po kerkoj per kete Entitet. Rezultati eshte paraprakisht I renditur nga niveli me I larte i Skills te me i uletit. Lookup-i nuk do te me lejoj te ruaj nje Entitet te tipit Skill, vetem System User, pasi System Useri mund te jete owner I nje Opportunity.

```
let Form: D365.Sdk.FormContext;  
0 references  
export async function OnLoad(executionContext: D365.Sdk.ExecutionContext) {  
    Form = executionContext.getFormContext() as D365.Sdk.FormContext;  
    TeamOnChange();  
}  
  
1 reference  
export async function TeamOnChange() {  
    let Team = Form.getControl("new_salesteamid").getAttribute().getValue();  
  
    if (Team) {  
        if (Team[0].entityType == "cr260_skill") {  
            const confirmStrings = {  
                text: "You can not select a skill for this field. Please select a record from Teams Entity!" ,  
                title: 'Warning!' ,  
            };  
  
            const confirmOptions = {  
                height: 200,  
                width: 400,  
            };  
  
            Helper.CRM.getXrm().Navigation.openAlertDialog(confirmStrings, confirmOptions);  
        }  
    }  
}
```

Gjithashtu jam kujdesur qe kur Sales Agent te assign-ohet ne kete fushe te Updateohet automatikisht edhe fusha Owner. Jam kujdesur qe fusha OwnerId te updatohet ne pre-operation, kjo per shkak se mund te hamendesoj se ka procese te tjera qe behen trigger ne rast te OwnerId Change, pra per te eliminuar trafik te pa nevojshem e konfiguroj stepin ne pre-operation.

```
try  
{  
    if (Target.Contains("new_salesteamid"))  
    {  
        Target["ownerid"] = Target.GetAttributeValue<EntityReference>("new_salesteamid");  
    }  
}
```

Shenim: Per nje kerkim me te mire, do te krijohet nje View e re ne System User qe filtron vetem Perdoruesit qe jane pjese e Ekipit te Shitjes. Kjo View do te zgjidhet per te dy Lookups ne entitetet e Skills dhe Opportunity.

## Business Scenario 2

- Onboarding and NDA agreements can only be created once for any account

Per kete rast kam ndertuar nje Plugin dhe ne te nje fetchXml me conditon Status dhe Account id dhe kontrolloj nese ka rekorde aktive te lidhura me Accountin ne fushen Lookup (per OptionSet Onboarding dhe NDA). Ne rastet qe fetchXml kthen me shume se 0 rekorde(step I Plugin eshte ne PreOperation), shfaq nje error per Userin "There already is an agreement of type Onboarding associated with this Account".

C# Code

```
EntityReference AccountER = Target.GetAttributeValue<EntityReference>("cr260_account");
Entity Account = service.Retrieve(AccountER.LogicalName, AccountER.Id, new ColumnSet("primarycontactid"));
EntityReference Contact = Account.GetAttributeValue<EntityReference>("primarycontactid");
int AgreementType = Target.GetAttributeValue<OptionSetValue>("cr260_agreementtype").Value;

switch (AgreementType)
{
    case (int)AgreementType.Onboarding:
        //Check if any Onboarding Agreements exists with selected Account.
        var fetchOnboarding = $"<fetch version='1.0' mapping='logical' no-lock='false' distinct='true'>
            <entity name='cr260_agreement'>
                <attribute name='cr260_account' />
                <attribute name='cr260_agreementtype' />
                <filter type='and'>
                    <condition attribute='statecode' operator='eq' value='{(int)stateCode.Active}' />
                    <condition attribute='cr260_account' operator='eq' value='{AccountER.Id}' />
                    <condition attribute='cr260_agreementtype' operator='eq' value='{(int)AgreementType.Onboarding}' />
                </filter>
            </entity>
        </fetch>";

        EntityCollection Onboardings = service.RetrieveMultiple(new FetchExpression(fetchOnboarding));

        if (Onboardings.Entities.Count > 0)
        {
            throw new InvalidPluginExecutionException("There already is an agreement of type Onboarding associated with this Account");
        }
        else if (Target.Contains("cr260_agreementstartdate") && Target.Contains("cr260_agreementenddate"))
        {
            break;
        }
    case (int)AgreementType.NDA:
        //Check if any NDAs Agreements exists with selected Account.
        var fetchNDA = $"<fetch version='1.0' mapping='logical' no-lock='false' distinct='true'>
            <entity name='cr260_agreement'>
                <attribute name='cr260_account' />
                <attribute name='cr260_agreementtype' />
                <filter type='and'>
                    <condition attribute='statecode' operator='eq' value='{(int)stateCode.Active}' />
                    <condition attribute='cr260_account' operator='eq' value='{AccountER.Id}' />
                    <condition attribute='cr260_agreementtype' operator='eq' value='{(int)AgreementType.NDA}' />
                </filter>
            </entity>
        </fetch>";

        EntityCollection NDA = service.RetrieveMultiple(new FetchExpression(fetchNDA));

        if (NDA.Entities.Count > 0)
        {
            throw new InvalidPluginExecutionException("There already is an agreement of type NDA associated with this Account");
        }
}
```

- We want to have this field set automatically to yes, whenever the Onboarding agreement connected to the account related to the current opportunity contains values in Agreement start date and agreement end date.

Per kete rast ndertoj nje QueryExpression per entitetin Opportunity me kushtet Status dhe ParentAccount, ky l fundit duhet te perputhet me Account per te cilin po krijojne Agreement me type Onboarding, me nje foreach Loop Update-uj fushen T&C per secilin Opportunity. Fusha eshte hidden ne Form dhe Shfaqje ne BPF Step ne menyre qe te aksesojme fushen.

```
else if (Target.Contains("cr260_agreementstartdate") && Target.Contains("cr260_agreementenddate"))
{
    //Create Query with filter Account Id and Update Field "cr260_tc" on Opportunities.
    QueryExpression query = new QueryExpression("opportunity");
    query.ColumnSet = new ColumnSet("parentaccountid", "statecode");

    FilterExpression filter = new FilterExpression(LogicalOperator.And);
    ConditionExpression stateCondition = new ConditionExpression("statecode", ConditionOperator.Equal, (int)stateCode.Active);
    ConditionExpression accountCondition = new ConditionExpression("parentaccountid", ConditionOperator.Equal, Account.Id);
    filter.AddCondition(stateCondition);
    filter.AddCondition(accountCondition);

    query.Criteria = filter;

    EntityCollection Opportunities = service.RetrieveMultiple(query);

    foreach(var Opportunity in Opportunities.Entities){
        Entity OpportunityEnt = new Entity(Opportunity.LogicalName, Opportunity.Id);
        bool tc = Opportunity.GetAttributeValue<bool>("cr260_tc");

        Opportunity["cr260_tc"] = true;
        service.Update(Opportunity);
        Console.WriteLine("Updated Records" + Opportunity.Id.ToString());
    }
}
```

### Business Scenario 3

- **“Whenever creating a work order, I want to be able to stop the creator if they try to assign it to an agent that is not scheduled on that specific day of the week.”**

Per kete kerkese, kam ndertuar nje Plugin I cili kontrollon fushat “Is Scheduled” Boolean ne Entitetin Agent, krijoj nje variable Boolean me emrin “scheduledOnMatches” dhe I jap vlere True. Me nje metode Switch verifikojme ditën e perzgjedhur dhe kontrollojme nese agjenti eshte I disponueshem. Ne rast se agjenti nuk eshte I disponueshem shfaq nje Error per userin "Agent " + AgentName(perdor vleren dinamike per te shfaqur emrin e agjenti.) + " isn't available on that day".

```
ColumnSet allColumns = new ColumnSet(true);
EntityReference AgentER = Target.GetAttributeValue<EntityReference>("new_assignedagent");
Entity AgentEnt = service.Retrieve(AgentER.LogicalName, AgentER.Id, allColumns);

string AgentName = AgentEnt.GetAttributeValue<string>("new_agentname");
bool WorksOnMonday = AgentEnt.GetAttributeValue<bool>("new_isscheduledmonday");
bool WorksOnTuesday = AgentEnt.GetAttributeValue<bool>("new_isscheduledtuesday");
bool WorksOnWednesday = AgentEnt.GetAttributeValue<bool>("new_isscheduledwednesday");
bool WorksOnThursday = AgentEnt.GetAttributeValue<bool>("new_isscheduledthursday");
bool WorksOnFriday = AgentEnt.GetAttributeValue<bool>("new_isscheduledfriday");
int scheduleDay = Target.GetAttributeValue<OptionSetValue>("new_scheduledon").Value;

bool scheduledOnMatches = true;

switch (scheduleDay)
{
    case (int)scheduleDay.Monday:
        scheduledOnMatches = WorksOnMonday;
        break;
    case (int)scheduleDay.Tuesday:
        scheduledOnMatches = WorksOnTuesday;
        break;
    case (int)scheduleDay.Wednesday:
        scheduledOnMatches = WorksOnWednesday;
        break;
    case (int)scheduleDay.Thursday:
        scheduledOnMatches = WorksOnThursday;
        break;
    case (int)scheduleDay.Friday:
        scheduledOnMatches = WorksOnFriday;
        break;
}
if (scheduledOnMatches != true)
{
    throw new InvalidPluginExecutionException("Agent " + AgentName + " isn't available on that day");
}
```

### Business Scenario 4

- **“Whenever I create a Lead, I want the topic to populate with the date of creation”**

Per te zgjidhur kete, kam krijuar nje Plugin qe ekzekutohet ne PreOperation te eventit Create per te pasur qasje ne vleren e fushtes "Topic" qe perdoruesi ka populluar dhe per te shtuar daten e krijimit ne kete fushe.

C# Code

```
string Topic = Target.GetAttributeValue<string>("subject");
Entity newTask = new Entity("task");

newTask["regardingobjectid"] = new EntityReference("lead", Target.Id);
newTask["subject"] = "Follow Up";
Target["subject"] = Topic + " " + DateTime.UtcNow.ToString("dd/MM/yyyy");//Format to Input only the Date.
service.Update(Target);
// service.Create(newTask);
```

- **“I want the phone number of the lead to be checked for format and validity issues, such as inserting letters and country codes that are different from +355. Also, the length of the numbers coming after +355 should not be longer than 9 numbers.”**

Kete rast e kam menaxhuar duke konfiguruar nje “Input Mask” per fushen Business Phone me validimet perkatese.

Form: Lead - Google Chrome

org6075e347.crm4.dynamics.com/main.aspx?pagetype=formeditor&appSolutionId=%7b7E65C020-F97B-EE11-8178-002248816117%7d&etc=4...

### Field Properties

Modify this field's properties.

Display Formatting Details Events Business Rules Controls

Control	Web	Phone	Tablet
Text Box (default)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Input mask (retired)	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

Add Control

Input mask (retired)

Property	Value
Field *	telephone1
Mask *	+355000000000 (SingleLine.Text)
Mask Description	

OK Cancel

Field Explorer

Filter: All Fields

☒ Only show unused fields

- (Deprecated) Lead Grade
- (Deprecated) Lead Score
- (Deprecated) Lead Score Trend
- (Deprecated) Score History
- (Deprecated) Score Reasons
- Address 1: Address Type
- Address 1: County
- Address 1: Fax
- Address 1: Latitude
- Address 1: Longitude
- Address 1: Name
- Address 1: Post Office Box

New Field

- **During the duplicate check process, I want to check for duplication based on the business phone column too.**

Kete kerkese e kam menaxhuar duke krijuar nje Duplicate Detection Rule per fushen Business Phone.

Duplicate records found

Merge to an existing record by choosing a record from matched list and clicking merge. To proceed without merging, click Ignore and save. [Learn more](#)

**Current record**

Name	Company Name	Email	Business Phone
Loran		test@gmail.com	777777777

Duplicates found: Lead (1)

Name	Email	Modified On	Business Phone
Solan	Mar@gm.com	11/10/2023 2:00 AM	777777777

Ignore and save

Merge

Cancel

- **After the lead is created, I want a task to be created automatically and tied to the current lead, with the title "Follow Up".**

Per kete rast kam krijuar nje On-Demand Workflow Process I cili Trigerohet ne krijim te nje recordi ne entitetin Lead. Process ka nje step I cili krijon nje record ne entitetin Task me Subject "Follow Up" dhe ne fushen Regarding(Lookup) vendoset recordi Lead I cili sapo u krijua.

## Workflow Process

The screenshot displays the 'Create Task' workflow process configuration in Microsoft Dynamics 365. The 'Subject' field is set to 'Follow Up'. The 'Regarding' field is set to 'Lead(Lead)'. The 'Form Assistant' shows the 'Operator' field set to 'Lead'. The 'Available to Run' section is checked for 'Run this workflow in the background' and 'As an on-demand process'. The 'Workflow Job Retention' section is checked for 'Automatically delete completed jobs'.

Te njejtin veprim mund ta kryejme edhe me ane te nje Plugin:

```

string Topic = Target.GetAttributeValue<string>("subject");
Entity newTask = new Entity("task");

newTask["regardingobjectid"] = new EntityReference("lead", Target.Id);
newTask["subject"] = "Follow Up";
Target["subject"] = Topic + " " + DateTime.UtcNow.ToString("dd/MM/yyyy");//Format to Input only the Date.
service.Update(Target);
// service.Create(newTask);

```

What other types of customizations and extensions can be done in MSDyn365 and when would you choose which?

### **Automatizimi i Proceseve me Power Automate:**

- Kur te perdoret:

-Perdoret kur eshte e nevojshme te automatizohen procese te ndryshme ne Dynamics 365 ose te realizohen integrimet me aplikacione te tjera. Power Automate mund te perdoret per te reaguar ne ngjarje te ndryshme, per te krijuar flow automatike, dhe per te lidhur veprimet midis shume aplikacioneve ne nje menyre te koordinuar.

-Pse te perdoret:

- Lejon perdoruesit te krijojne automatizime pa nevojte per njohuri te thella ne programim. Ne vend qe te shkruajne kod, perdoruesit mund te perdorin nje nderfaqe te thjeshte per te percaktuar rrjedhat e punes dhe veprimet automatike.

- Mundeson integrimin me sherbime te ndryshme dhe aplikacione jashte Dynamics 365, duke lejuar organizaten te krijojte nje ekosistem te nderlidhur te aplikacioneve.

- Si te perdoret:

- Perdoruesit perdorin nderfaqen e Power Automate per te krijuar flow te punes. Hapat mund te jene si te reaguaret ne nje ngjarje ne Dynamics 365, dergimi i nje emaili, ose ekzekutimi i nje veprimi ne nje aplikacion tjeter.

- Shembuj konkret:

- Kur nje rekord ne Dynamics 365 eshte krijuar, mund te shkaktohet nje flow per te njoftuar perdoruesit, per te derguar nje email, ose per te perdorur te dhenat ne nje aplikacion te trete.

- Integrimi i Dynamics 365 me nje sherbim te trete si Google Sheets per sinkronizimin e te dhenave midis platformave.