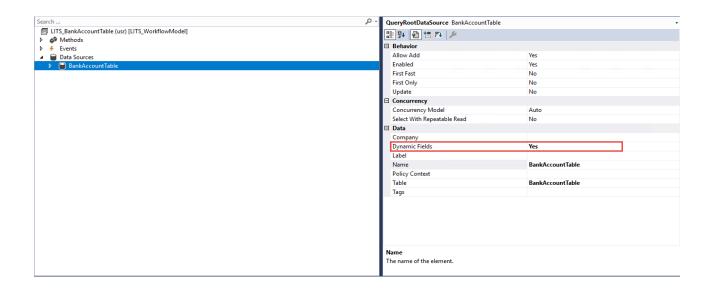
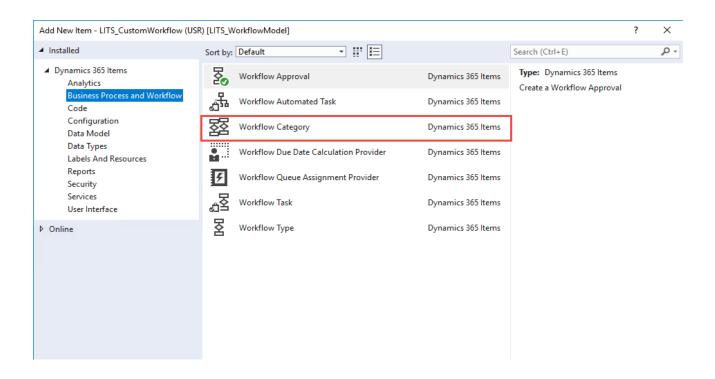
Custom workflow for Bank Account in Microsoft Dynamics 365 for Operations

Bilal Ahmed

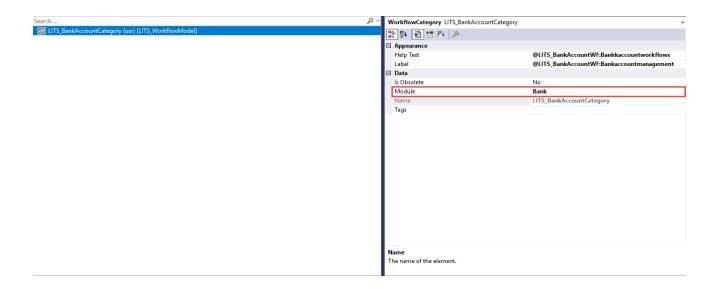
 Make a query and add BankAccountTable to datasource and set properties dynamic fields to Yes.



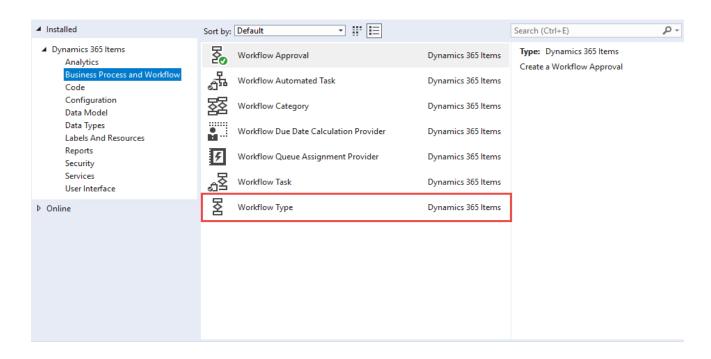
• Add workflow category to your project.

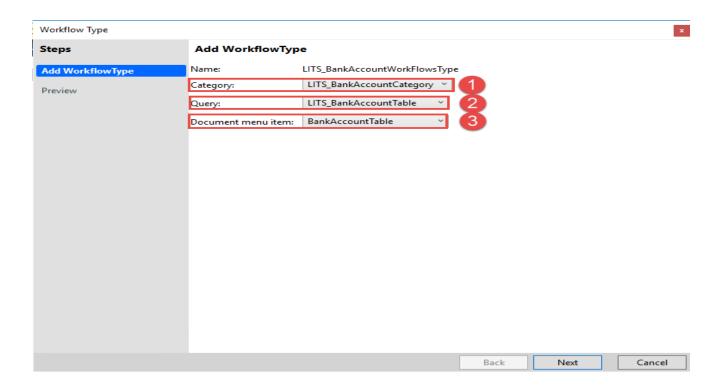


• Set module to Bank.



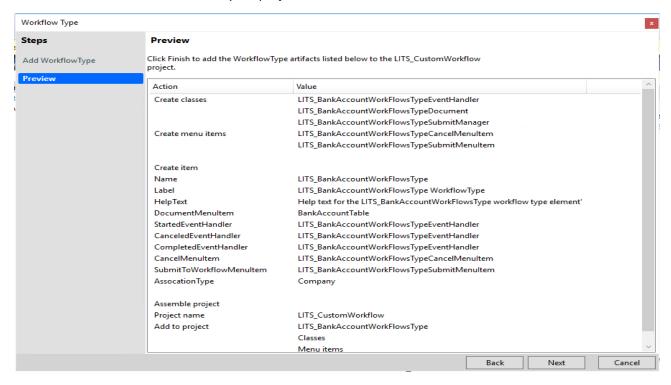
Add workflow type.



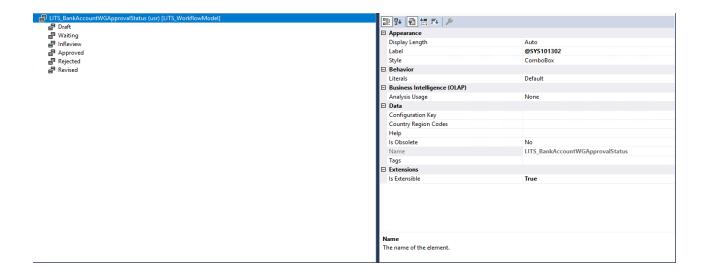


- 1. Select workflow category.
- 2. Select the query.
- 3. Select form's menuitem.

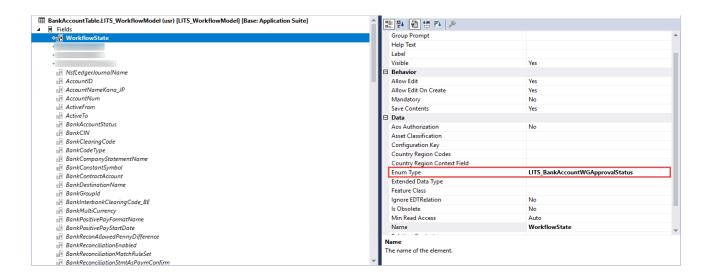
All these items will be added to your project.



Add base enum and set the label for each element.



• Create extension of BankAccountTable and add fields.



• Add field in Overview field group.

Add status handler class.

Code for Status handler class:

```
public class LITS_BankAccountWFStatusHandler
{
    public static void setState(RecId _bankAccountRecid, LITS_BankAccountWGApprovalStatus_
    _state)
    {
        BankAccountTable accountTable;

        select forupdate accountTable where accountTable.RecId == _bankAccountRecid;
        ttsbegin;

        if(accountTable.RecId && accountTable.WorkflowState != _state)
        {
            accountTable.WorkflowState = _state;
            accountTable.update();
        }
}
```

```
ttscommit;
}
```

Add a base class

Code for base class:

```
public class LITS_BankAccountWFBase
    public boolean validateContext(WorkFlowContext _context)
    {
        BankAccountTable bankAccountTable;
        if(_context.parmTableId() != tableNum(BankAccountTable))
        {
            throw Error('Work flow must be on Bank Account Table');
        }
        select RecId from bankAccountTable
            where bankAccountTable.RecId == _context.parmRecId();
        if(bankAccountTable.RecId == 0)
            throw Error('Bank Account not found for workflow');
        return true;
   }
   public boolean canCompleteWF(WorkFlowContext _context)
        BankAccountTable bankAccountTable;
       boolean canComplete = true;
               select RecId,workflowstate,reviewStatus from bankAccountTable where
       bankAccountTable.RecId == _context.parmRecId();
        if(bankAccountTable.RecId != 0)
```

```
{
            switch(bankAccountTable.WorkflowState)
                case LITS_BankAccountWGApprovalStatus::Revised:
                case LITS BankAccountWGApprovalStatus::Waiting:
                case LITS BankAccountWGApprovalStatus::InReview:
                    canComplete = false;
                    break;
                default:
                    canComplete = true;
            switch(bankAccountTable.ReviewStatus)
                case LITS_BankAccountReviewStatus::PendingApproval:
                case LITS BankAccountReviewStatus::Waiting:
                    canComplete = false;
                    break;
            }
        }
        return canComplete;
    }
}
```

• Open the class "LITS_BankAccountWorkflowTypeEventHandler" which was added by the system and extends this class with your base class.

Code for LITS_BankAccountWorkflowTypeEventHandler class:

```
/// <summary>
/// The LITS_BankAccountWorkflowTypeEventHandler workflow event handler.
/// </summary>
```

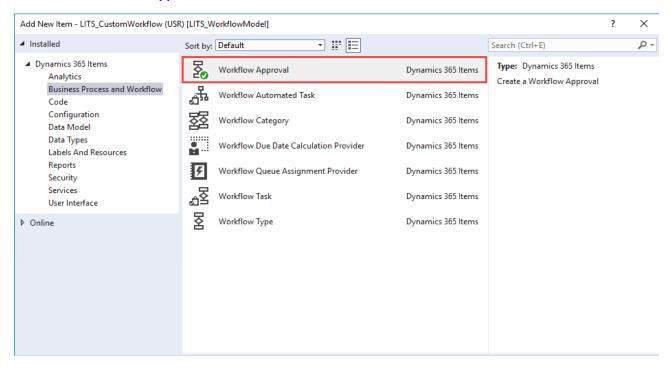
```
public class LITS_BankAccountWorkflowTypeEventHandler extends LITS_BankAccountWFBase
implements WorkflowCanceledEventHandler,
      WorkflowCompletedEventHandler,
      WorkflowStartedEventHandler
{
    public void started(WorkflowEventArgs workflowEventArgs)
        workflowcontext context;
       context = workflowEventArgs.parmWorkflowContext();
       if(this.validateContext(context))
                   LITS BankAccountWFStatusHandler::setState(context.parmRecId(),
       LITS BankAccountWGApprovalStatus::Waiting);
       }
      }
    public void canceled(WorkflowEventArgs workflowEventArgs)
       workflowcontext context;
        context = workflowEventArgs.parmWorkflowContext();
        if(this.validateContext(context))
                   LITS BankAccountWFStatusHandler::setState(context.parmRecId(),
      LITS_BankAccountWGApprovalStatus::Draft);
       }
       }
    public void completed(WorkflowEventArgs _workflowEventArgs)
       workflowcontext context;
        context = workflowEventArgs.parmWorkflowContext();
        if(this.validateContext(context) && !this.canCompleteWF(context))
                   LITS_BankAccountWFStatusHandler::setState(context.parmRecId(),
       LITS_BankAccountWGApprovalStatus::Draft);
       }
       }
}
```

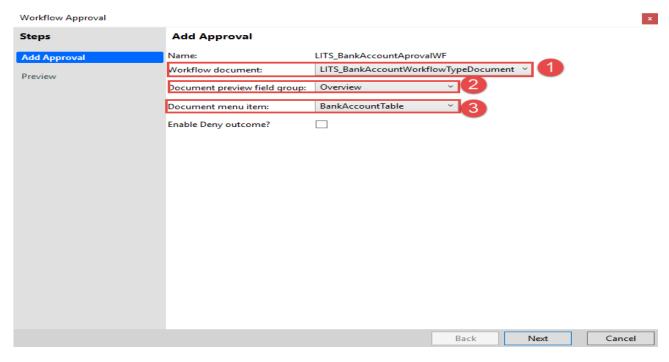
 Open the class "LITS_BankAccountWorkflowTypeSubmitManager" which was added by the system and extends this class with your base class.

Code for LITS_BankAccountWorkflowTypeSubmitManager class:

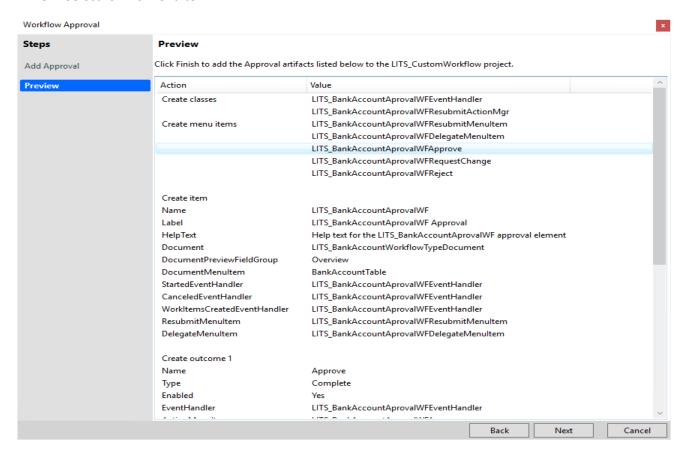
```
/// <summary>
/// The LITS_BankAccountWorkflowTypeSubmitManager menu item action event handler.
/// </summary>
public class LITS_BankAccountWorkflowTypeSubmitManager
    public static void main(Args args)
        RecId recid;
        CompanyId companyid;
        TableId tableid;
        workflowcomment comment;
        workflowsubmitdialog dialog;
        workflowversiontable version;
        recid = args.record().RecId;
        companyid = args.record().dataareaid;
        tableid = args.record().tableid;
        if(tableid != tableNum(BankAccountTable) || recid == 0)
            throw Error ('@SYS19306', funcName());
        }
        version = args.caller().getActiveWorkFlowConfiguration();
        dialog = workflowsubmitdialog::construct(version);
        dialog.run();
        if(dialog.parmIsClosedOK())
            comment = dialog.parmWorkflowComment();
            WorkFlow::activateFromWorkflowConfigurationId(version.ConfigurationId,
                                                             recid,
                                                             comment,
                                                             NoYes::No);
```

Add workflow approval



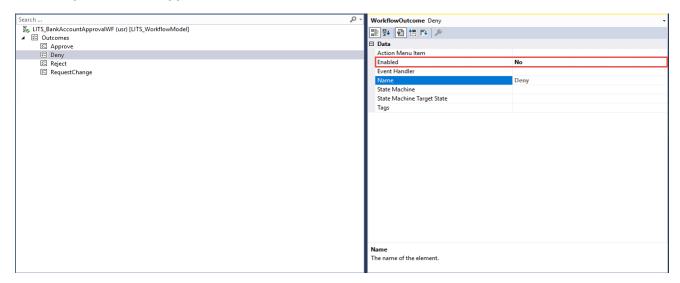


- 1. Select workflow document class which was added by system.
- 2. Select Overview field group as workflowstate field was added in this field group.
- 3. Select form's menuitem.

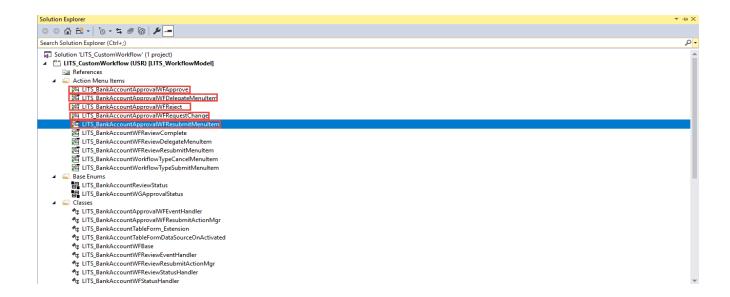


All these elements will be added in your project automatically.

• Open workflow approval



 Rename label for these action menu items to "Approve", "Delegate", "Reject", "Request Change", "Resubmit".



• Open "LITS_BankAccountApprovalWFEventHandler" class and extends it to base class

Code for class "LITS_BankAccountApprovalWFEventHandler":

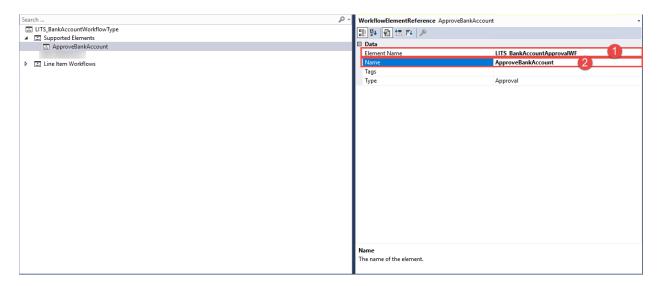
```
/// <summary>
/// The LITS_BankAccountApprovalWFEventHandler workflow outcome event handler.
public final class LITS_BankAccountApprovalWFEventHandler extends LITS_BankAccountWFBase
implements WorkflowElementCanceledEventHandler,
       WorkflowElemChangeRequestedEventHandler,
       WorkflowElementCompletedEventHandler,
      WorkflowElementReturnedEventHandler,
      WorkflowElementStartedEventHandler,
      WorkflowWorkItemsCreatedEventHandler
{
    public void started(WorkflowElementEventArgs _workflowElementEventArgs)
       {
        workflowcontext context;
        context = _workflowElementEventArgs.parmWorkflowContext();
        if(this.validateContext(context))
        {
                   LITS_BankAccountWFStatusHandler::setState(context.parmRecId(),
       LITS_BankAccountWGApprovalStatus::Waiting);
       }
       }
    public void canceled(WorkflowElementEventArgs _workflowElementEventArgs)
        workflowcontext context;
        context = _workflowElementEventArgs.parmWorkflowContext();
        if(this.validateContext(context))
                   LITS BankAccountWFStatusHandler::setState(context.parmRecId(),
       LITS BankAccountWGApprovalStatus::Draft);
       }
       }
```

```
public void completed(WorkflowElementEventArgs _workflowElementEventArgs)
      {
       workflowcontext context;
        context = _workflowElementEventArgs.parmWorkflowContext();
        if(this.validateContext(context))
       {
                   LITS BankAccountWFStatusHandler::setState(context.parmRecId(),
       LITS BankAccountWGApprovalStatus::Approved);
       }
      }
    public void changeRequested(WorkflowElementEventArgs workflowElementEventArgs)
       workflowcontext context;
        context = _workflowElementEventArgs.parmWorkflowContext();
        if(this.validateContext(context))
        {
                   LITS BankAccountWFStatusHandler::setState(context.parmRecId(),
       LITS BankAccountWGApprovalStatus::Revised);
      }
    public void returned(WorkflowElementEventArgs workflowElementEventArgs)
        workflowcontext context;
        context = workflowElementEventArgs.parmWorkflowContext();
        if(this.validateContext(context))
                   LITS_BankAccountWFStatusHandler::setState(context.parmRecId(),
       LITS_BankAccountWGApprovalStatus::Rejected);
       }
       }
    public void created(WorkflowWorkItemsEventArgs _workflowWorkItemsEventArgs)
       WorkflowElementEventArgs workFlowArgs =
       workflowWorkItemsEventArgs.parmWorkFlowElementEventArgs();
       workflowcontext context;
        context = workFlowArgs.parmWorkflowContext();
        if(this.validateContext(context))
                   LITS_BankAccountWFStatusHandler::setState(context.parmRecId(),
       LITS_BankAccountWGApprovalStatus::InReview);
      }
}
```

Open the Approval Resubmit manager class

Code for "LITS_BankAccountApprovalWFResubmitActionMgr" class

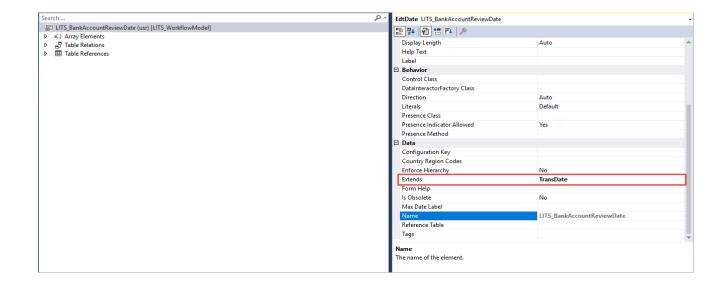
• Open workflow type and add new workflow element reference in supported elements node.



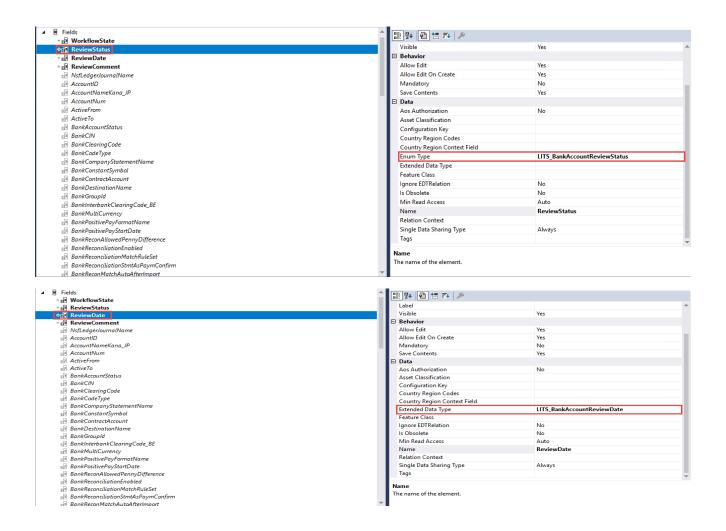
- 1. Element name should be your workflow approval name.
- 2. Rename element reference.
- Create another base enum and set the label for each element.

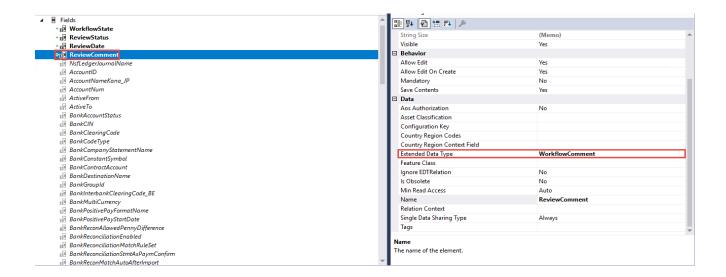


• Create an EDT Date and extends it with TransDate.

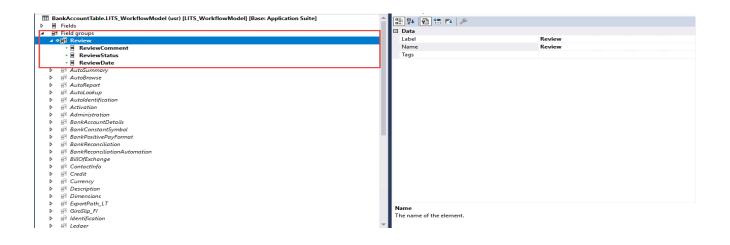


• Add three more fields in Bank Account Table and set the properties.





Create new field group and add these fields in this group.



Create extension of BankAccountTable form and drag drop this field group.

```
    HeaderInfo (Group)
    TabHeader (Tab)

           ⊞ BillOfExchange
           ContactInfo
                                                                                                     Methods
                                                                                                     Events
                                                                                                     TabPageGeneral (Tab Page) | Pattern: Fields and Field Groups
           Currency
           ■ Description
                                                                                                       Methods

F Events
           ☐ Dimensions
☐ ExportPath_LT
                                                                                                       | Identification (Group)

□ GiroSlip FI

                                                                                                       Description (Group)

☐ Identification

                                                                                                       BankAccountCodes (Group)
           Currency (Group)

■ NonSufficientFunds

           @ Overview
                                                                                                       |"" | Administration (Group)
           PaymentManagement
                                                                                                       Credit (Group)
BankPositivePay (Group)

₱ PaymentOrder_W

₱ PurchaseOfFundsInHardCurrency_RU

                                                                                                         Methods

Events
           ■ SWIFT
                                                                                                         + abi Review_ReviewComment (String)
           ■ GSTIN_IN
                                                                                                       > + TR Review_ReviewStatus (Combo Box)
           Posting Profiles_IT
                                                                                                         + @ Review_ReviewDate (Date)
                                                                                                       + BankAccountTable_WorkflowState (Combo Box)
Preview Pattern
CONTINUE Set up
```

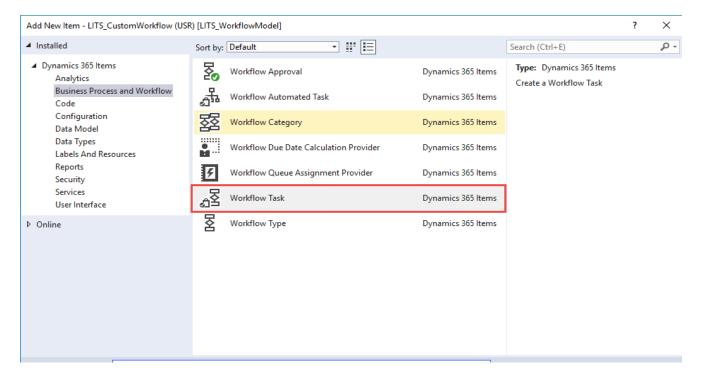
Create a new class for review status handler

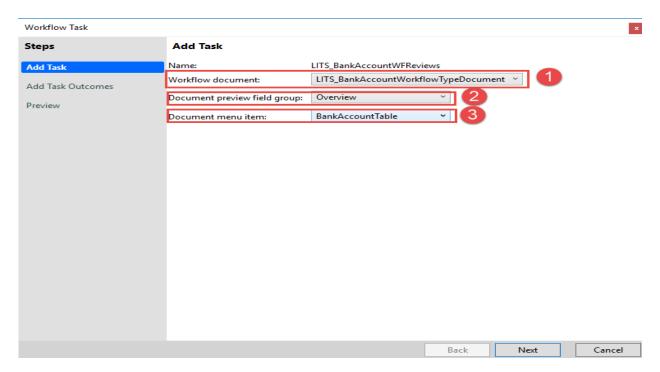
Code for review status handler class:

```
public class LITS_BankAccountWFReviewStatusHandler
{
   public static void setState(RecId _bankAccountRecid, LITS_BankAccountReviewStatus _status,
        workflowcomment _comment = '', LITS_BankAccountReviewDate _reviewDate = dateNull())
   {
        BankAccountTable bankAccountTable;
        ttsbegin;
        select forupdate bankAccountTable where bankAccountTable.RecId == _bankAccountRecid;
        if(bankAccountTable.RecId && bankAccountTable.ReviewStatus != _status)
```

```
{
    bankAccountTable.ReviewStatus = _status;
    switch(_status)
    {
        case LITS_BankAccountReviewStatus::Completed:
            bankAccountTable.ReviewComment = _comment;
            bankAccountTable.ReviewDate = _reviewDate;
            break;
        default:
            bankAccountTable.ReviewComment = '';
            bankAccountTable.ReviewDate = dateNull();
        }
        bankAccountTable.update();
    }
    ttscommit;
}
```

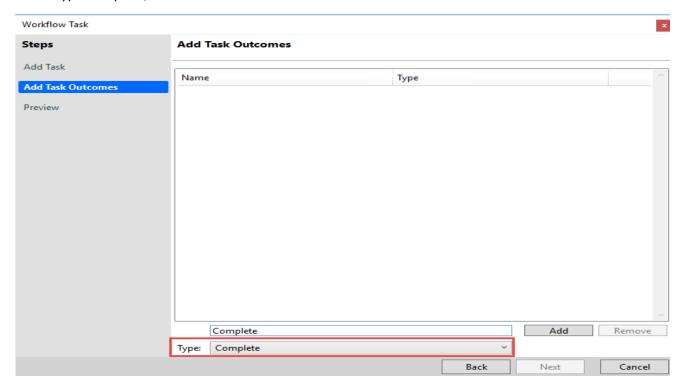
• Create a Workflow task



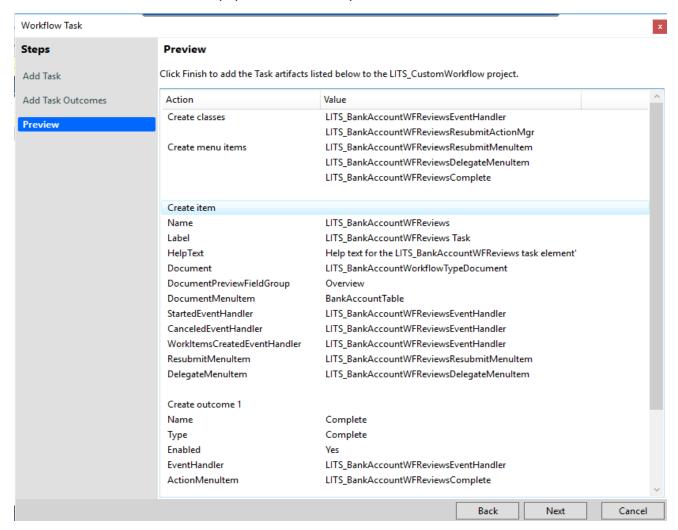


- 1. Select Document class.
- 2. Select Field group.
- 3. Select form's menuitem.

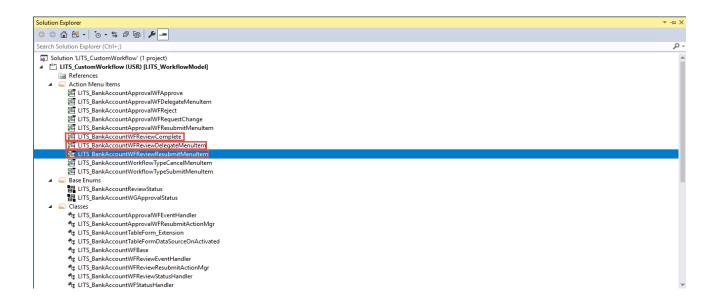
Select Type Complete, Click on Add and then click on Next button.



All these elements will be added by system automatically.



Add label for these action menus to Complete, Delegate and ReSubmit.



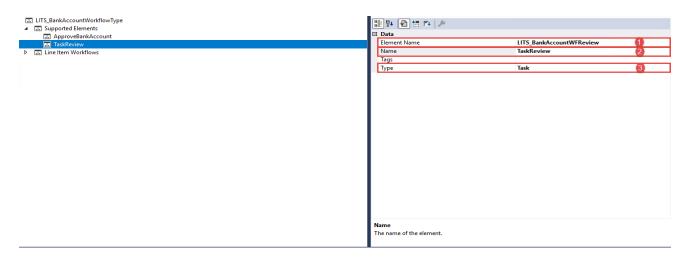
Open Review event handler class and extends it to base class.

Code for Review Event Handler class:

```
public void started(WorkflowElementEventArgs _workflowElementEventArgs)
  {
   workflowcontext context;
    context = workflowElementEventArgs.parmWorkflowContext();
    if(this.validateContext(context))
    {
               LITS BankAccountWFStatusHandler::setState(context.parmRecId(),
   LITS BankAccountWGApprovalStatus::InReview);
   LITS BankAccountWFReviewStatusHandler::setState(context.parmRecId(),LITS BankAccou
   ntReviewStatus::PendingApproval);
   }
   }
public void canceled(WorkflowElementEventArgs _workflowElementEventArgs)
   workflowcontext context;
    context = workflowElementEventArgs.parmWorkflowContext();
    if(this.validateContext(context))
               LITS BankAccountWFStatusHandler::setState(context.parmRecId(),
   LITS BankAccountWGApprovalStatus::Draft);
   LITS_BankAccountWFReviewStatusHandler::setState(context.parmRecId(),LITS_BankAccou
   ntReviewStatus::NotReviewed);
   }
   }
public void completed(WorkflowElementEventArgs _workflowElementEventArgs)
   workflowcontext context;
    context = workflowElementEventArgs.parmWorkflowContext();
   workflowcorrelationid correlationId = context.parmWorkflowCorrelationId();
          workflowtrackingtable trackingTable =
  Workflow::findLastWorkflowTrackingRecord(correlationId);
   WorkflowTrackingCommentTable commentTable = trackingTable.commentTable();
   WorkflowComment = commentTable.Comment;
    Timezone timeZone = DateTimeUtil::getUserPreferredTimeZone();
    if(this.validateContext(context))
    {
   LITS_BankAccountWFReviewStatusHandler::setState(context.parmRecId(),LITS_BankAccou
   ntReviewStatus::Completed,comment,DateTimeUtil::getSystemDate(timeZone));
   }
   }
public void created(WorkflowWorkItemsEventArgs _workflowWorkItemsEventArgs)
   WorkflowElementEventArgs workFlowArgs =
  workflowWorkItemsEventArgs.parmWorkflowElementEventArgs();
   workflowcontext context;
    context = workFlowArgs.parmWorkflowContext();
    if(this.validateContext(context))
    {
               LITS BankAccountWFStatusHandler::setState(context.parmRecId(),
   LITS BankAccountWGApprovalStatus::InReview);
```

```
LITS_BankAccountWFReviewStatusHandler::setState(context.parmRecId(),LITS_BankAccou
ntReviewStatus::PendingApproval);
    }
}
```

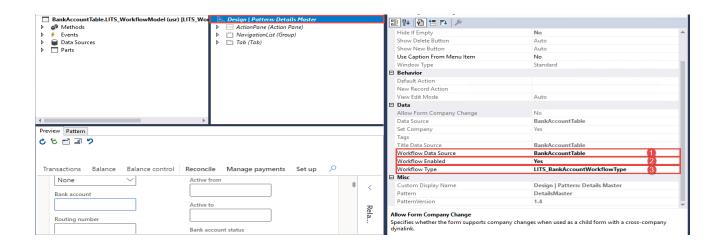
 Again, open workflow type and add another new workflow element reference in Supported node.



- 1. Element name should be your workflow task name.
- 2. Rename element reference.
- 3. Select Task.

}

• Open BankAccountTable form extension

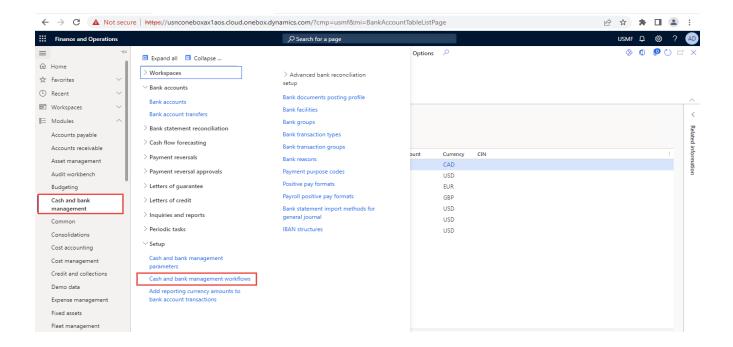


- 1. Select datasource.
- 2. Set workflow enabled to Yes.
- 3. Select Workflow type you have created in your project.
- Create an extension class for BankAccountTable form to add method.

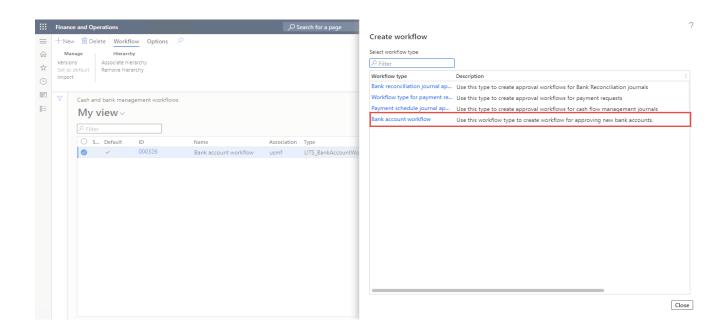
Code for Extension class:

```
[ExtensionOf(formStr(BankAccountTable))]
final class LITS_BankAccountTableForm_Extension
{
    public boolean canSubmitToWorkflow()
    {
        boolean canSubmitToWorkflow = next canSubmitToWorkflow();
        if(BankAccountTable.Workflowstate == LITS_BankAccountWGApprovalStatus::Draft)
        {
            canSubmitToWorkflow = true;
        }
        return canSubmitToWorkflow;
}
```

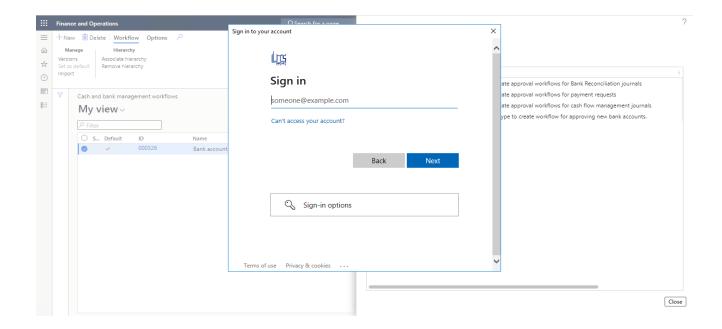
Now go to Cash and bank management workflows



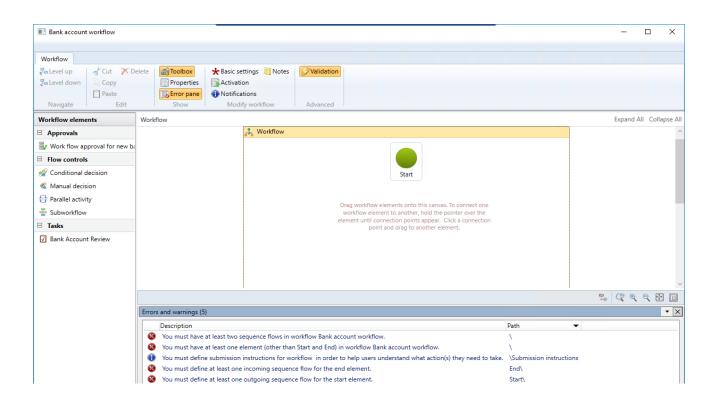
• Click in new select BankAccountWorkflow



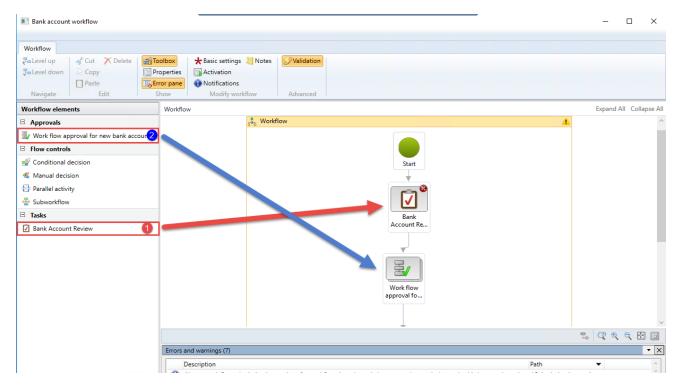
• After clicking you must sign in with admin account.



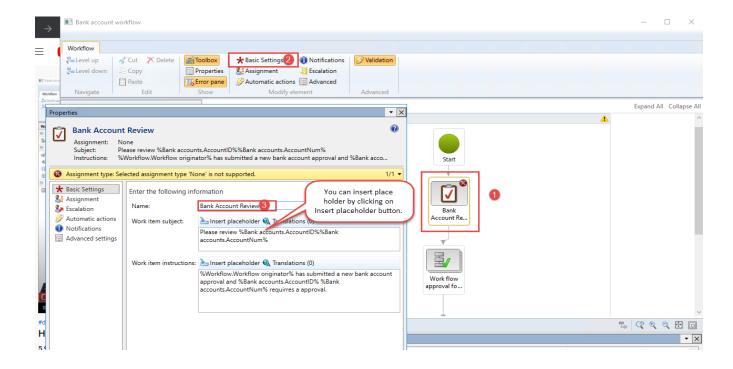
After signing in this window will be appeared.



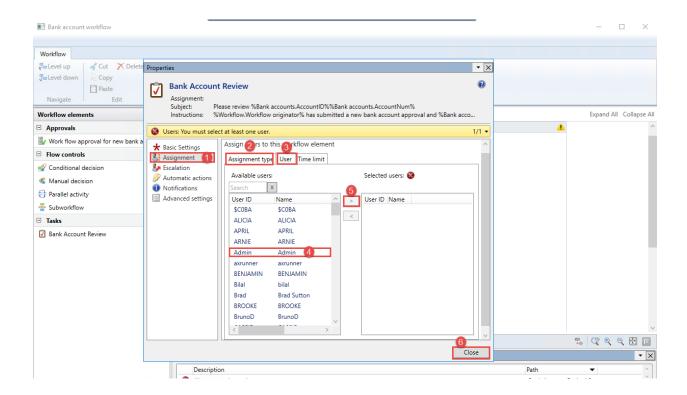
 Drag task and then approval in workflow area. You can link items by drawing a line through item nodes.



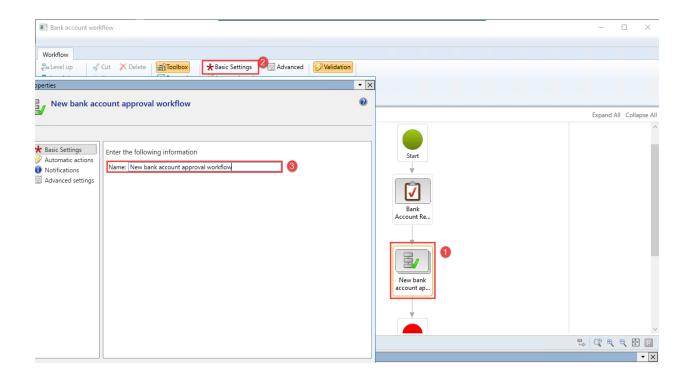
Now add these information.



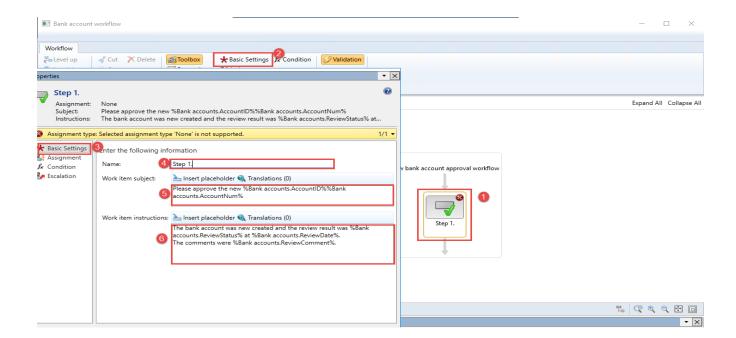
- 1. Click on Bank Account Review.
- 2. Click on Basic settings.
- **3.** Rename name and complete work item subject and work item instructions.



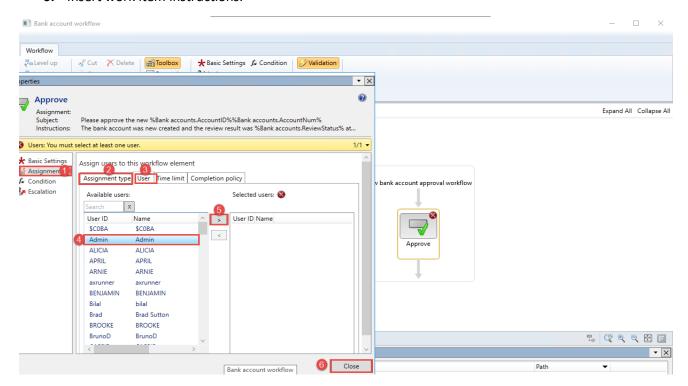
- 1. Now click on Assignment just next to Basic Settings.
- 2. Click on Assignment type and select USER.
- 3. Click on User Tab.
- 4. Select Admin.
- 5. Click on Right Arrow user will be added to right column.
- 6. Click on Close.



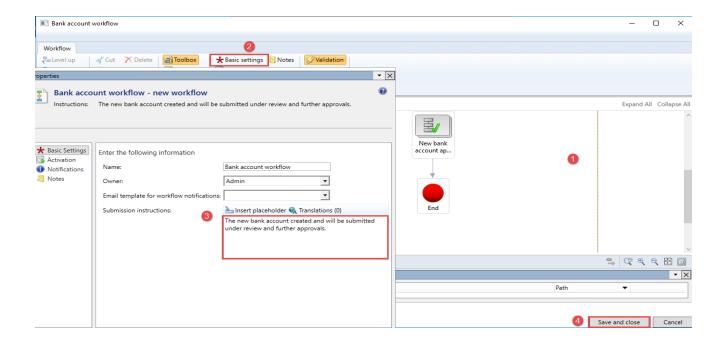
- 1. Click on Workflow Approval Task.
- 2. Click on Basic Settings.
- 3. Rename it.
- Now double click on Workflow Approval Task it will take you to the Step1.



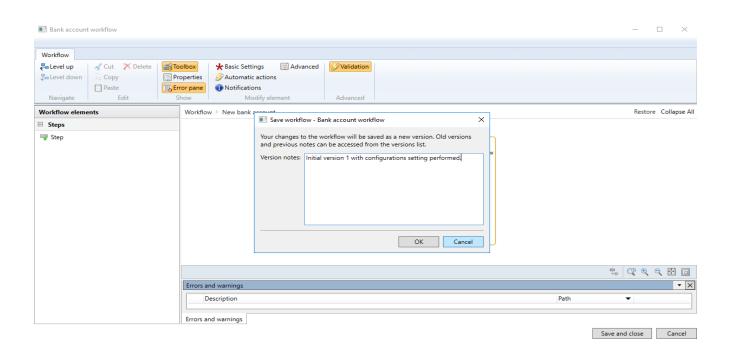
- 1. Click on step 1.
- 2. Click on Basic settings.
- 3. Select Tab.
- 4. Rename it to Approve.
- 5. Insert work item subject.
- 6. Insert work item instructions.



- 1. Click on Assignment.
- 2. Select Assignment type tab and select USER.
- **3.** Click on User tab.
- 4. Select Admin.
- 5. Click on Right arrow admin user will be added to right hand column.
- **6.** Click on Close and go to main page by clicking levelup.

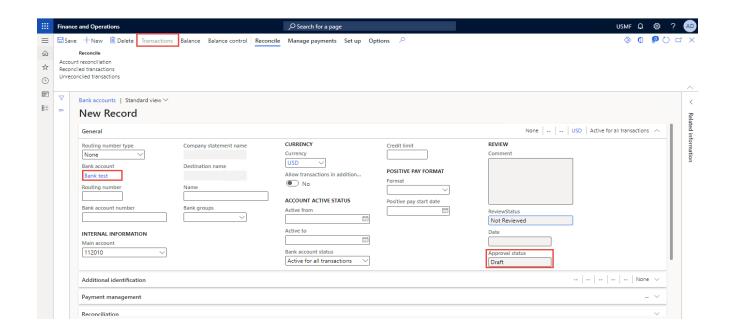


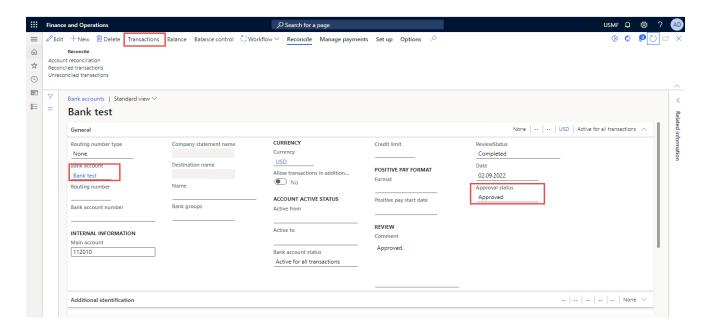
- 1. Click on empty space.
- 2. Select Basic settings.
- 3. Insert instructions.
- 4. Click save and close.
- A dialog box will be appeared.



After inserting version notes click on OK and select Activate the new version and select OK.

 Just for example I have disabled the Transaction button and it will be enabled when workflow status will be Approved.





End of Document