



企业级软件项目设计 实战



1

分享软件项目经验

2

谈谈UML

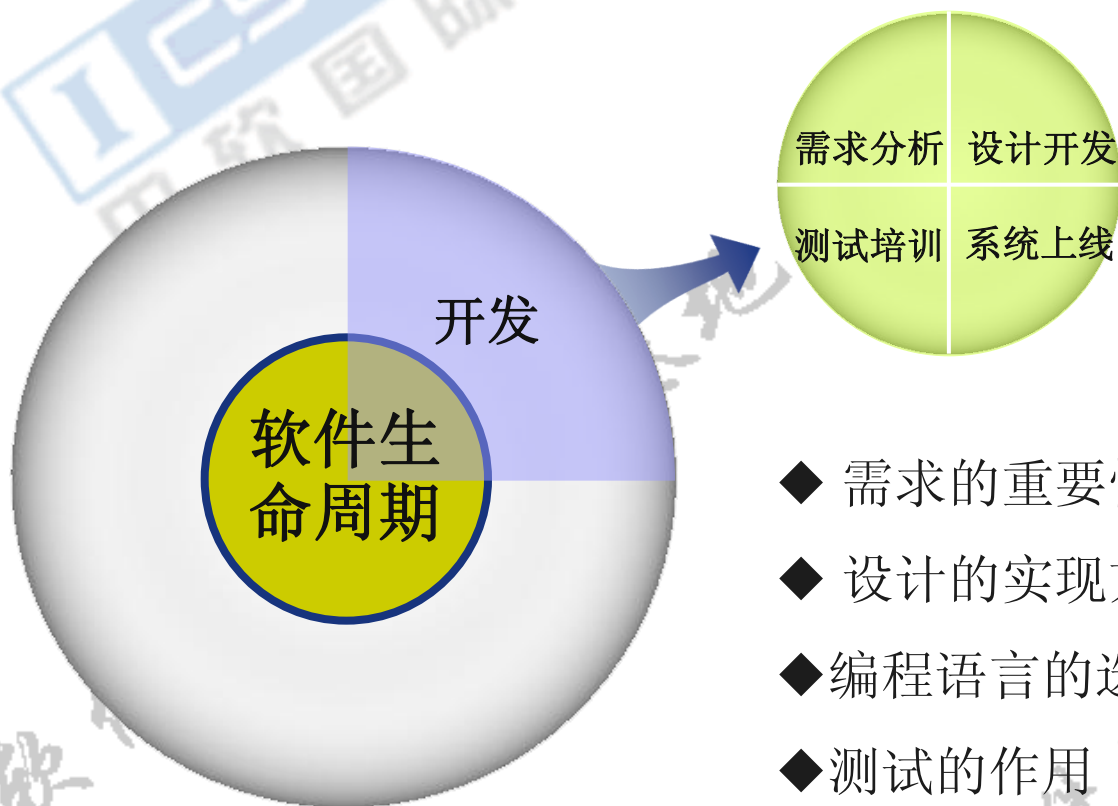
3

感受建模工具EA

4

软件项目设计实战

软件生命周期

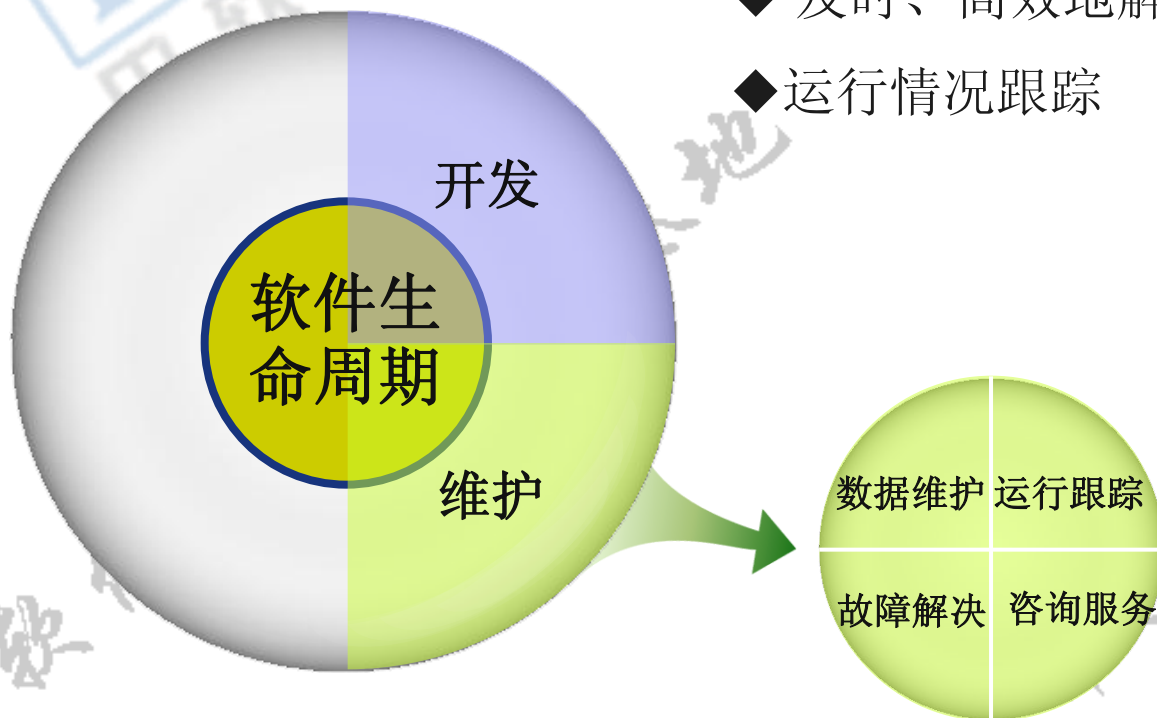


软件生命周期的四个阶段

- ◆ 需求的重要性
- ◆ 设计的实现方法
- ◆ 编程语言的选择
- ◆ 测试的作用

软件生命周期

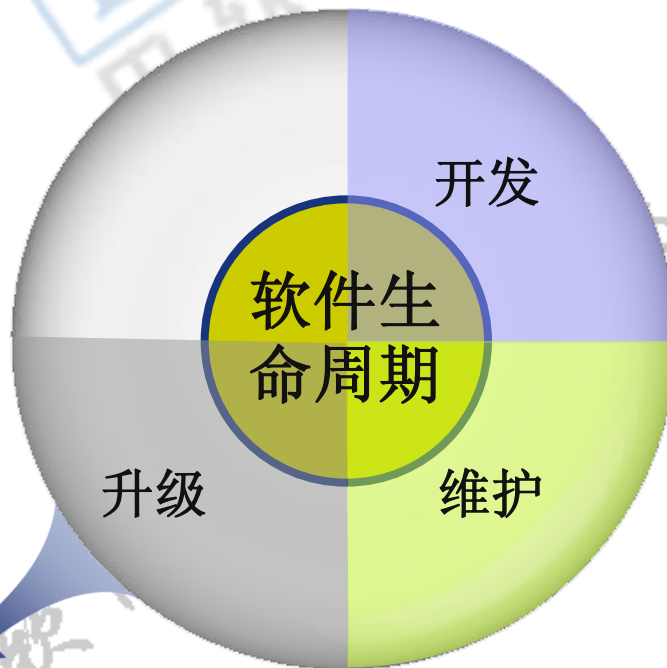
- ◆ 数据维护（精准、安全）
- ◆ 及时、高效地解决问题
- ◆ 运行情况跟踪



软件生命周期的四个阶段

软件生命周期

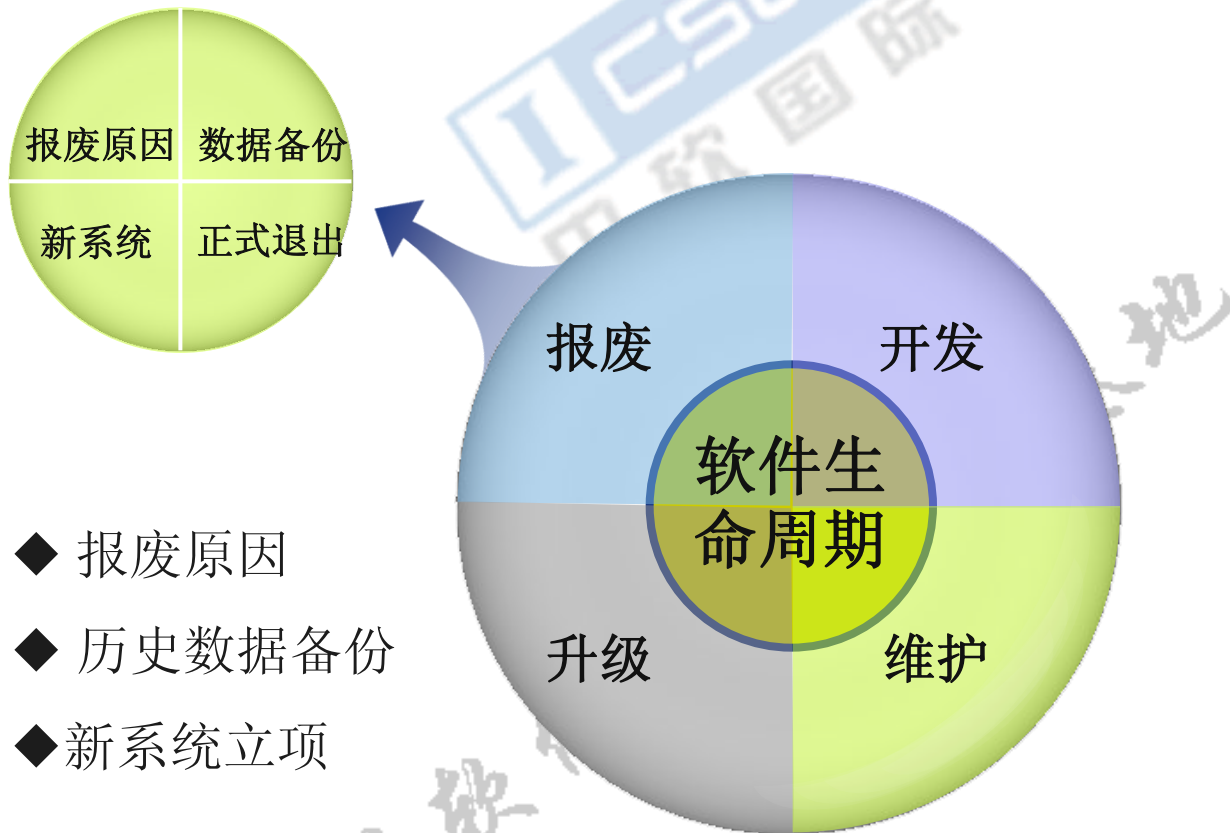
- ◆ 需求调整的必然性
- ◆ 功能调整（体现软件扩展性）
- ◆ 优化系统
- ◆ 升级实现



软件生命周期的四个阶段



软件生命周期

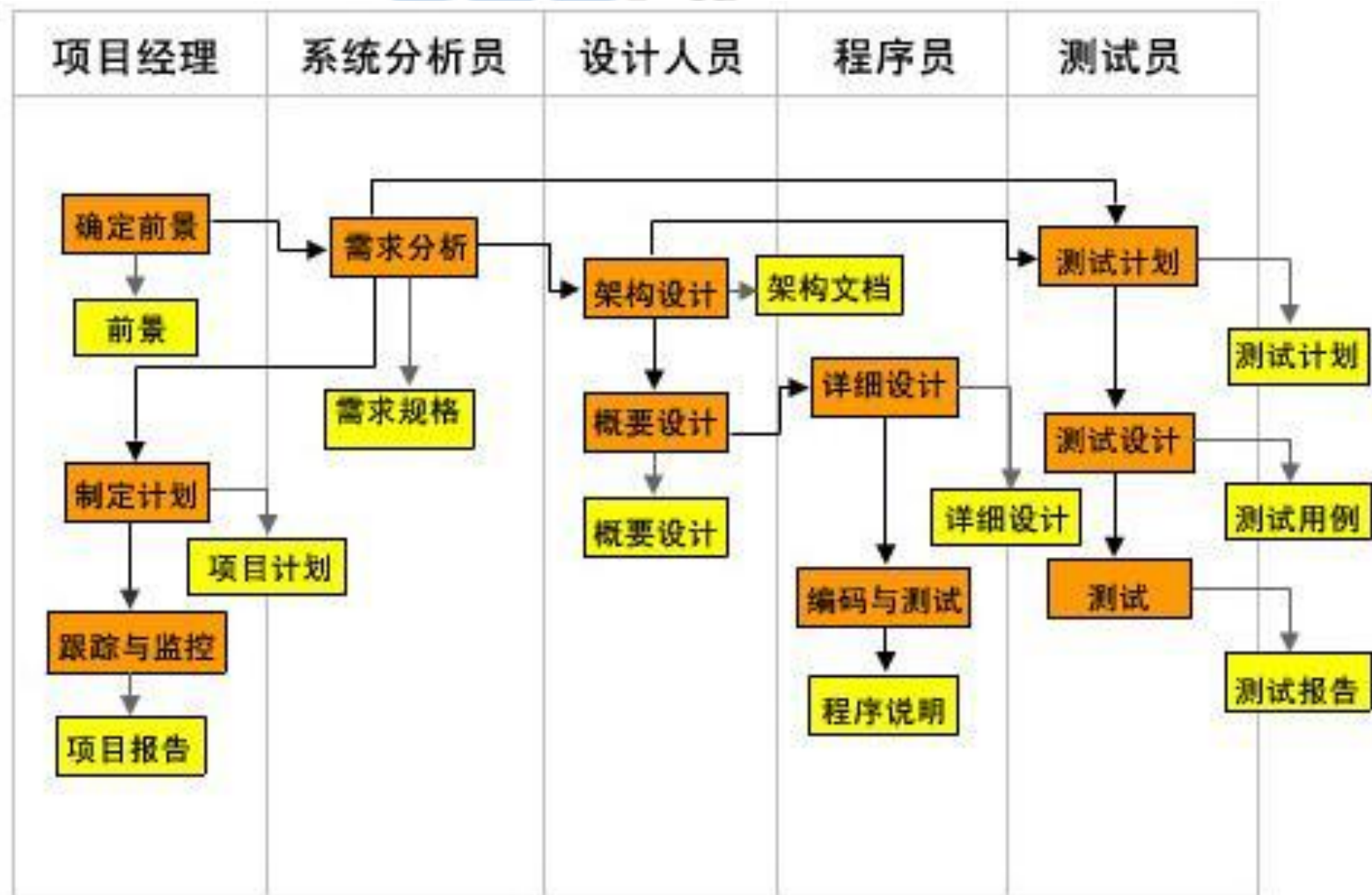


- ◆ 报废原因
- ◆ 历史数据备份
- ◆ 新系统立项

软件生命周期的四个阶段

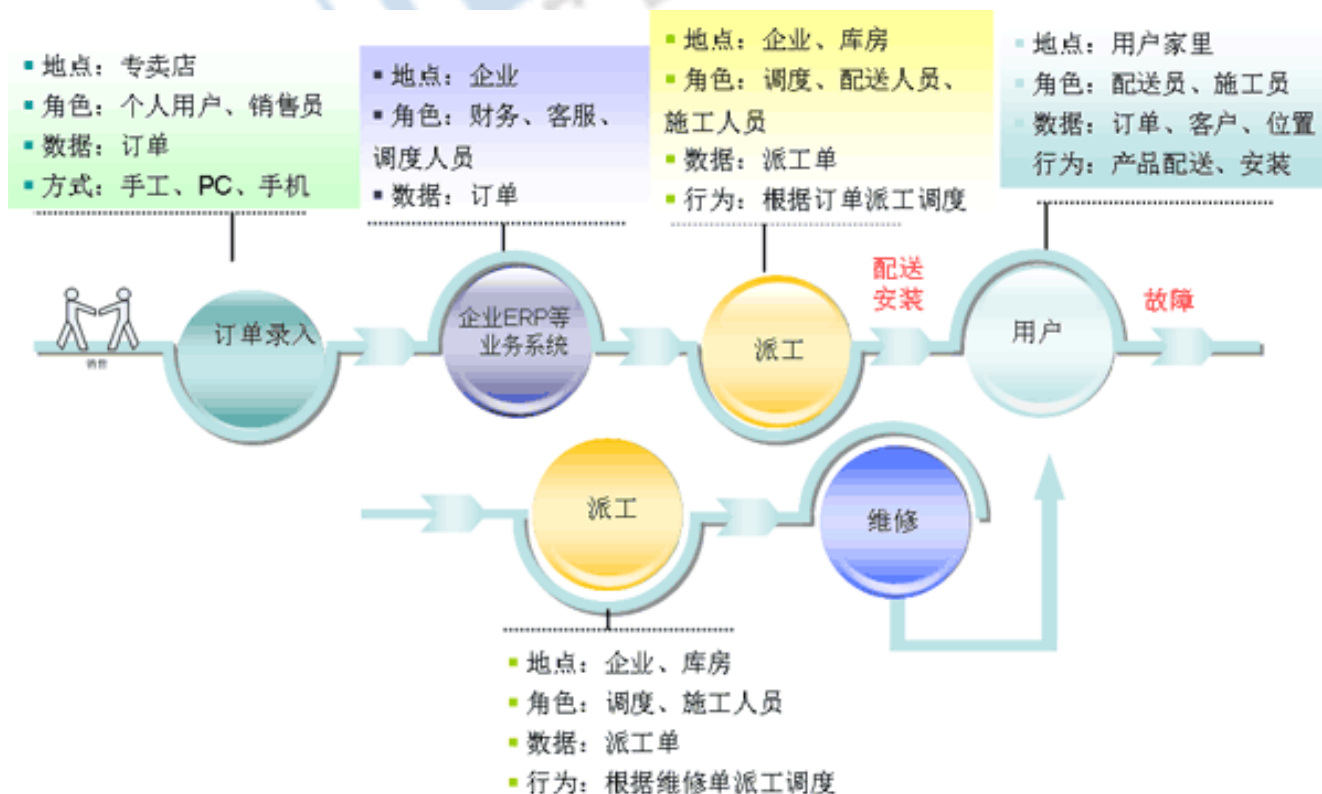
软件开发项目组组织架构

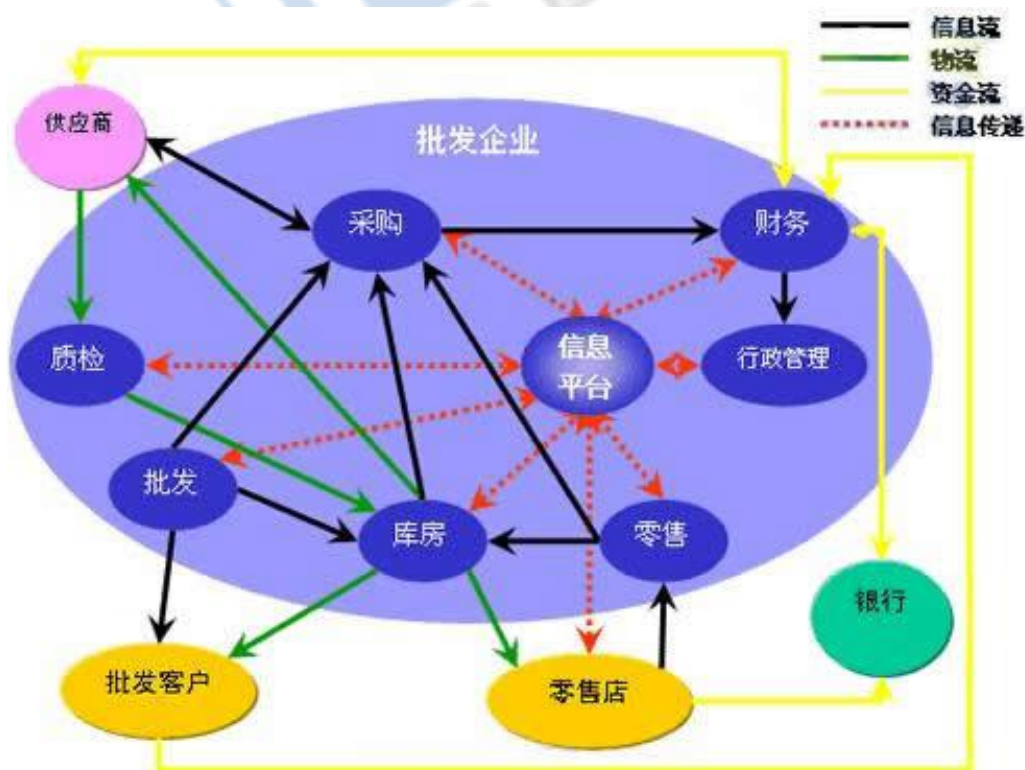
项目组中的一些职位



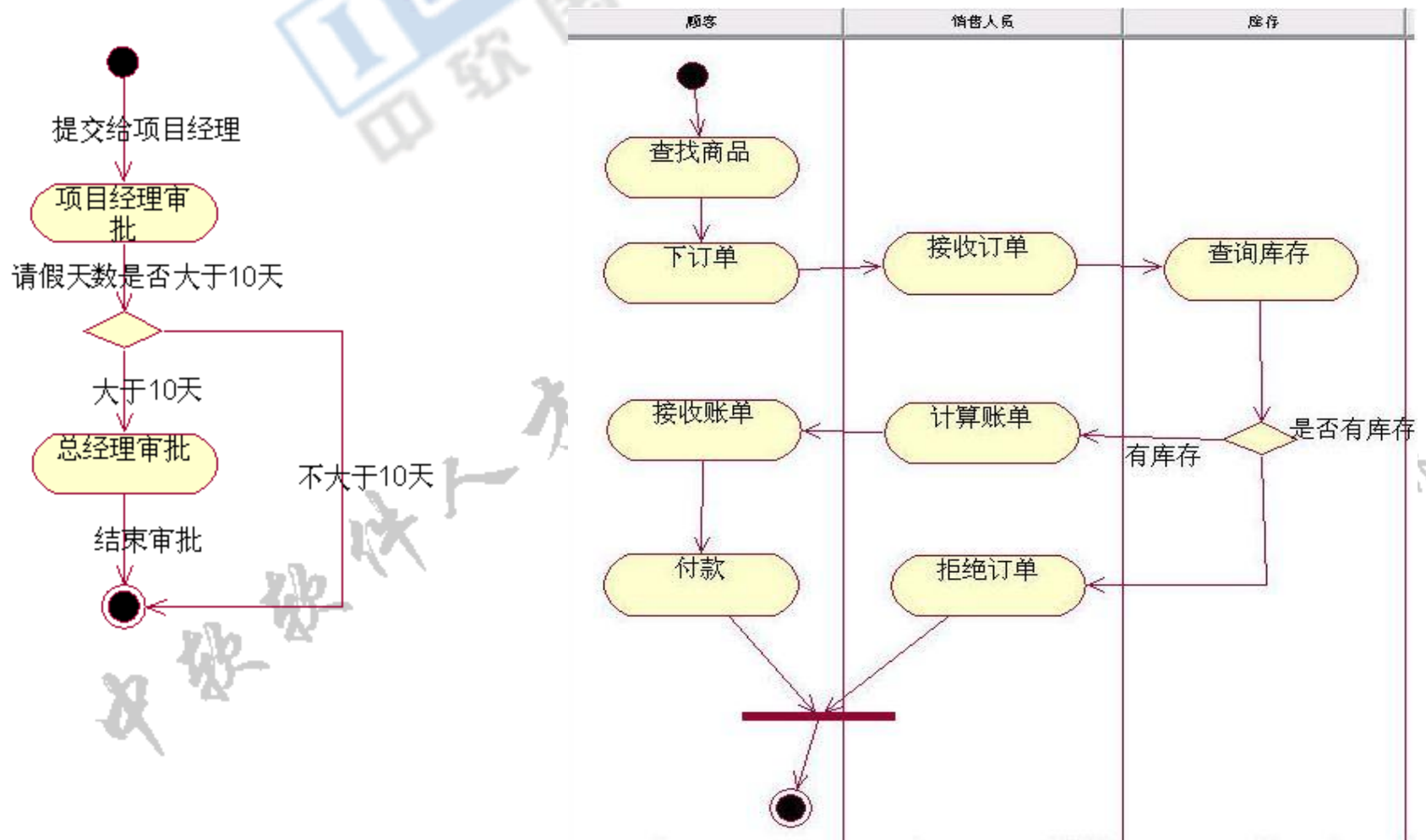
❖ **UML**（Unified Modeling Language的缩写）统一建模语言,是用来对软件密集系统进行可视化建模的一种语言。UML为面向对象开发系统的产品进行说明、可视化、和编制文档的一种标准语言。

❖ 统一的思想（产生的原因） - 网上业务流程图（非UML）





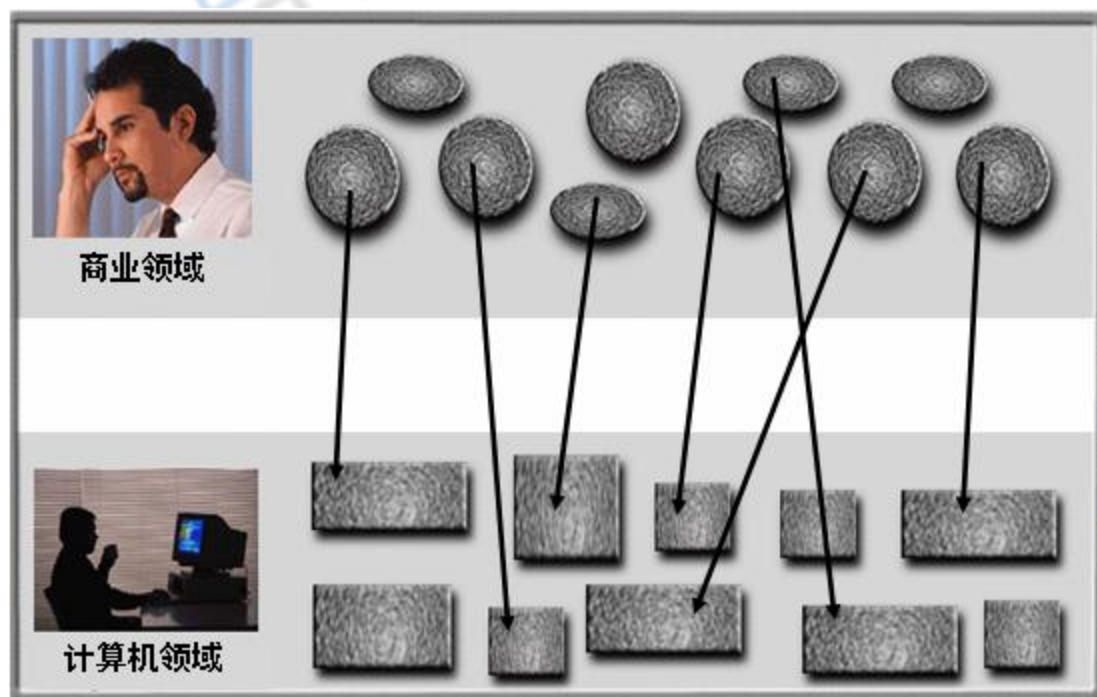
❖ 统一的思想（产生的原因） - 使用UML的业务流程图



UML三个主要作用 (1)

- UML是客户、系统分析员和程序员之间的“桥梁”

使用可视化建模来获取并表现商业逻辑和对象



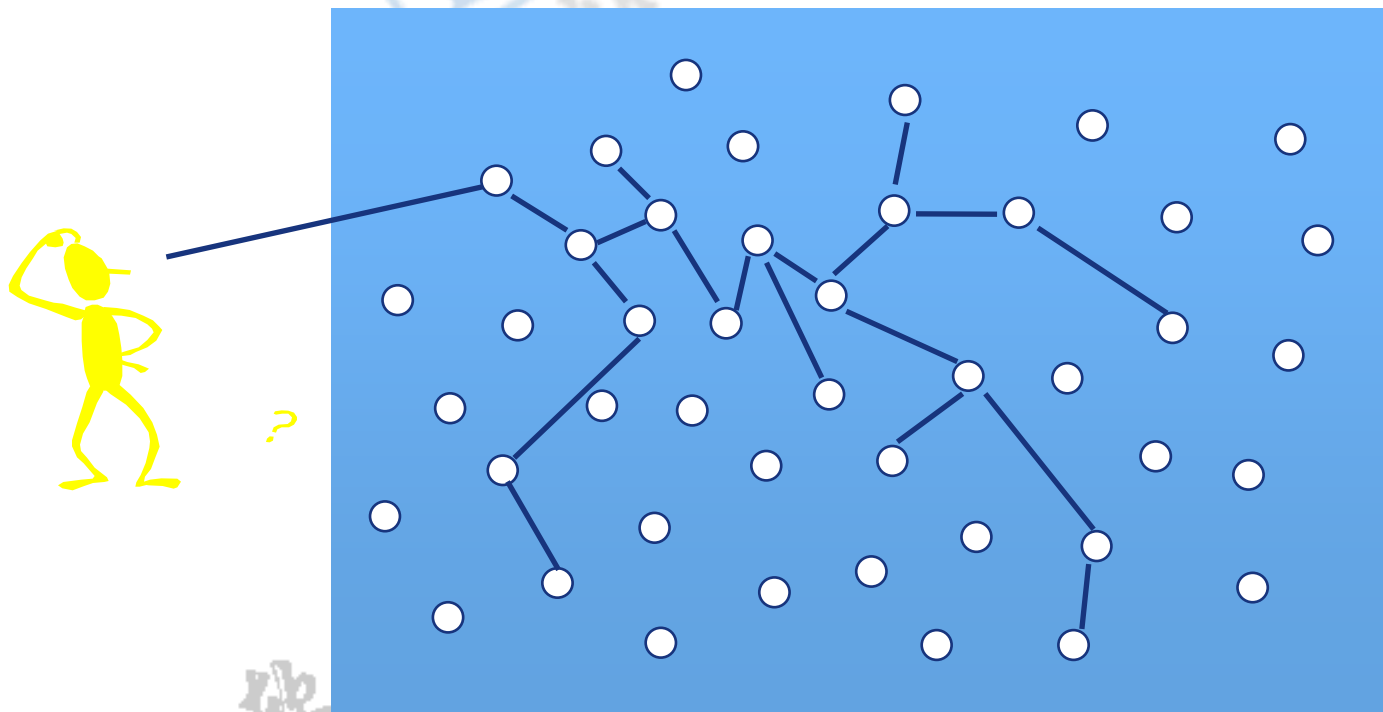
- 用例图
- 活动图
- 状态图



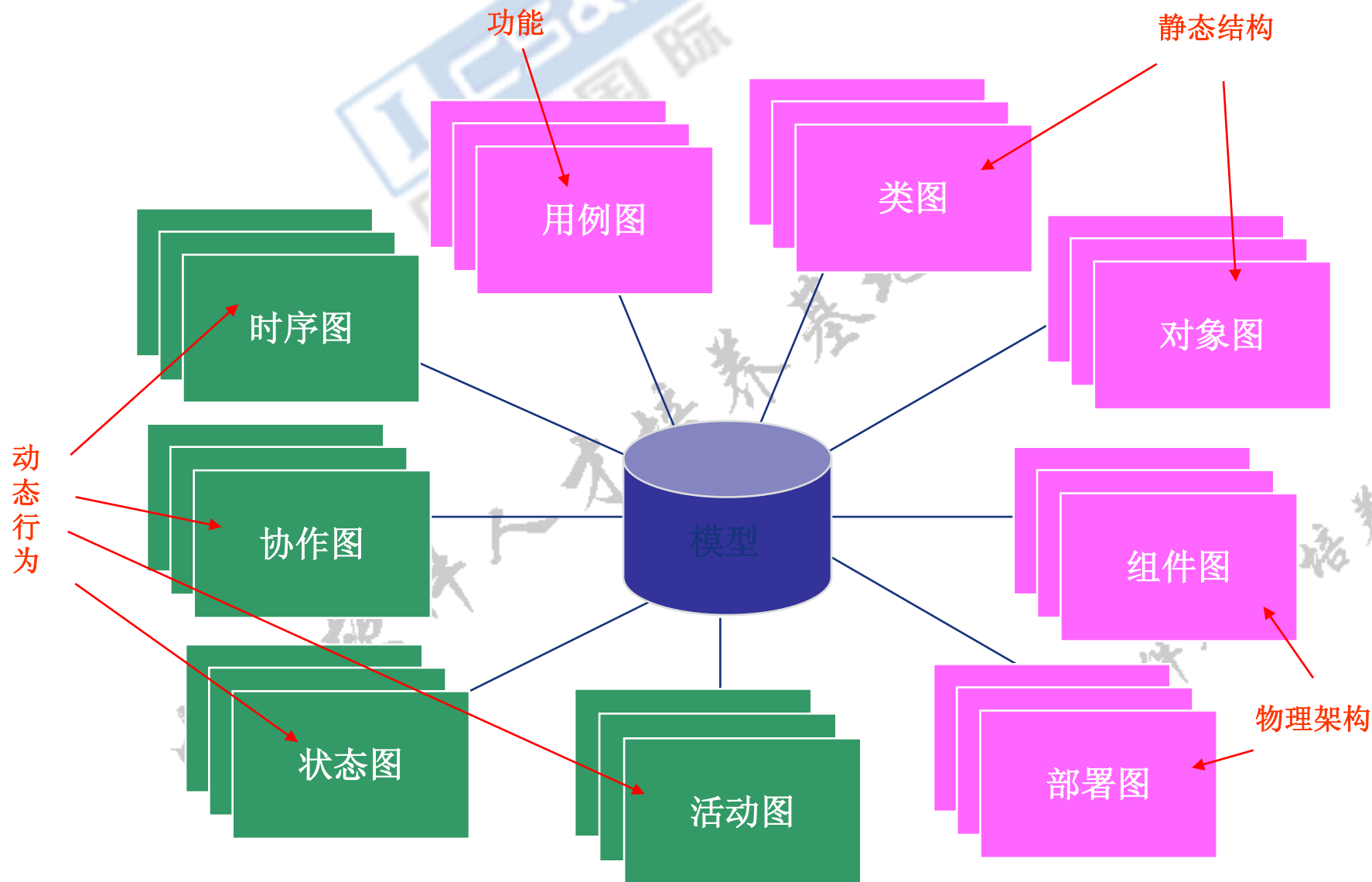
- 时序图
- 对象图
- 部署图
-

使用可视化建模来分析和设计计算机应用程序！

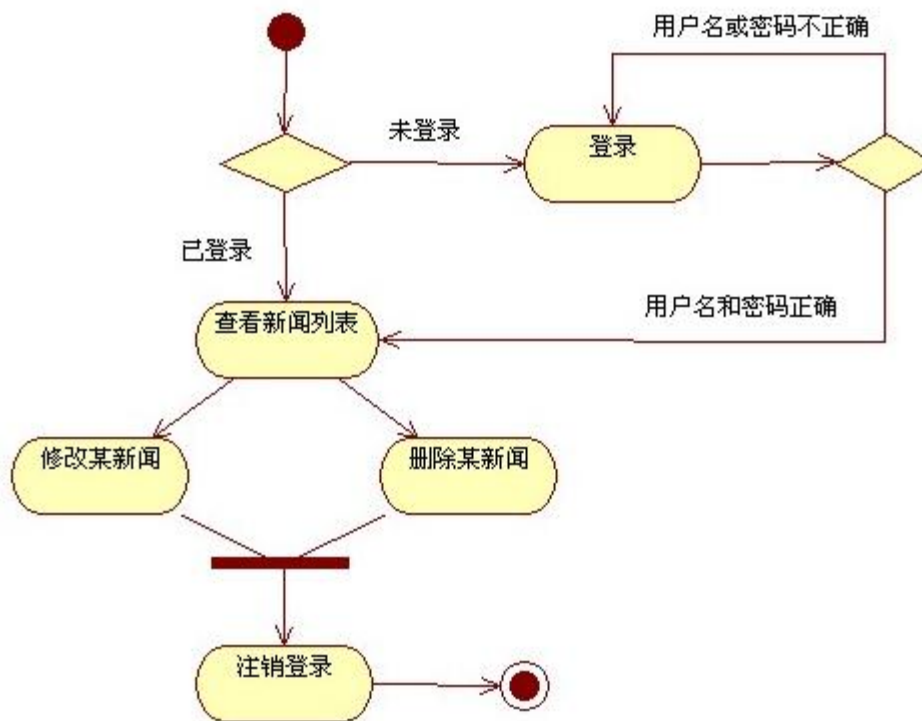
- UML从客户的角度将复杂的系统整理清楚



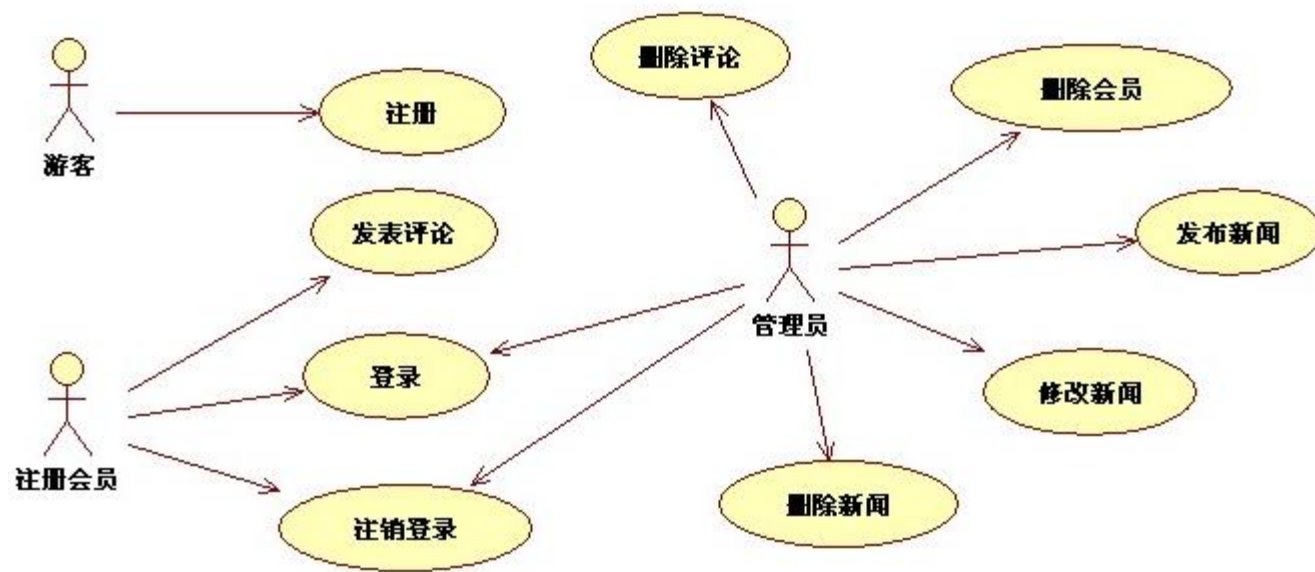
模型可由9个图来展现



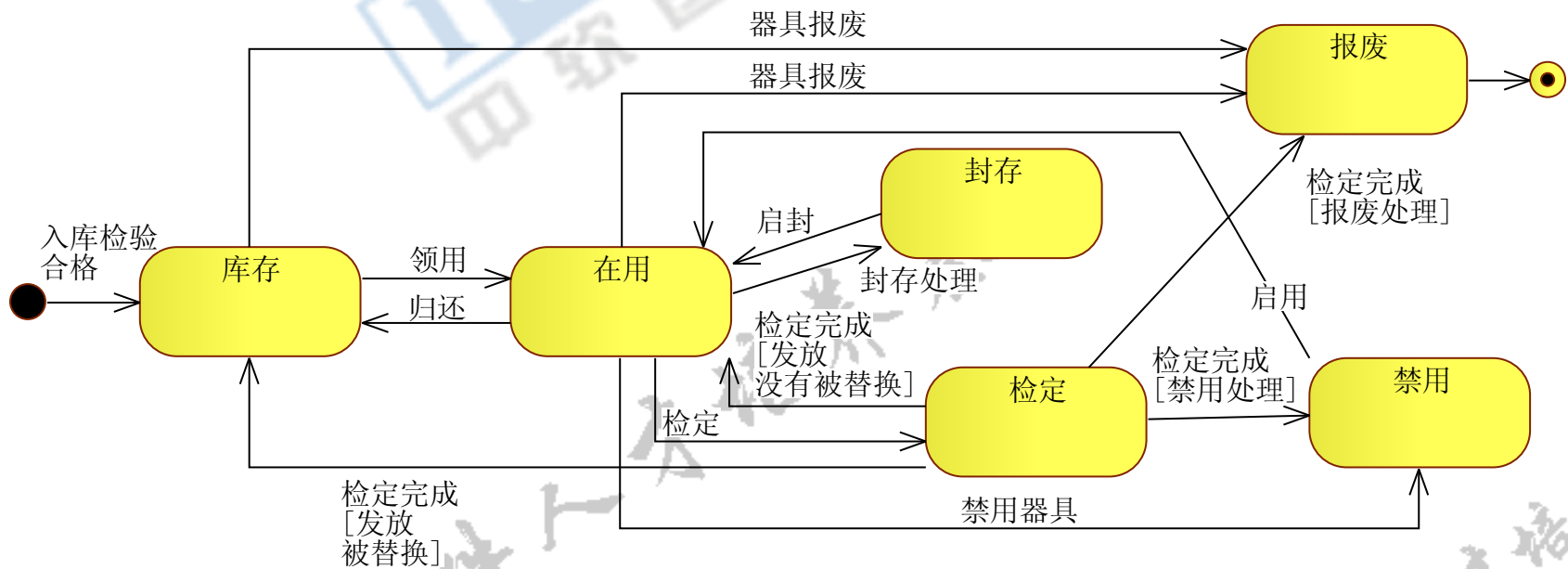
UML图 - 活动图



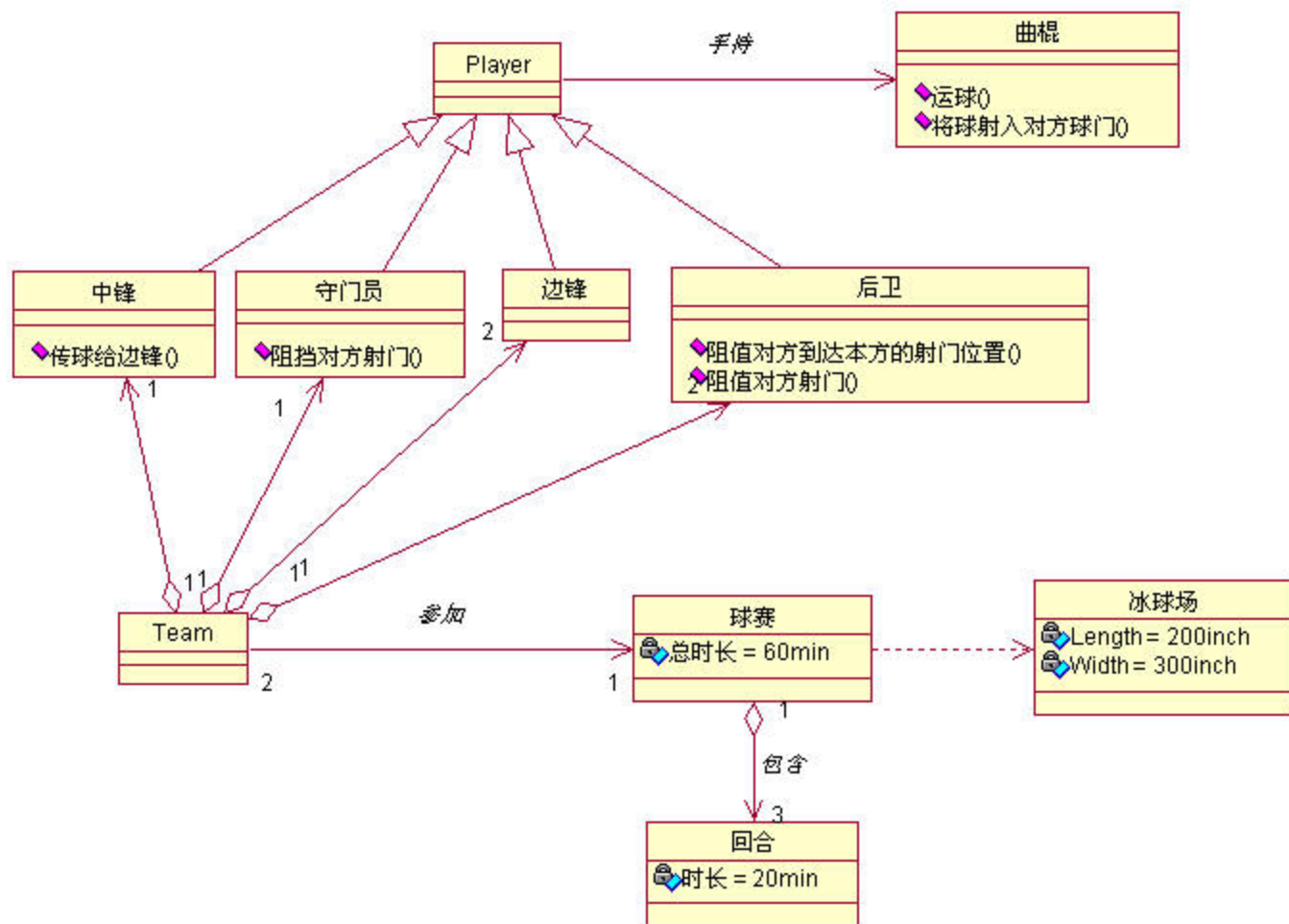
UML图 - 用例图



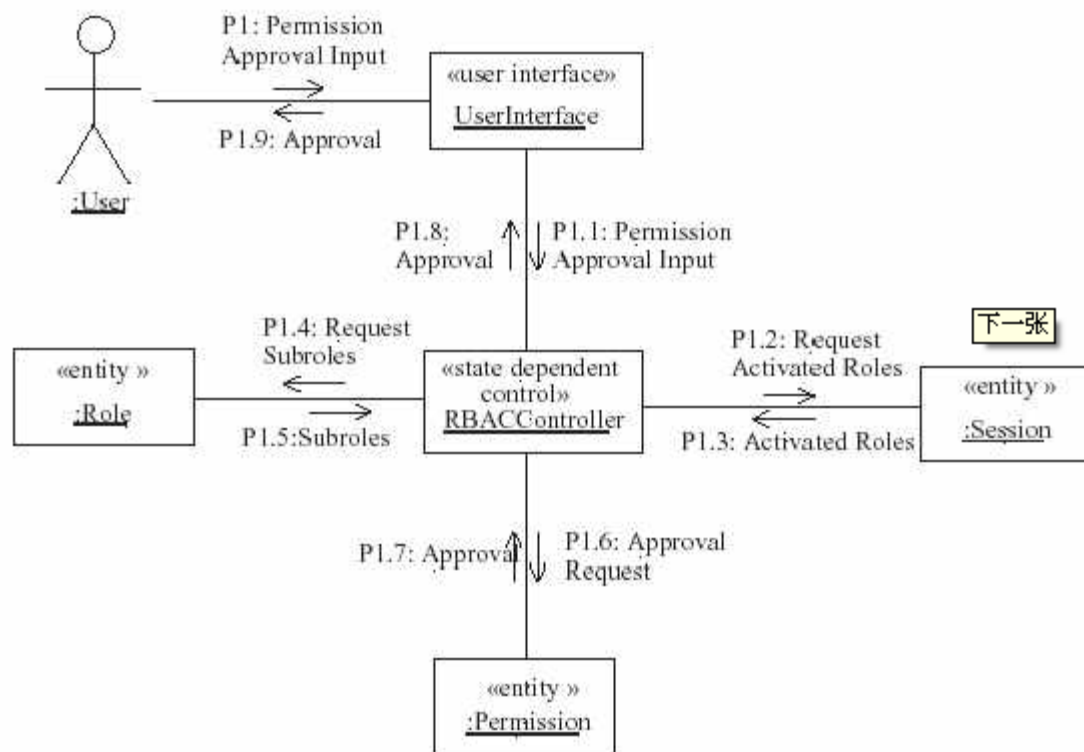
UML图 - 状态图



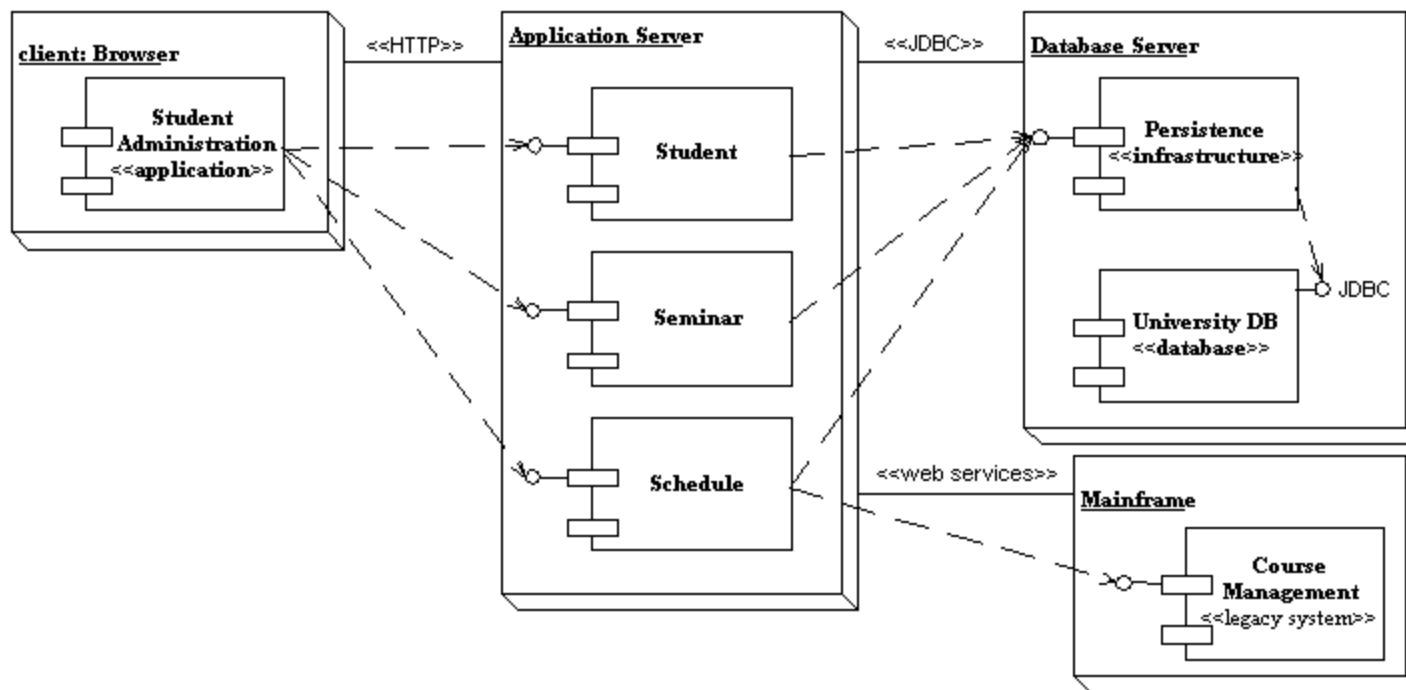
UML图 - 类图



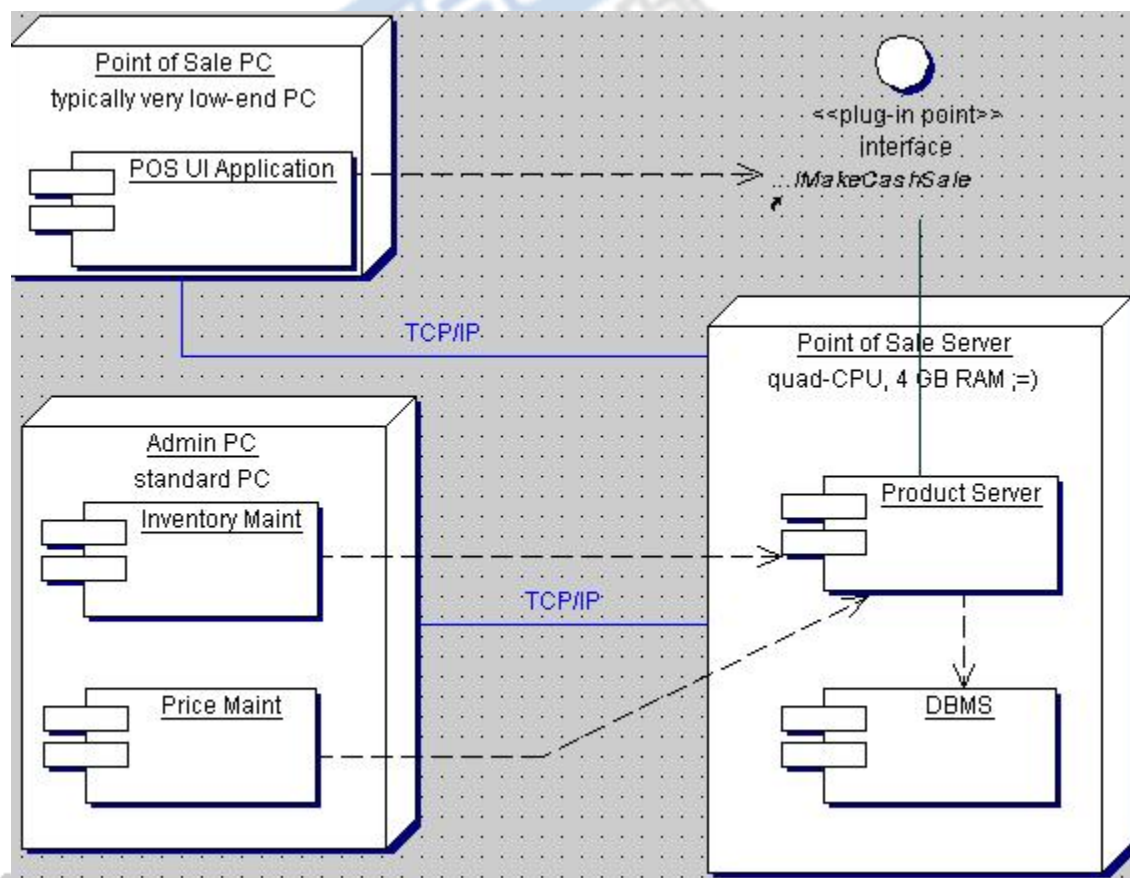
UML图 - 协作图



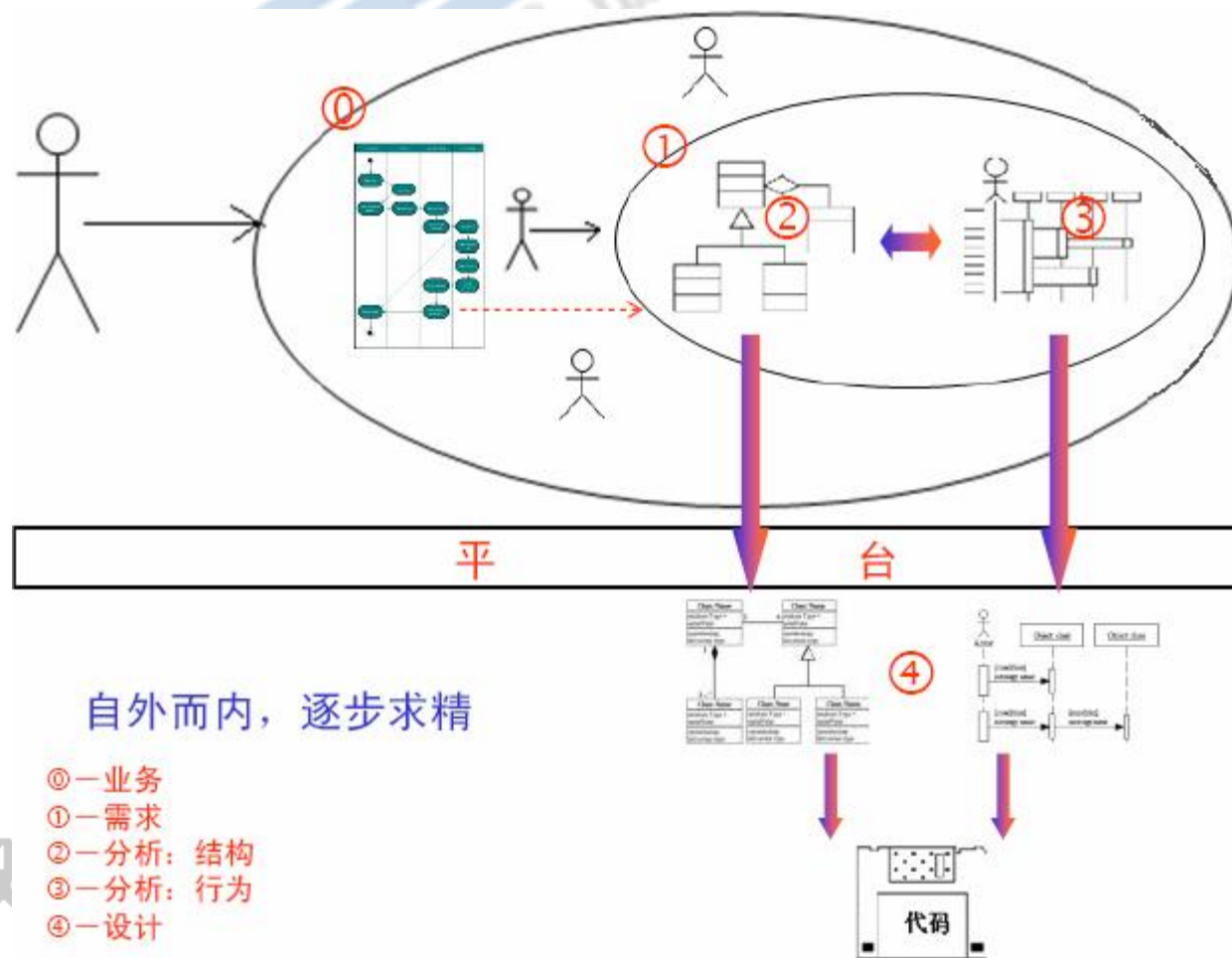
UML图 - 组件图

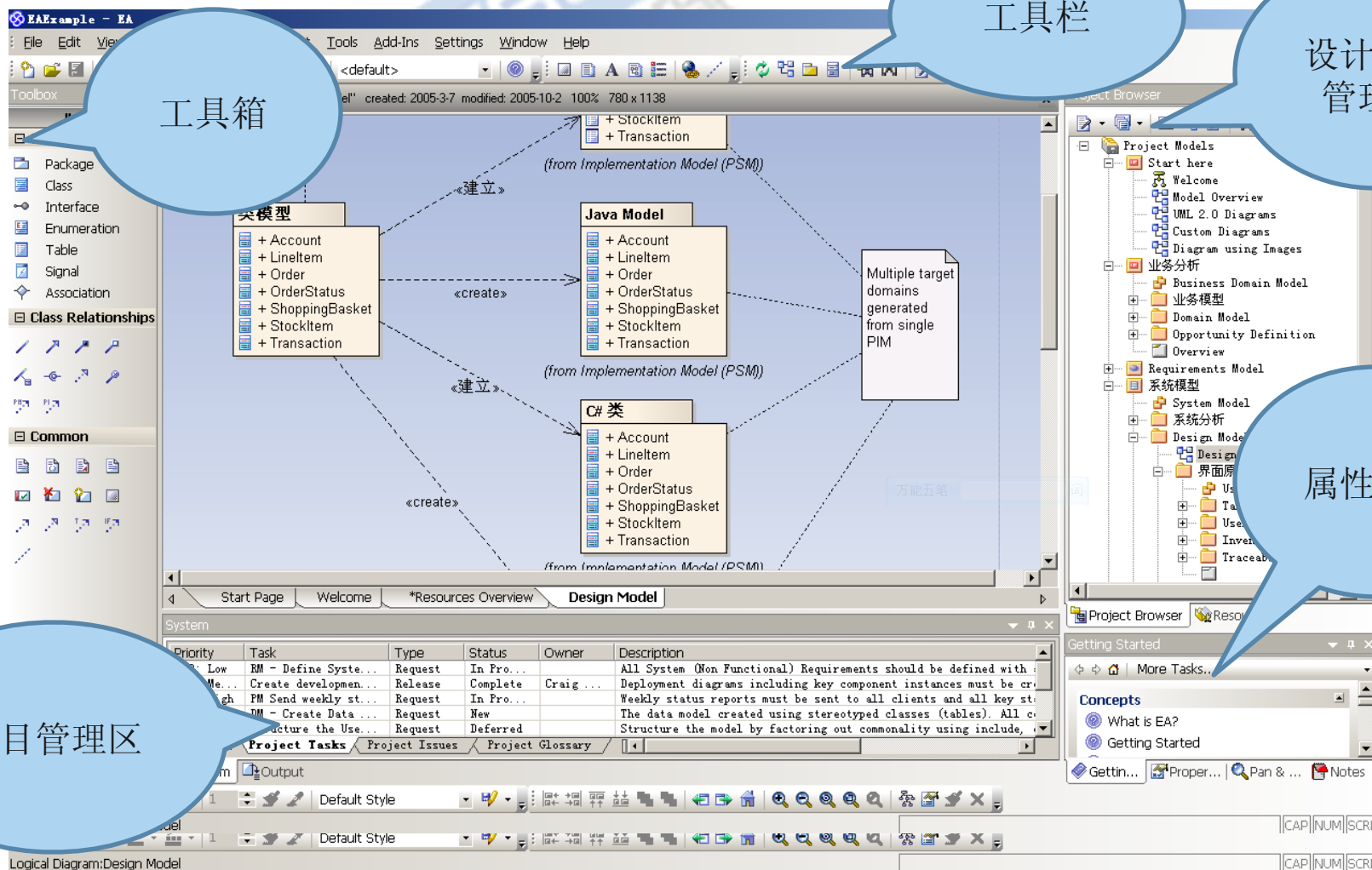


UML图 - 部署图



建模主要步骤





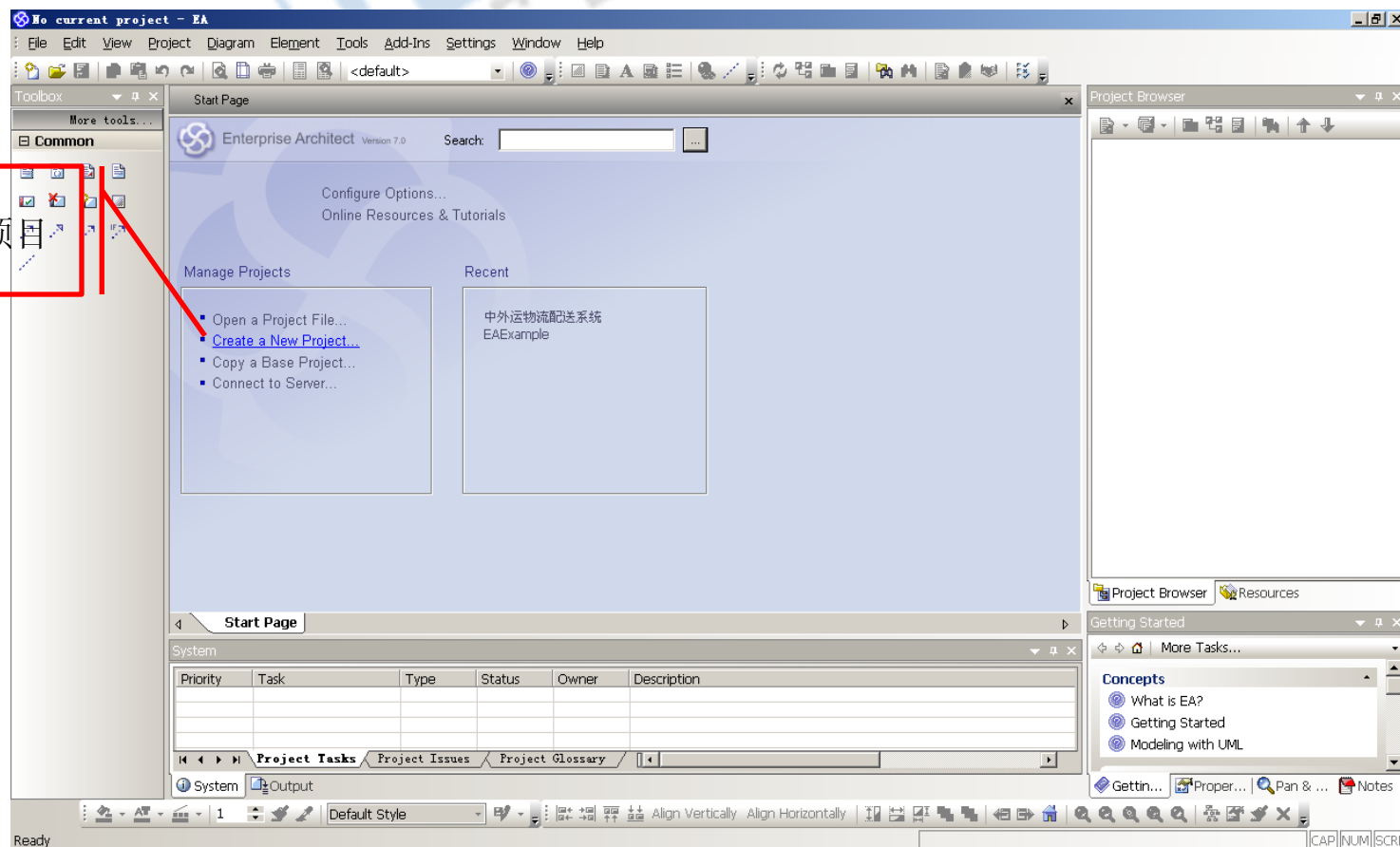
EA建模案例演示

烟草业务及实训案例

用户管理案例（学习用）

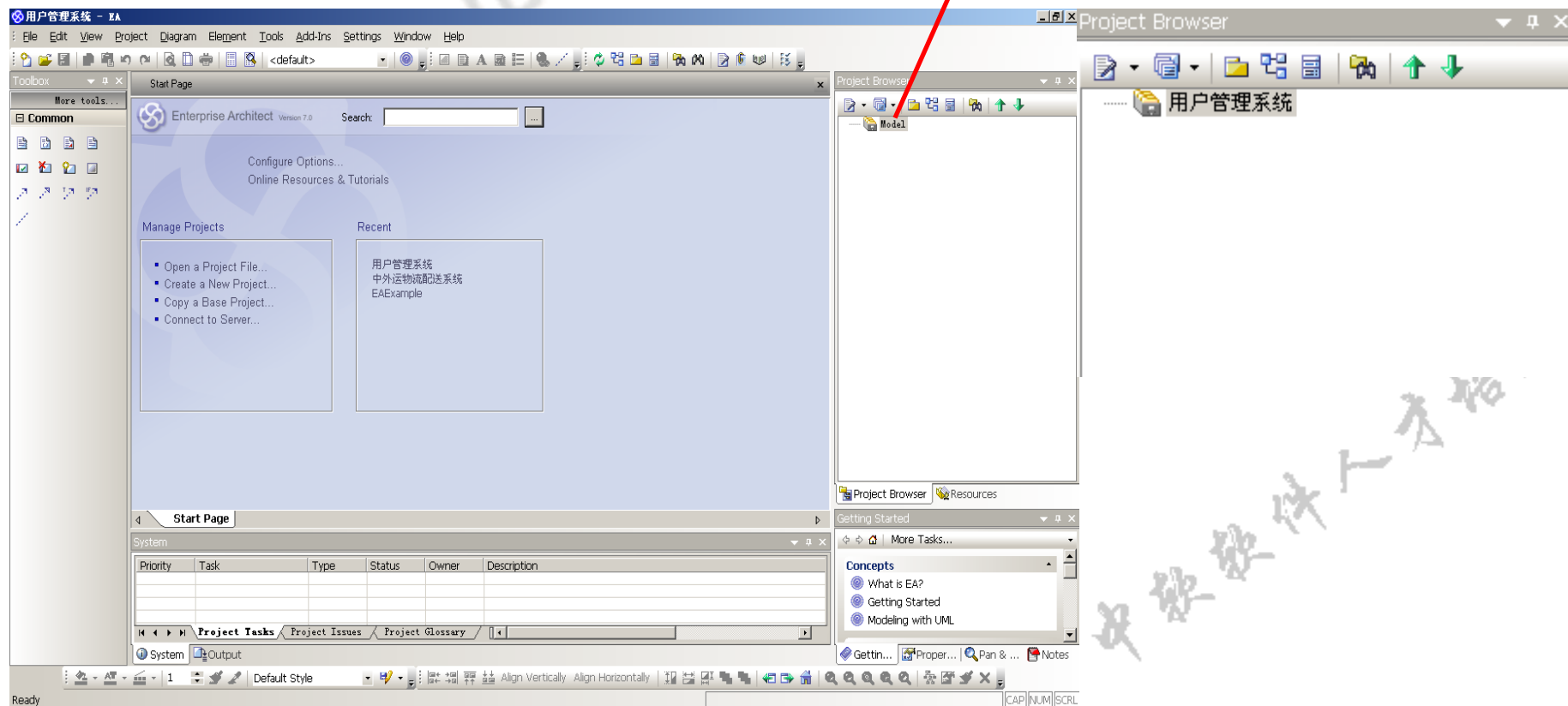
EA建模工具及使用演示

建立EA项目

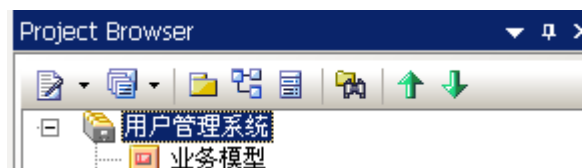


建立EA项目

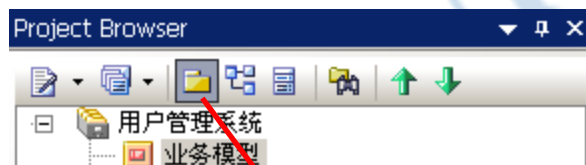
重命名



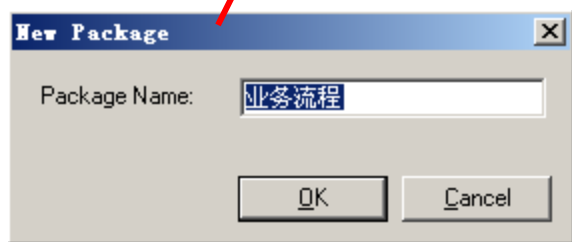
建立业务模型



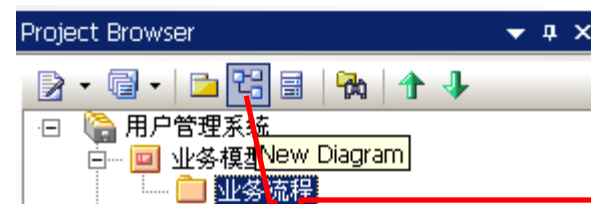
建立业务模型



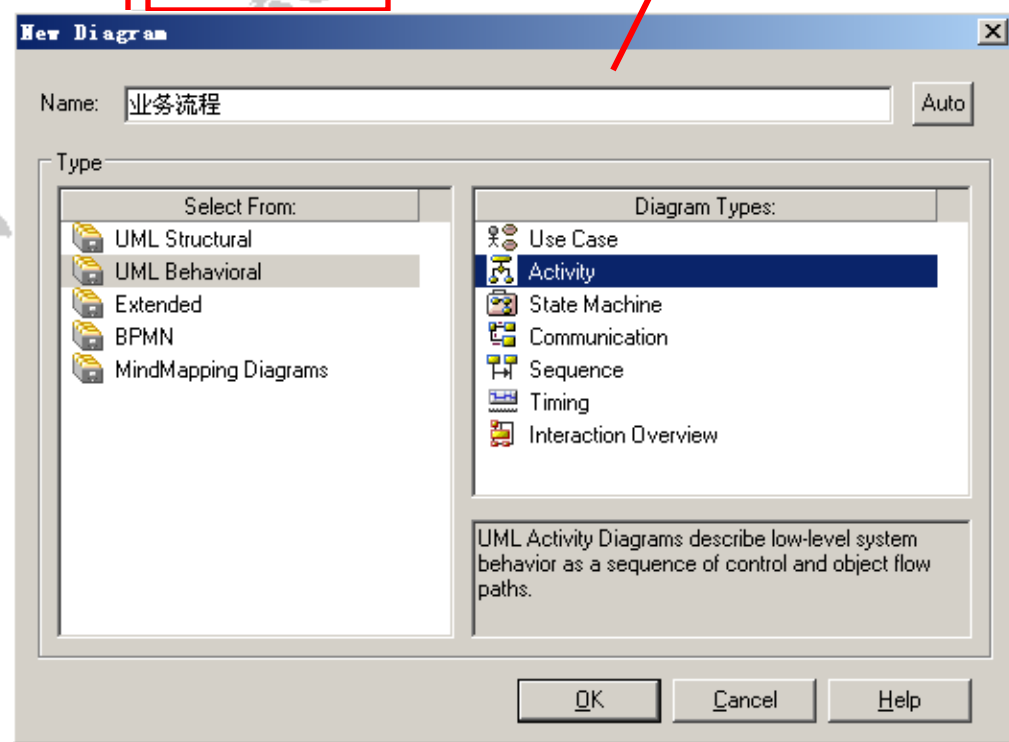
1. 建立业务流程文件夹



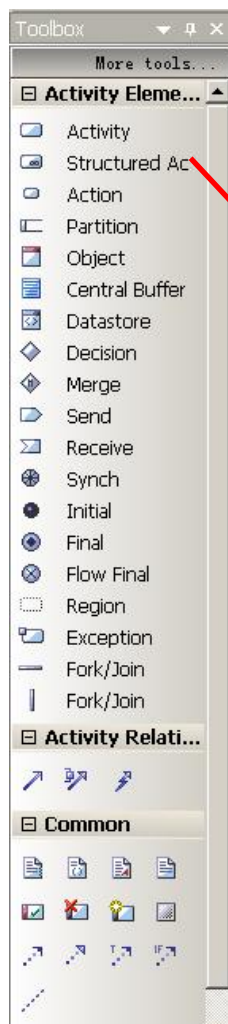
2. 当前解决方案



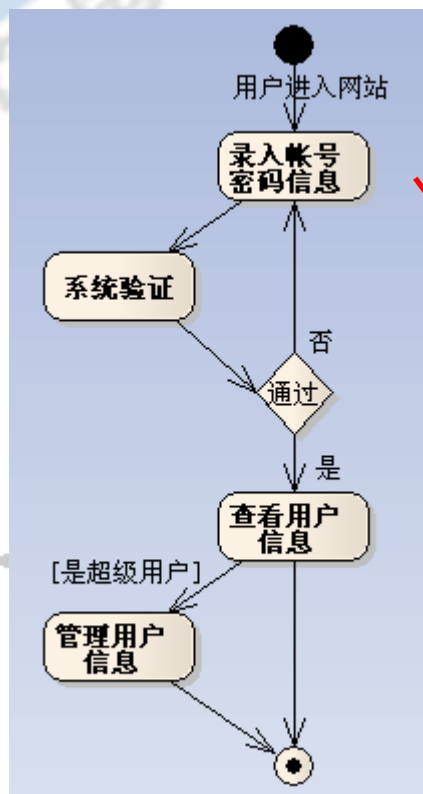
3. 选择业务流程文件夹
4. 建立活动图



建立业务模型



1. 拖动工具箱元素，设计出业务流程

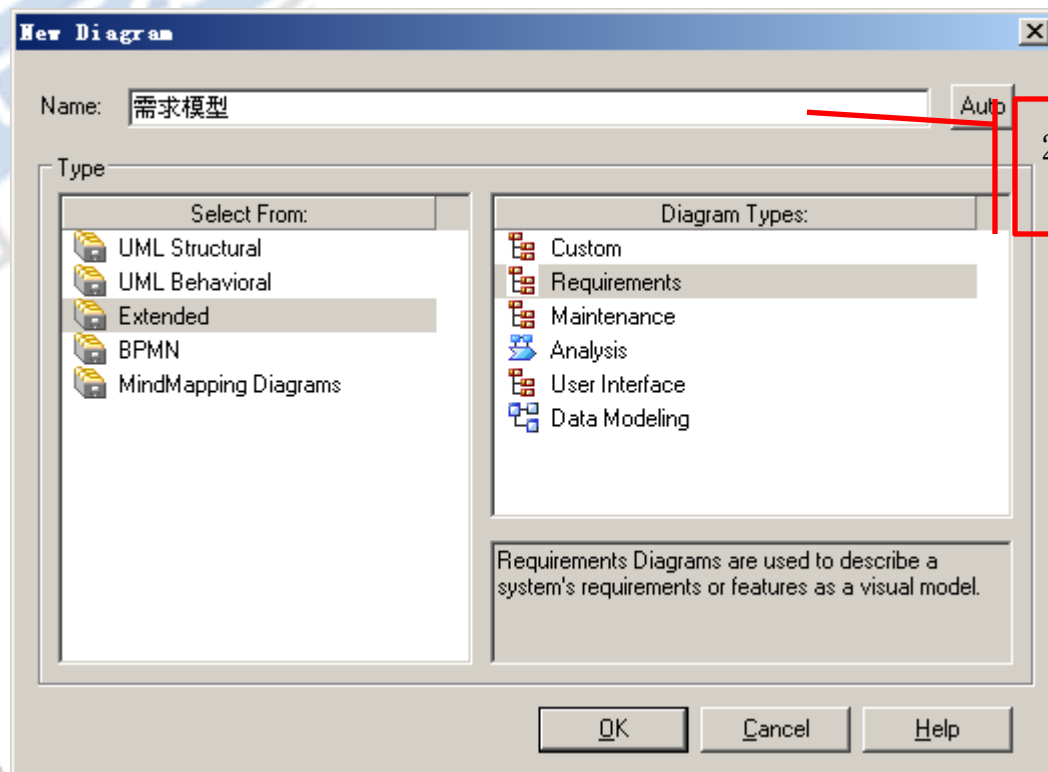


2. 业务流程

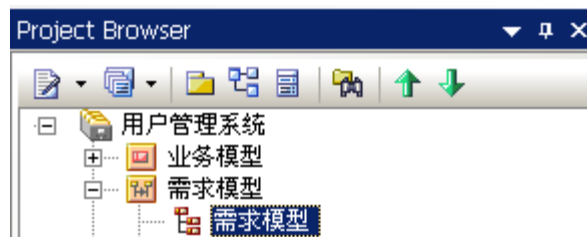
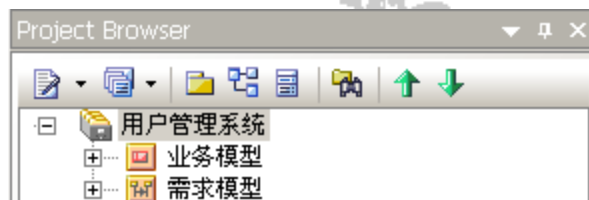
建立需求模型



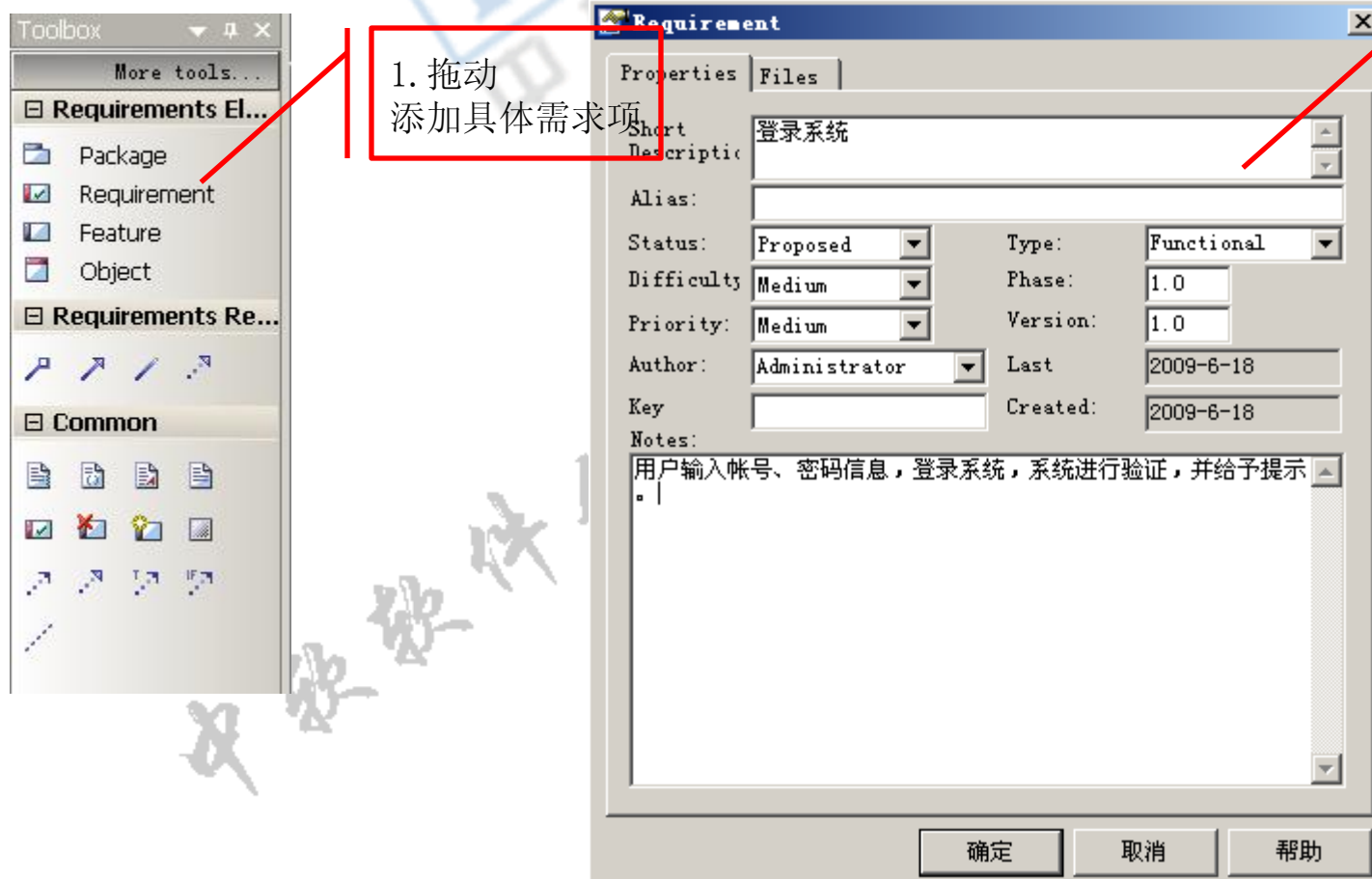
1. 建立需求模型视图



2. 建立需求模型图



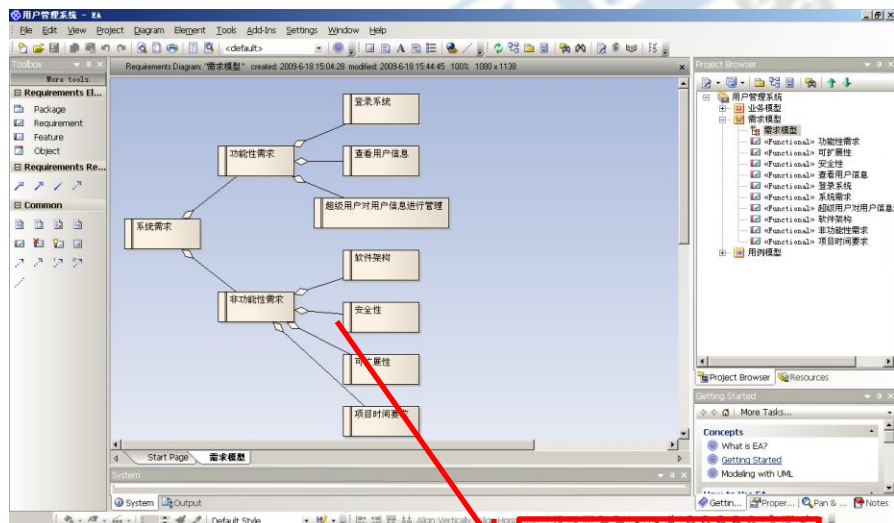
建立需求模型



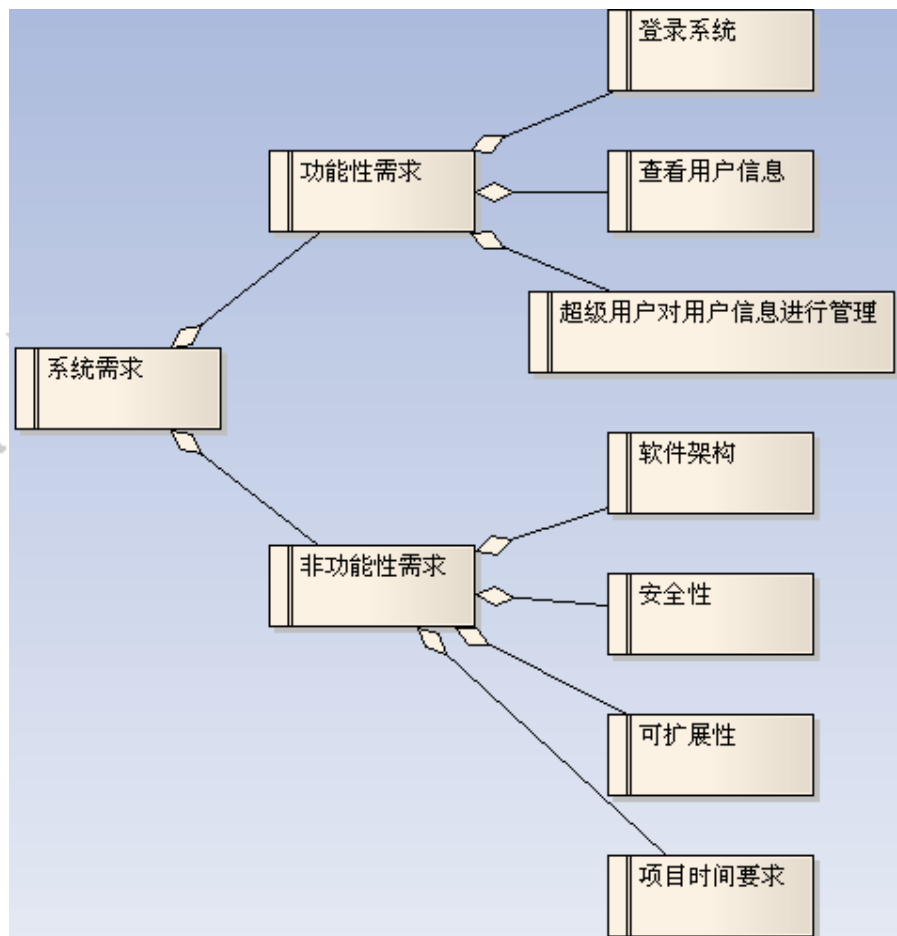
1. 拖动
添加具体需求项

2. 录入需求信息

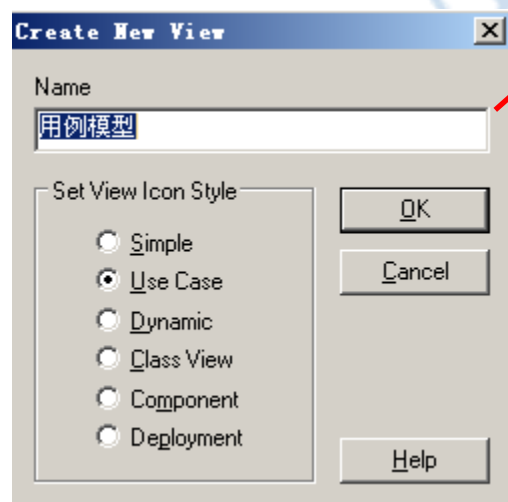
建立需求模型



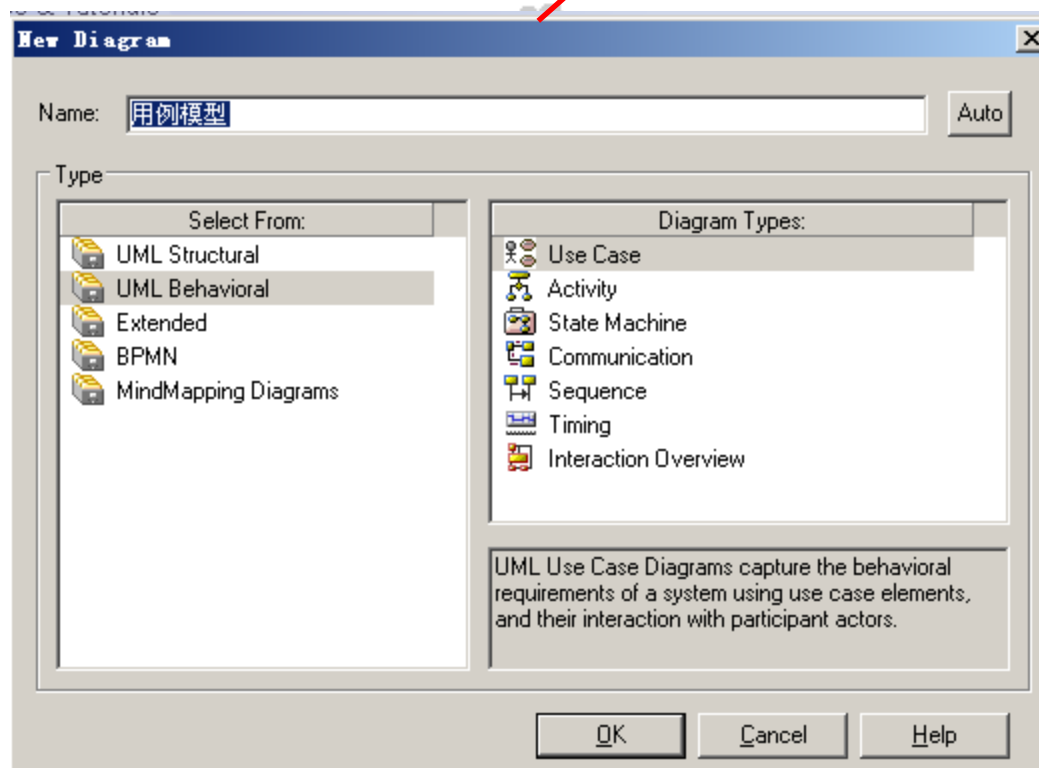
增加其他需求项
和需求项之间的
关系



建立用例模型



1. 添加用例视图



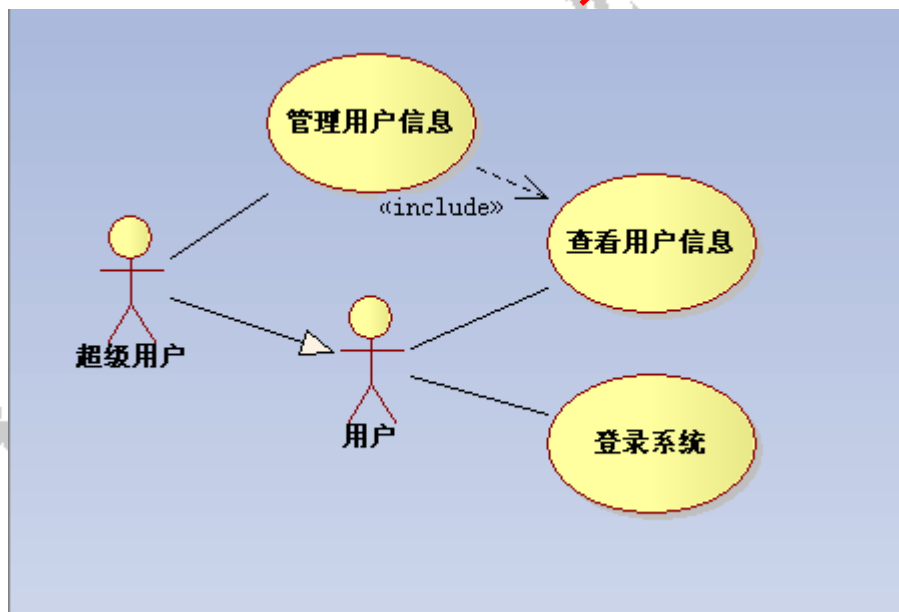
2. 添加用例图

建立用例模型



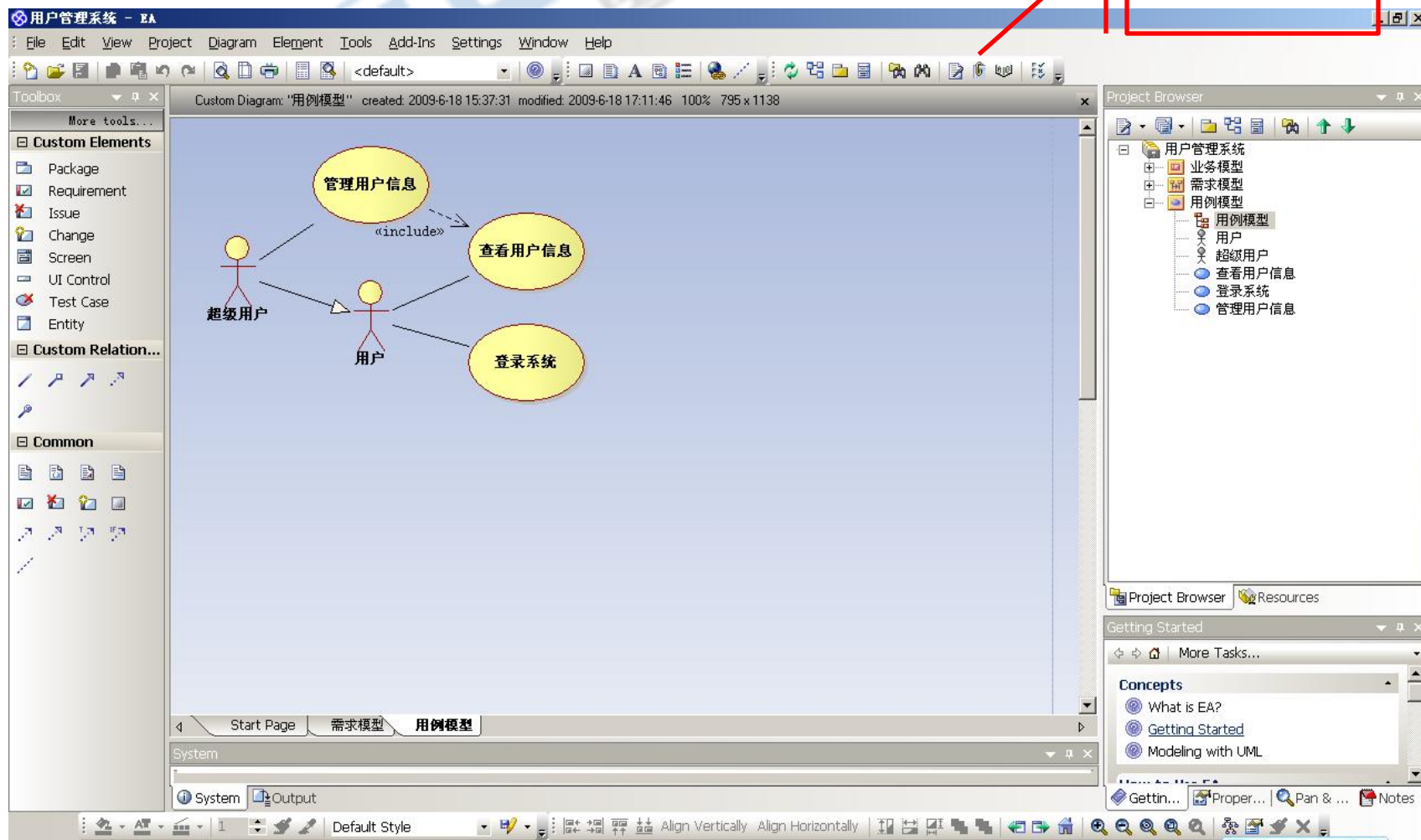
1. 从工具栏拖动角色和用例到图中

2. 添加用例

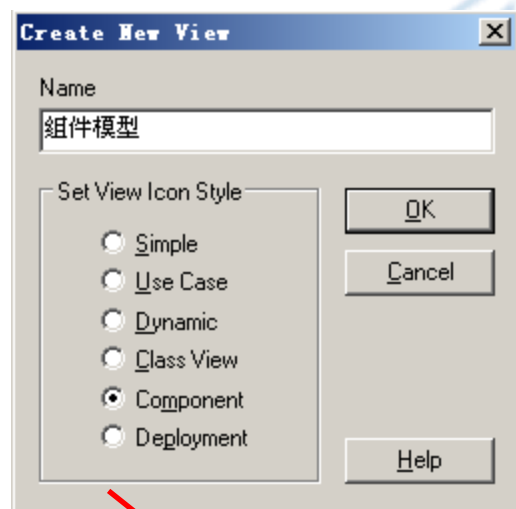


建立用例模型

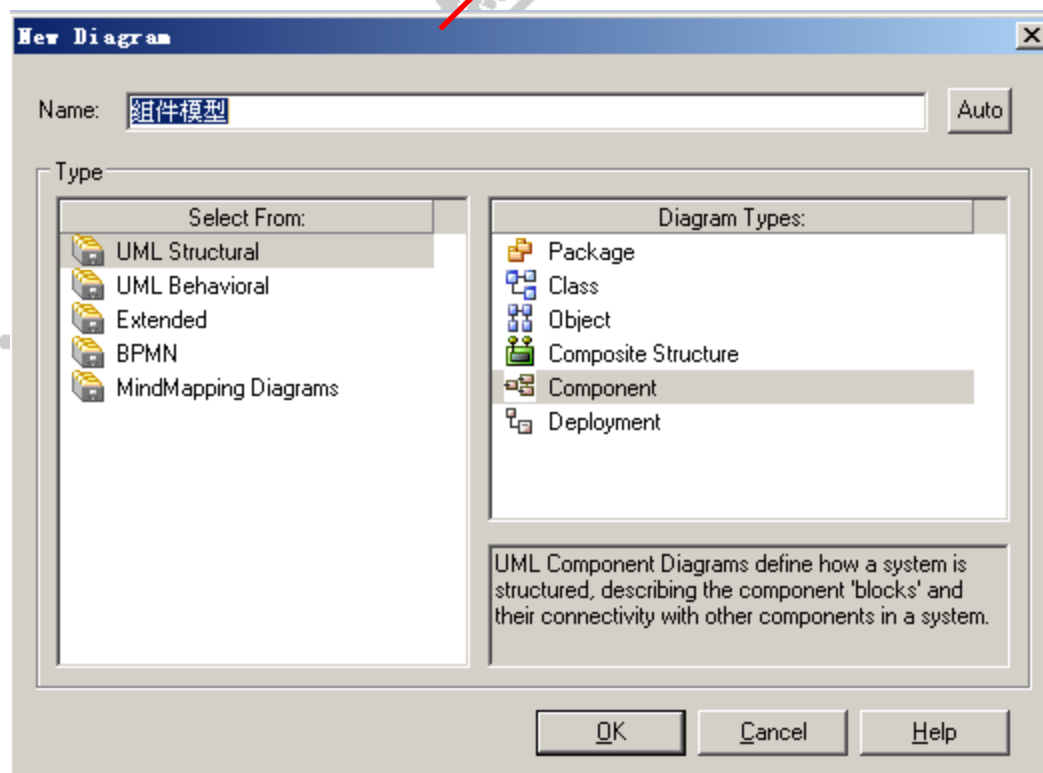
完成用例模型



建立组件模型

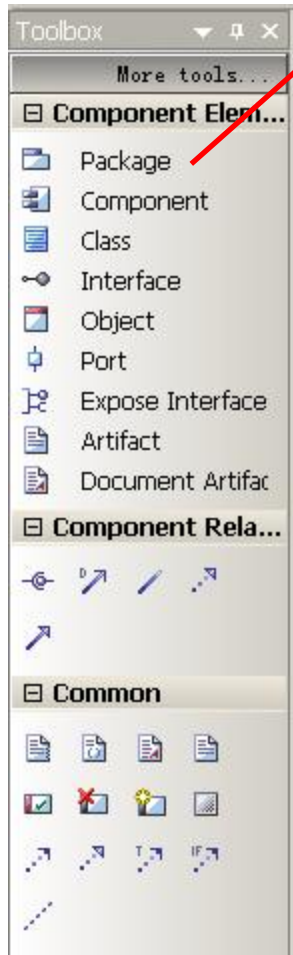


1. 增加组件模型
视图



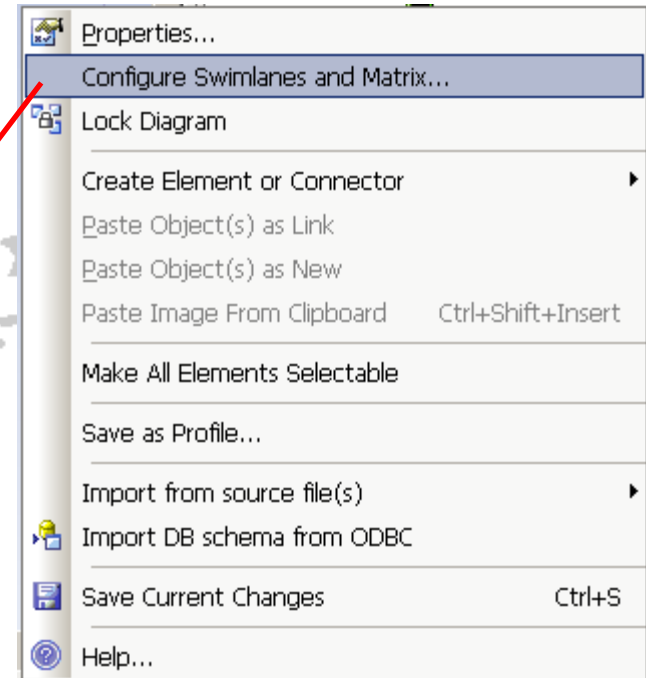
2. 添加组件图

建立组件模型

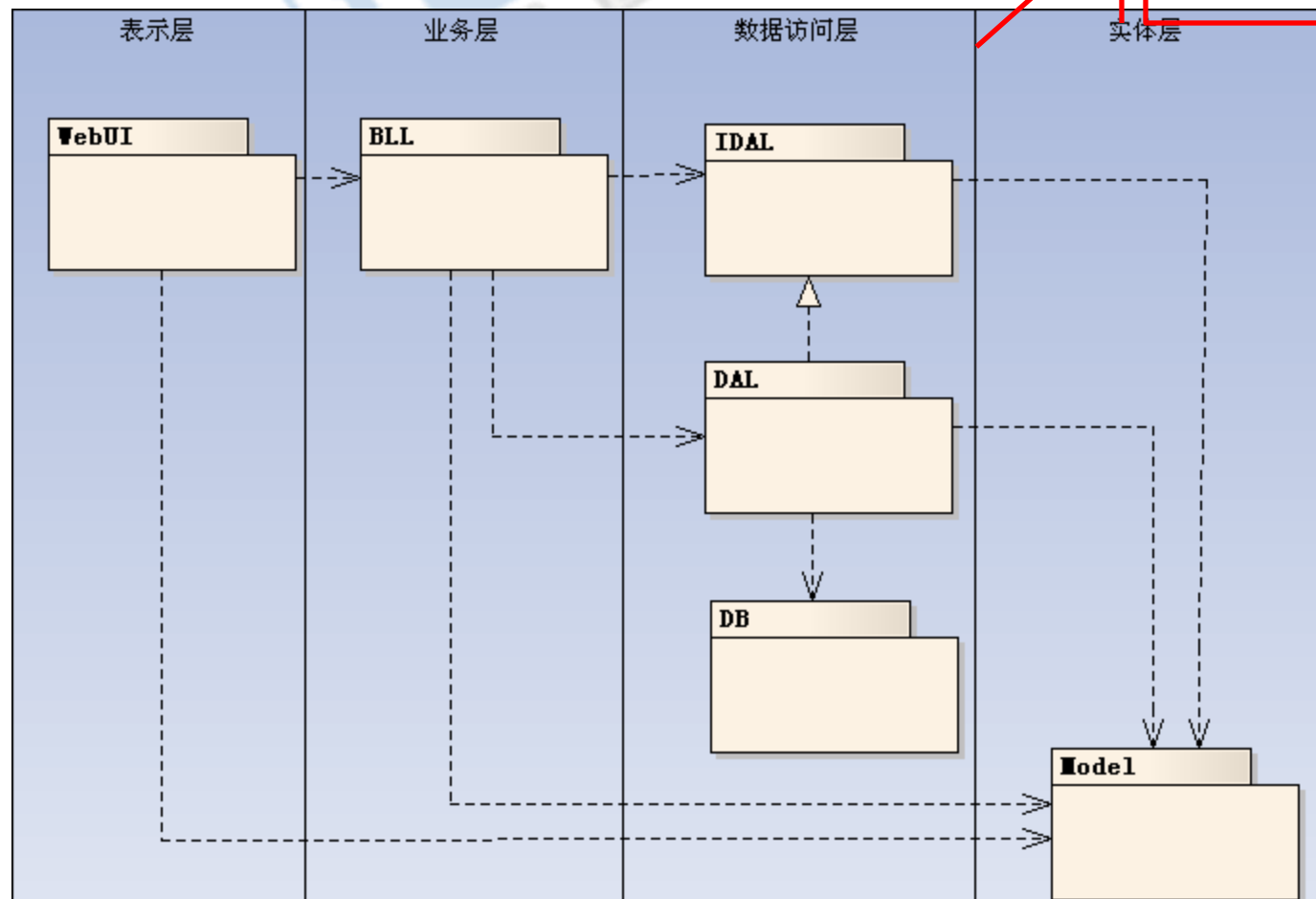


1. 添加Package,
及依赖关系

2. 在设计区
右键, 配置
泳道



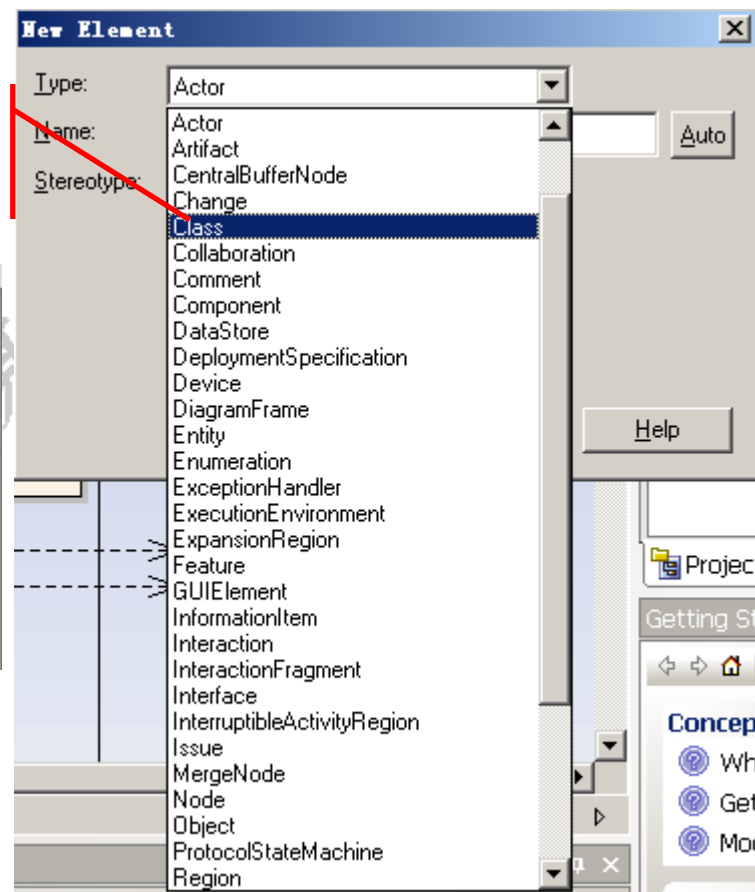
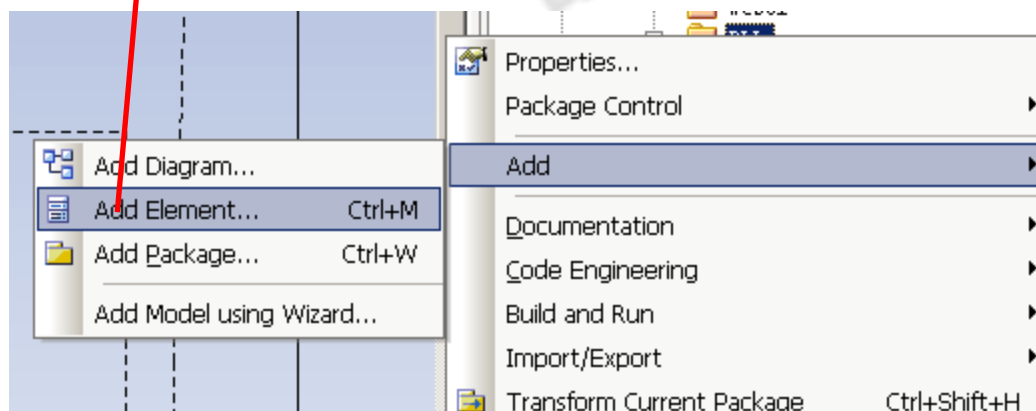
建立组件模型



建立组件模型

1. 在文件夹右键，
增加元素

2. 添加类



建立组件模型

Class : UserInfo

General Details Require Constraints Links Scenario

Name: UserInfo

Stereotyp: .. Abstract

Author: Administrator Status: Proposed

Scope: Public Complexit: Easy

Alias: Language: Java

Persistenc: Keywords:

Phase: 1.0 Version: 1.0

Notes:

Advanced

确定 取消 应用(A) 帮助

1. 输入类名

2. 属性或方法

Class : UserInfo

General Details Require Constraints Links Scenario

Cardinality: Visibility:

Concurrency

☐ Sequential

☐ Guarded

☐ Active

☐ Synchronous

Attributes...

Operations...

Collection Classes.

Templates

Type

Add Edit Delete

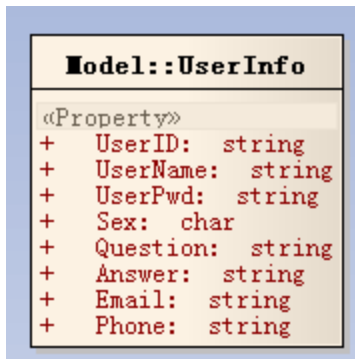
Parameter	Type	Default
-----------	------	---------

Arguments

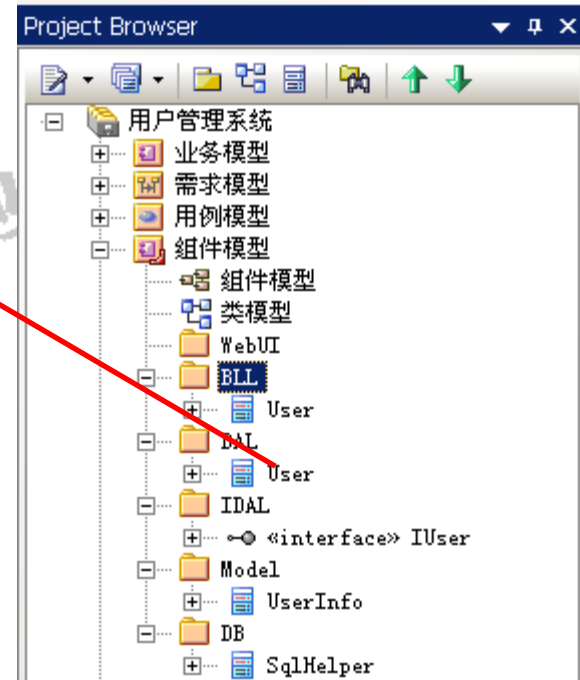
确定 取消 应用(A) 帮助

建立组件模型

1. 完成实体类
UserInfo

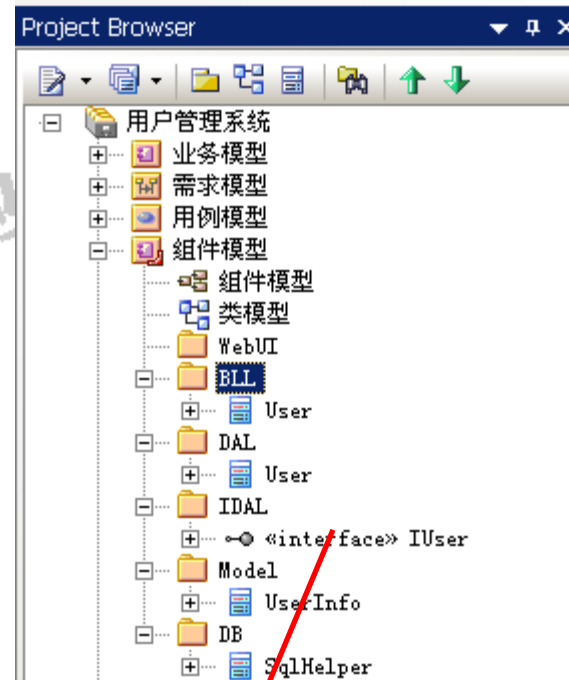
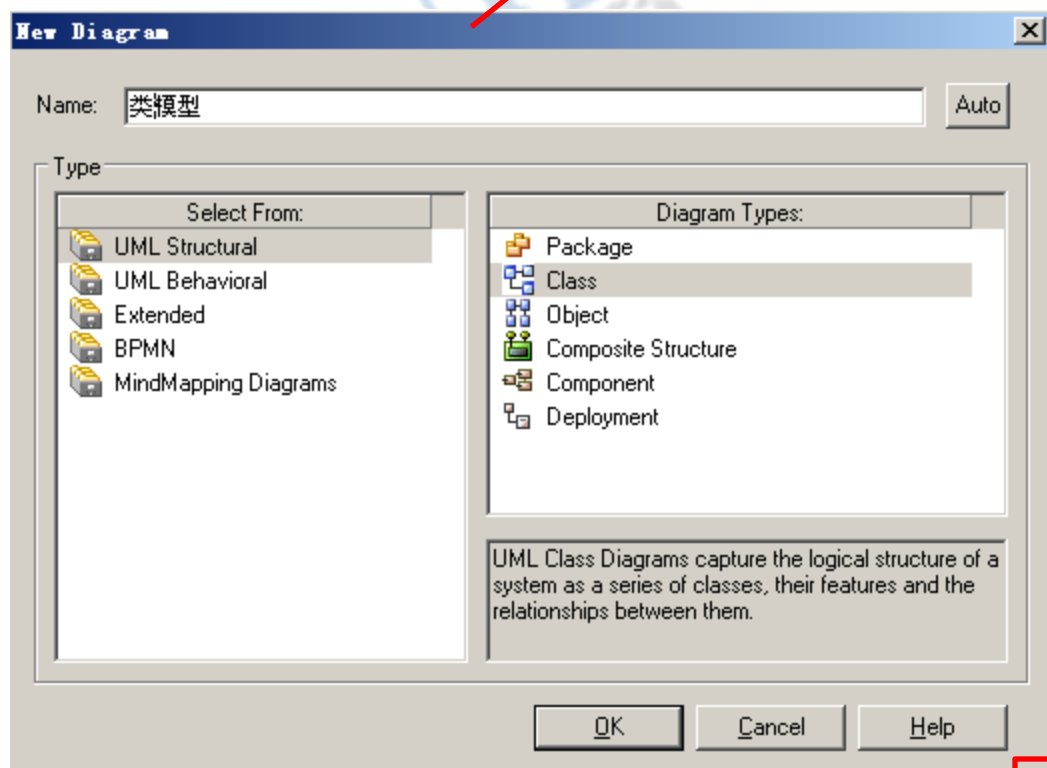


2. 依次在各
Package中增加
各个类



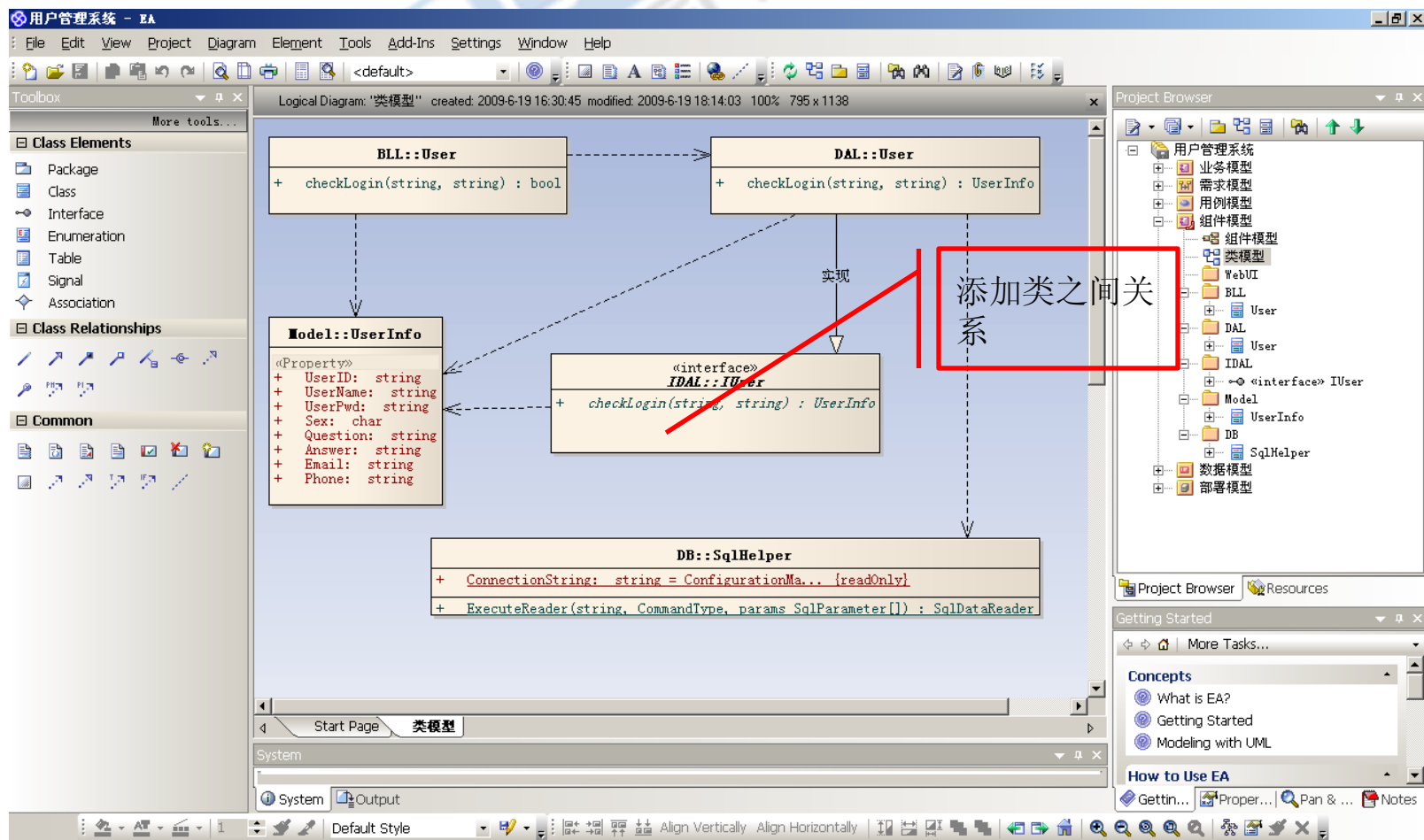
建立组件模型

1. 建立类模型图

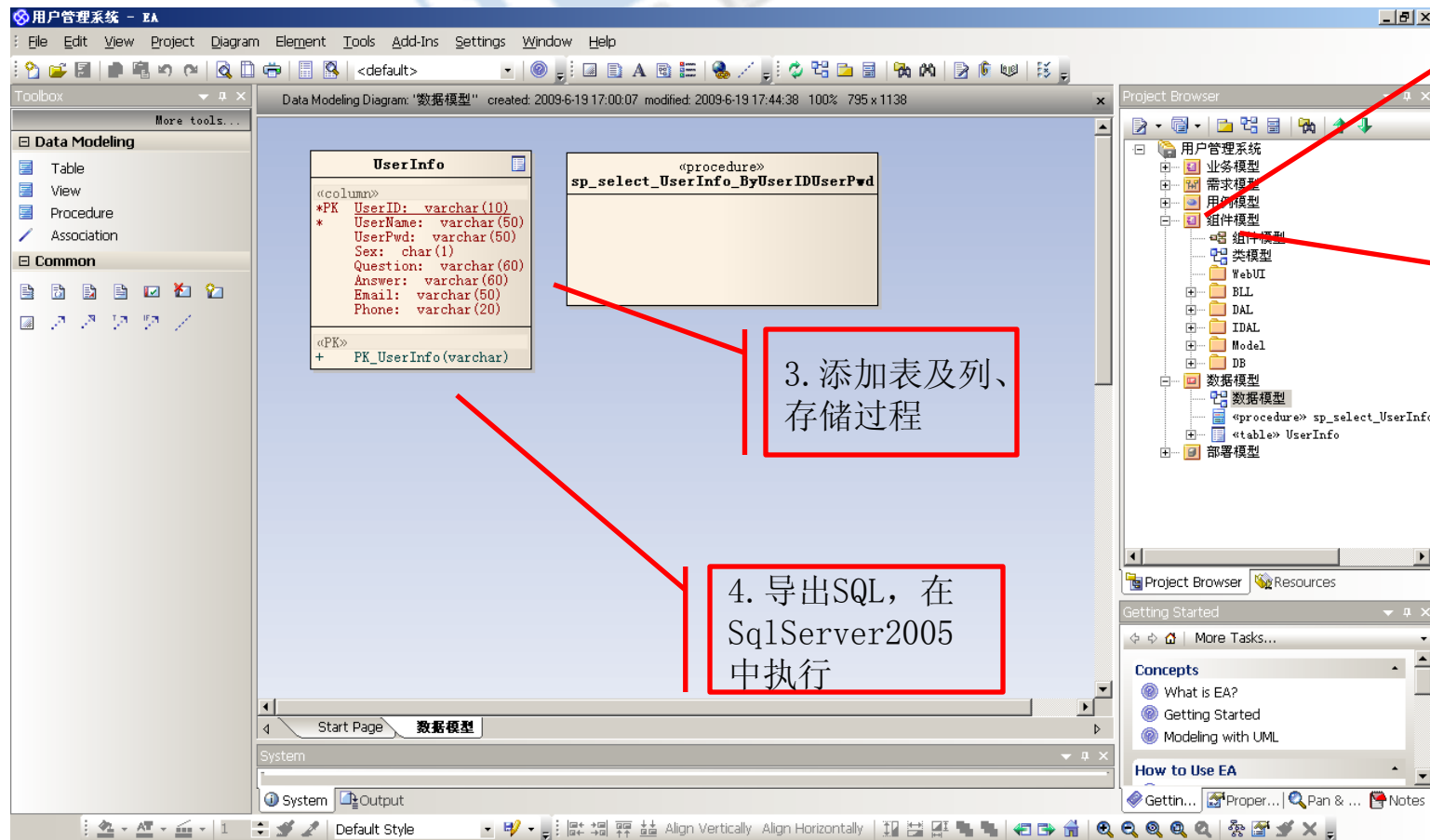


2. 拖动类到图中

建立组件模型



建立数据模型



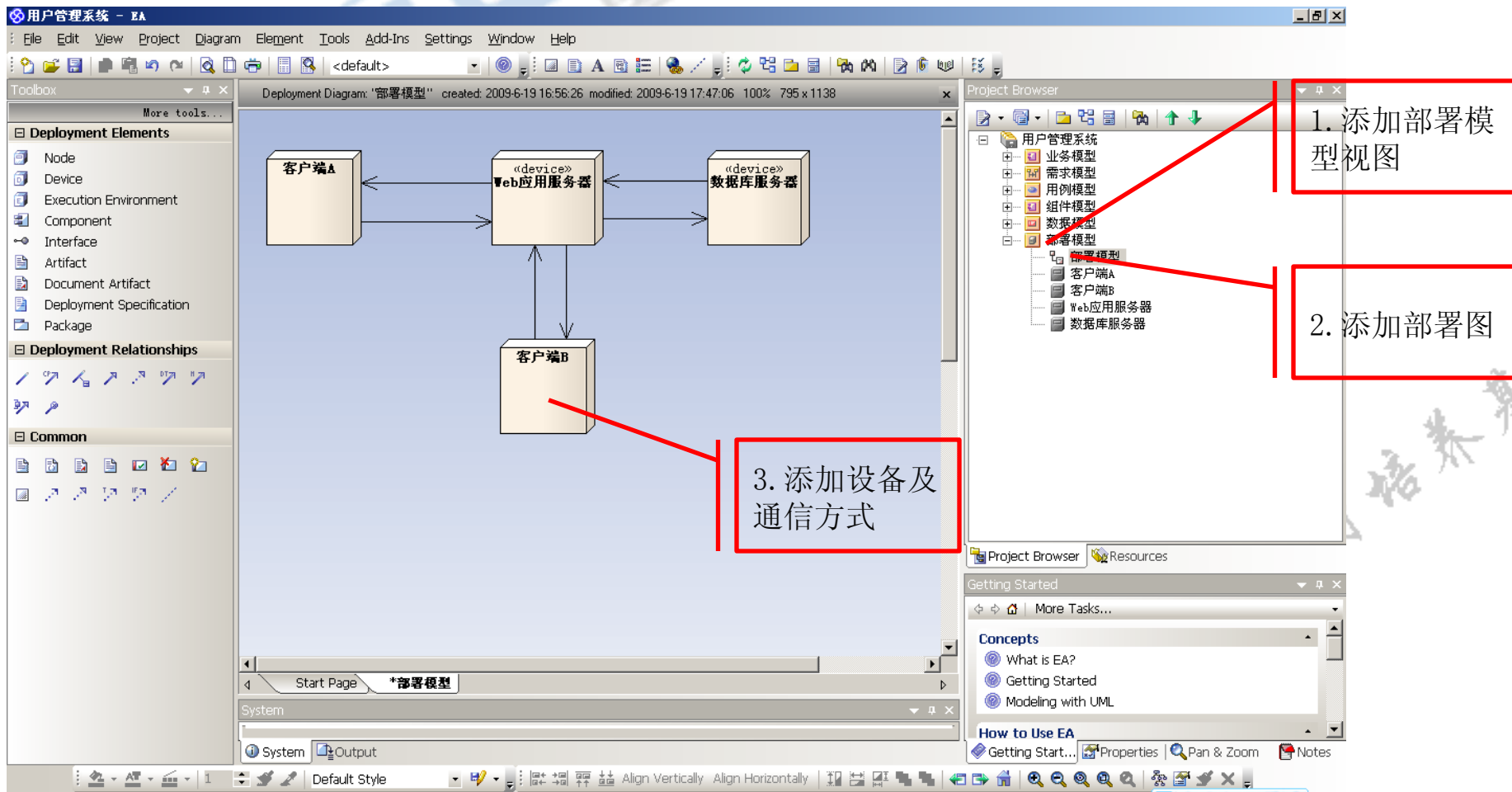
1. 添加数据模型视图

2. 添加数据模型图

3. 添加表及列、存储过程

4. 导出SQL，在SqlServer2005中执行

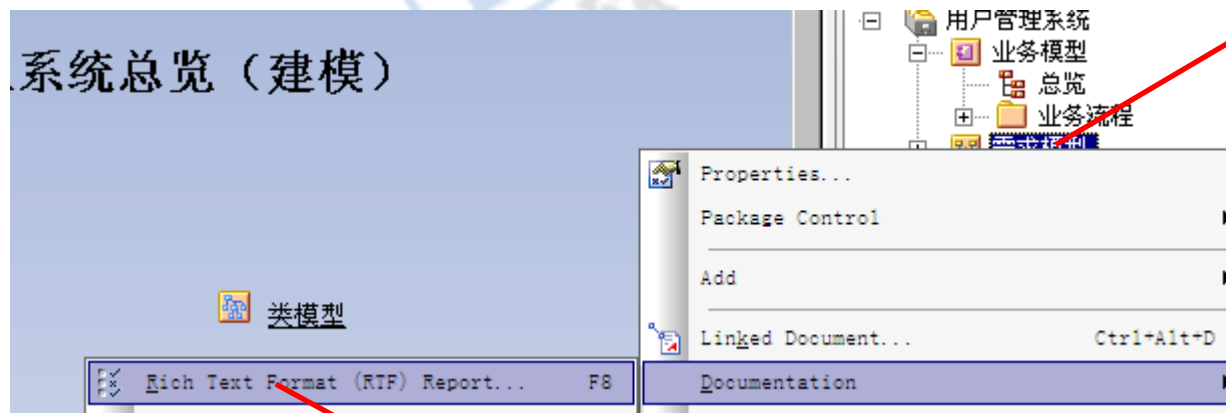
建立部署模型



使用EA进行建模

完成系统建模，一些有用的功能……

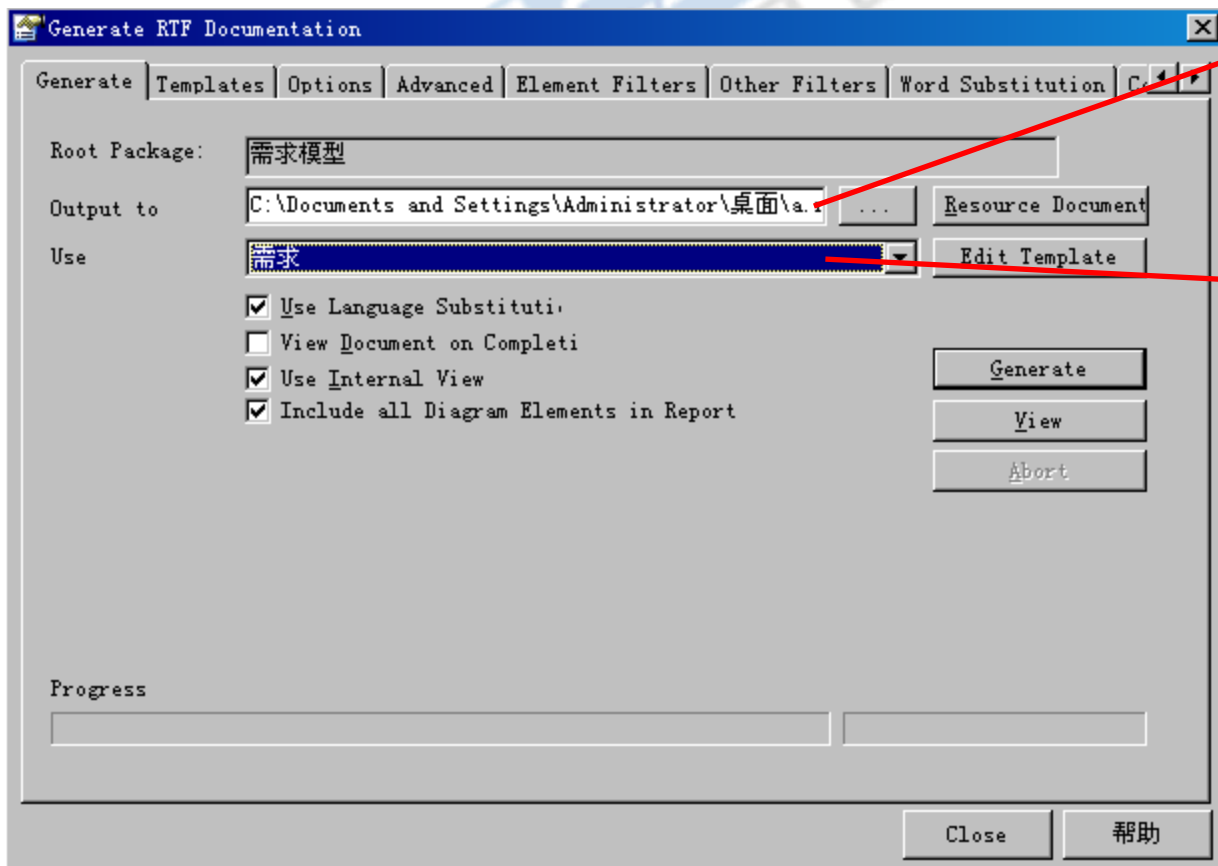
导出RTF (Word)



1. 选择要导出的模型（也可以是根节点，导出所有）

2. 右键菜单，选择文档-RTF报表

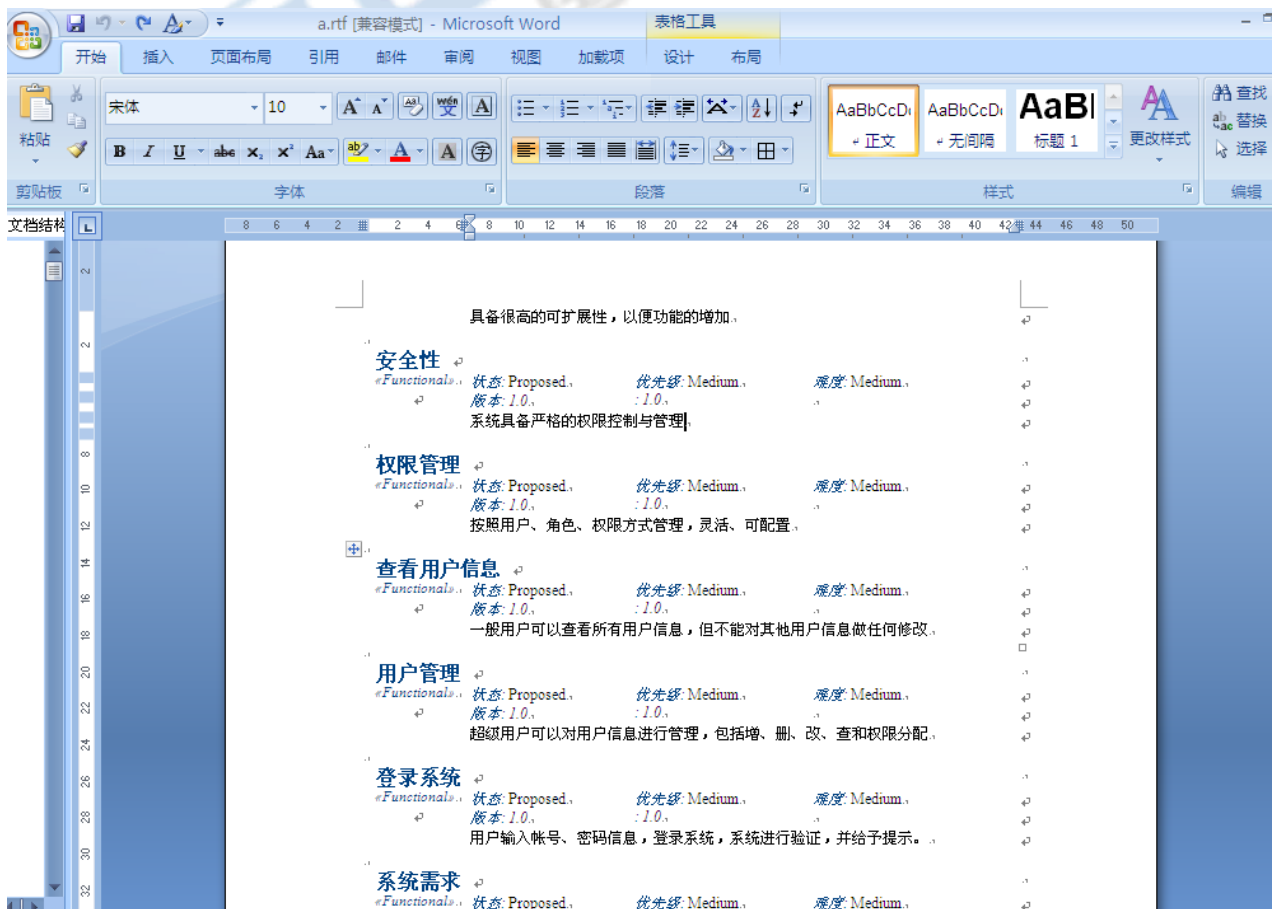
导出RTF (Word)



1. 输入导出文件的路径及文件名

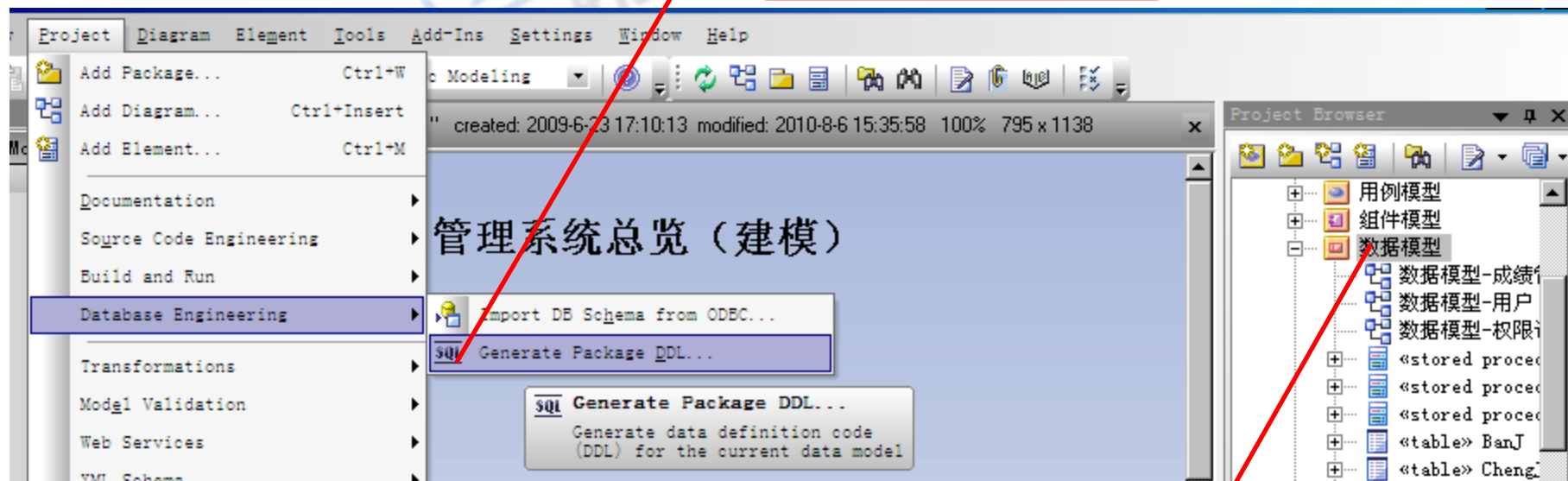
2. 选择导出模板，可以在右边编辑模板中编辑模板或在下拉中新建模板

导出RTF (Word)



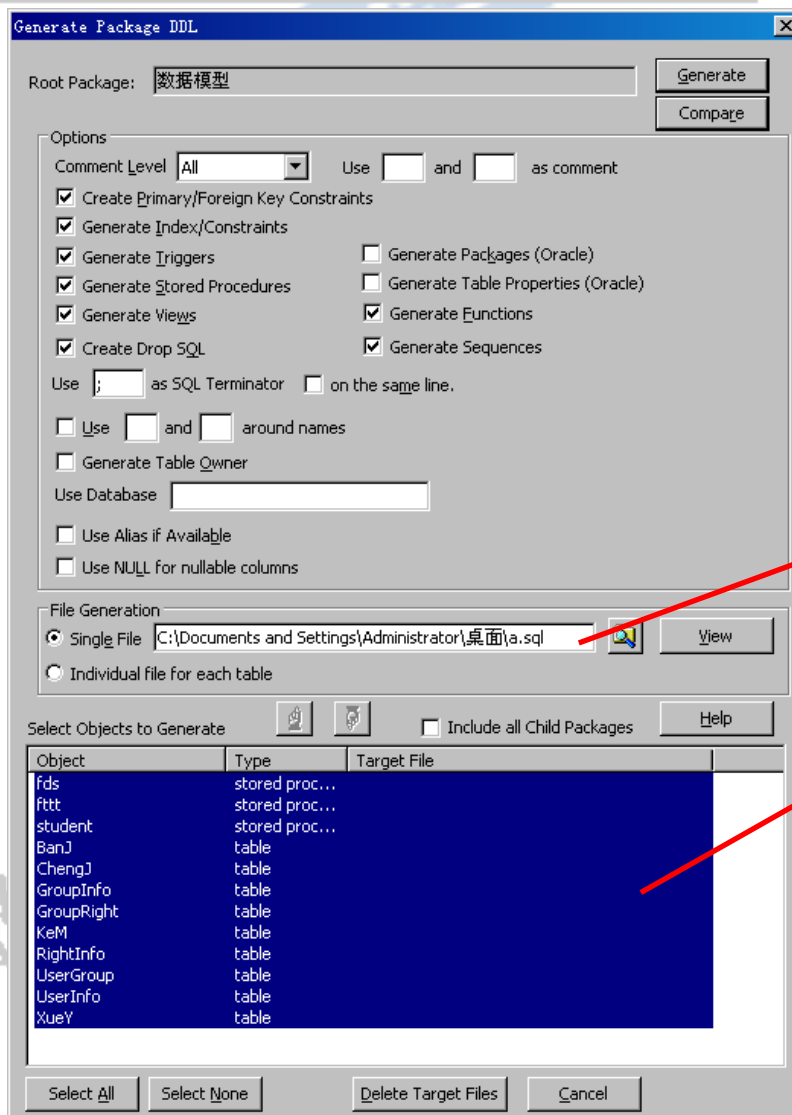
导出SQL

2. 点击菜单Project-
Database Engineering-
SQL



1. 选择数据模型

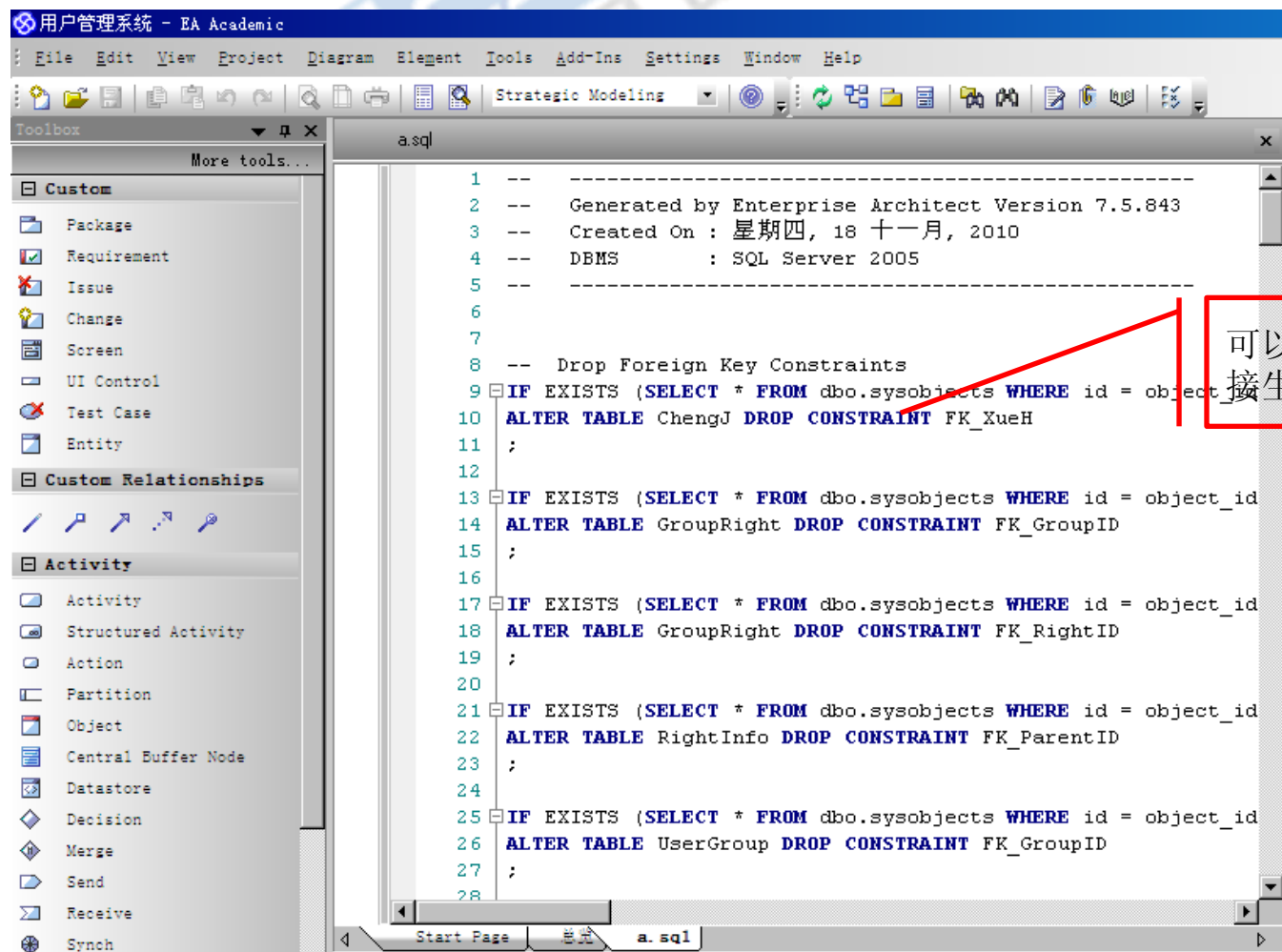
导出SQL



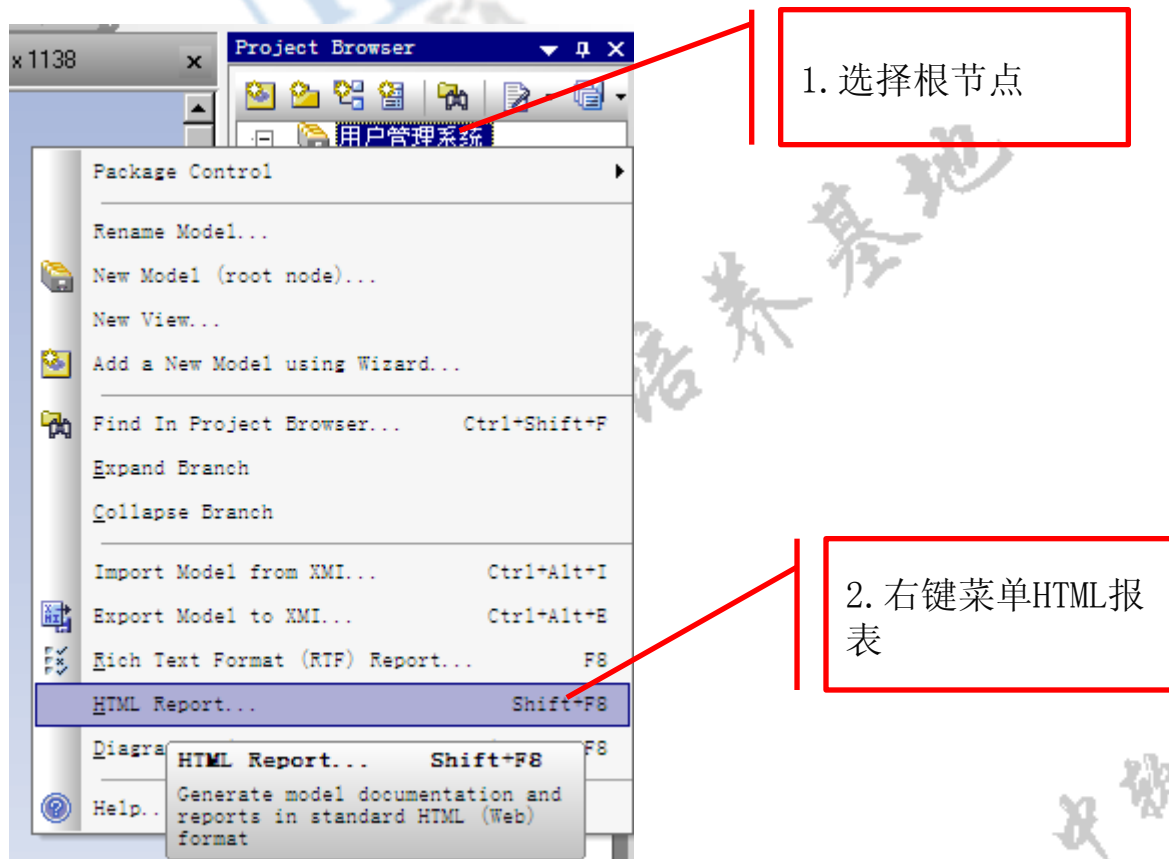
1. 输入SQL文件路径和文件名

2. 选择要导出的对象

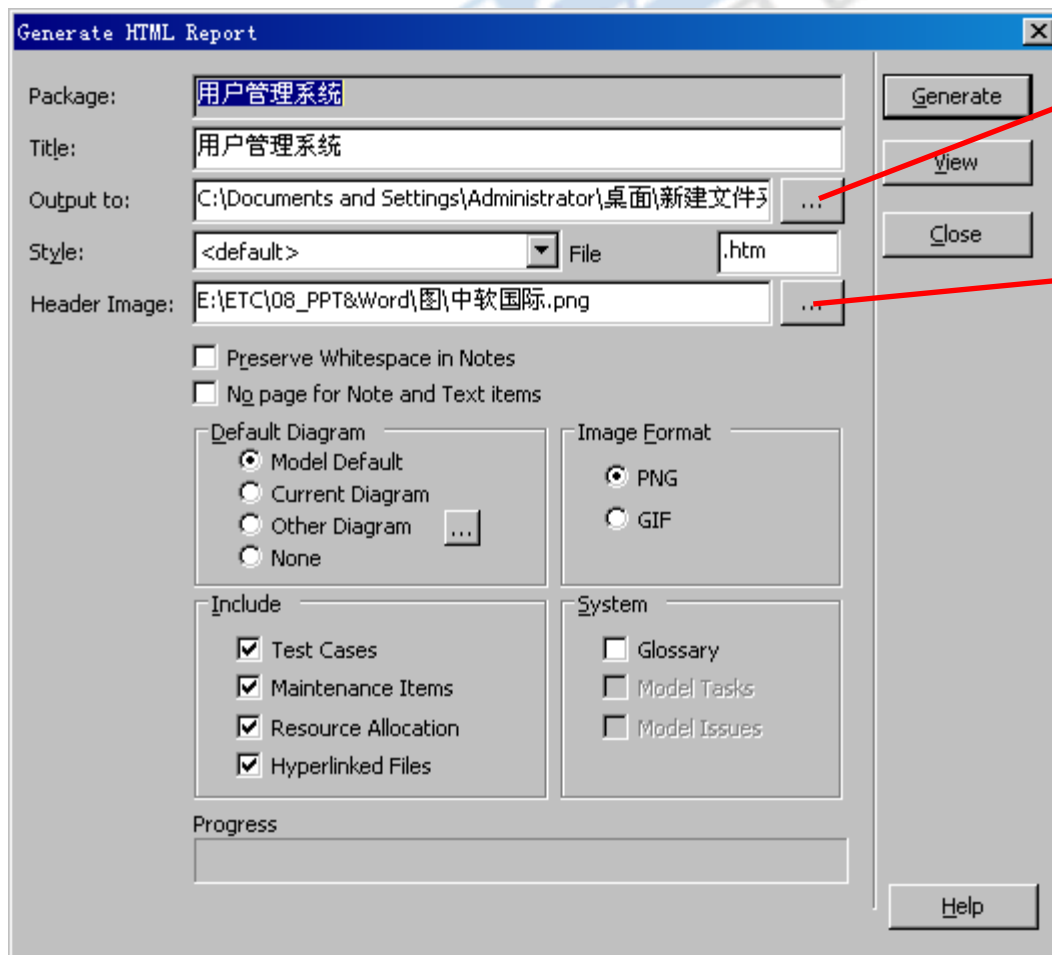
导出SQL



导出HTML



导出HTML



1. 选择HTML文件存放的目录

2. 指定HTML主页面使用的图片（公司LOGO）

软件工程师培养

导出HTML

用户管理系统

CS&S
中软国际

- 用户管理系统
 - 业务模型
 - 总览
 - 业务流程
 - 需求模型
 - 用例模型
 - 组件模型
 - 数据模型
 - 部署模型

用户管理系统总览（建模）

- 业务流程
- 需求模型
- 用例模型
- 架构模型
- 类模型
- 数据模型-用户
- 部署模型

总览: custom diagram

Created: 2009-6-23 17:10:13
Modified: 2010-8-6 15:35:58
Project:
Advanced:

一些其他的……

- 折线的使用
- 自动布局，排列方向
- 字体的改变
- 数据库类型的选择
- 线的关系说明
- 矩阵泳道的使用

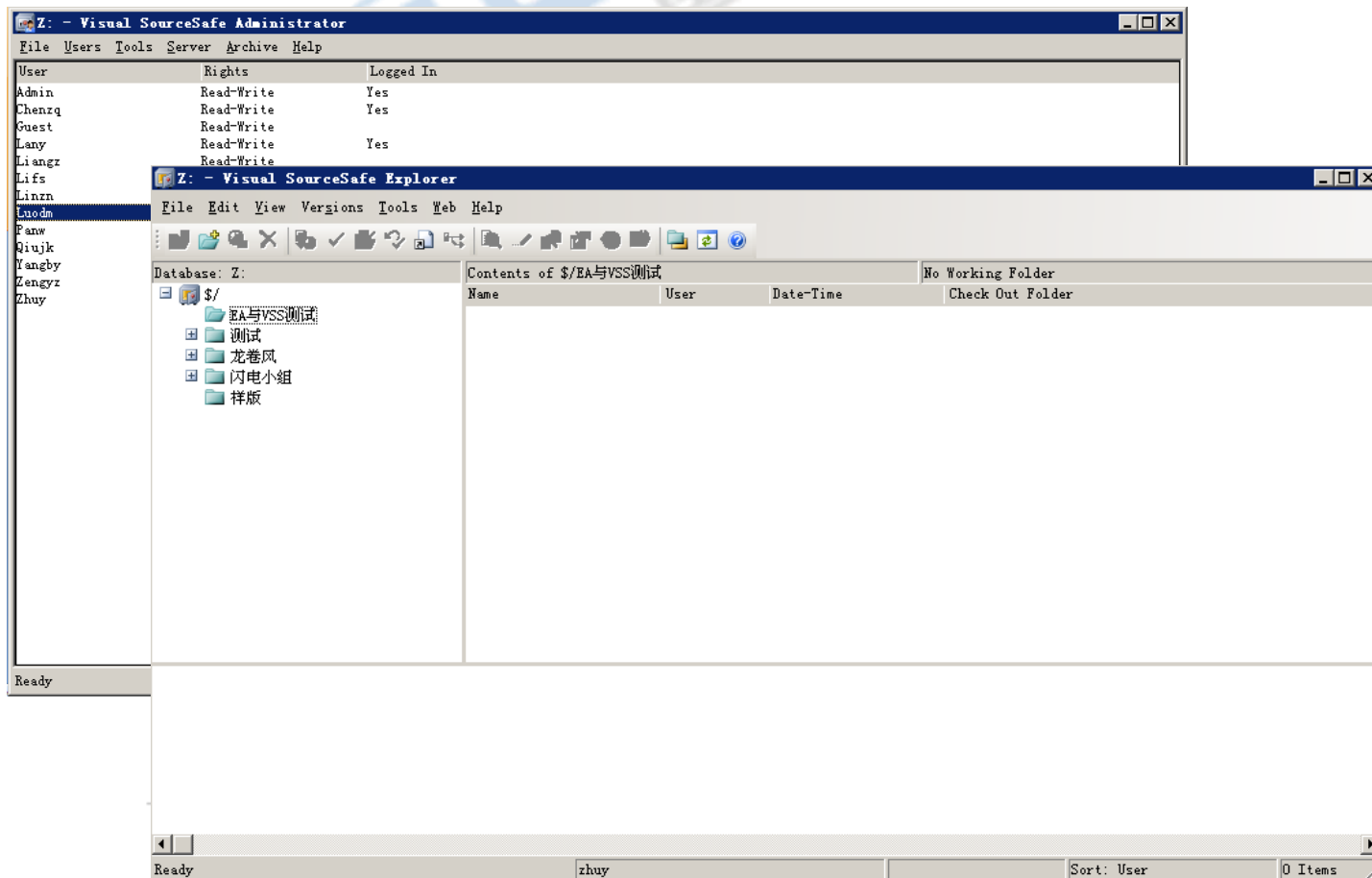
一些其他的……

- 超链接的实现
- 复合元件
- 别名的使用
- 存储过程（添加元件-选择组-class-stored procedures）
- 复制已有元件

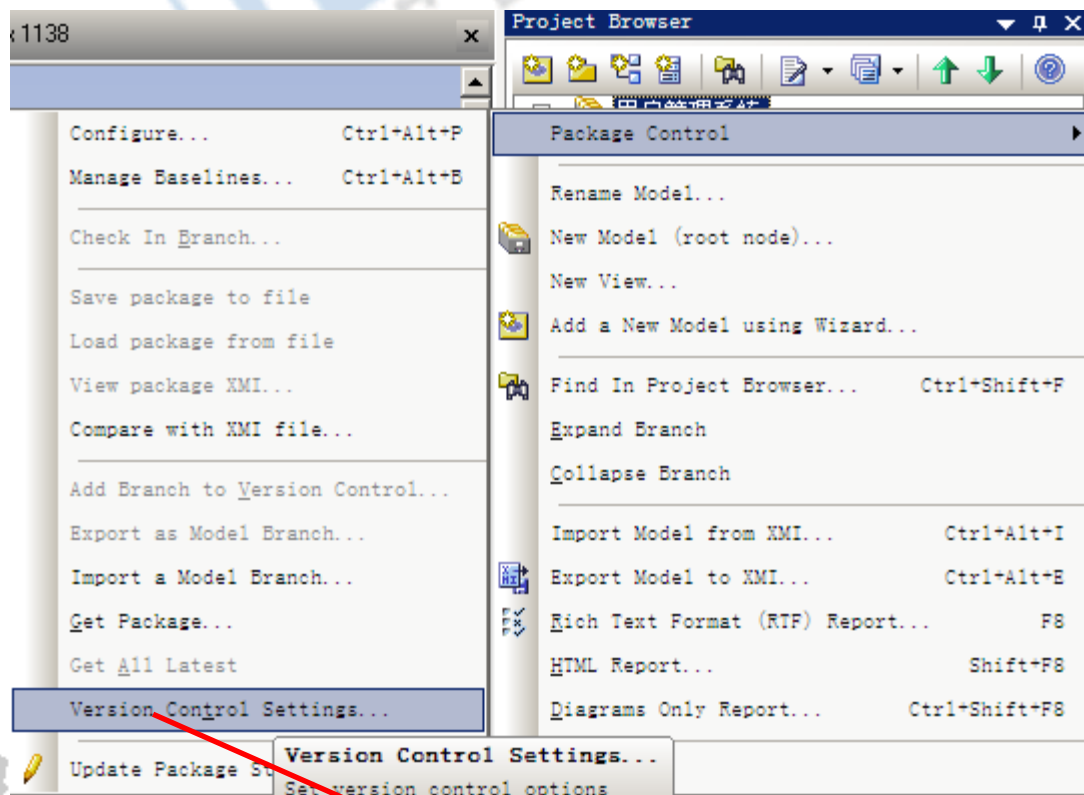
在EA中如何实现多人协作？

EA团队建模-与VSS的结合

完成VSS环境的建立



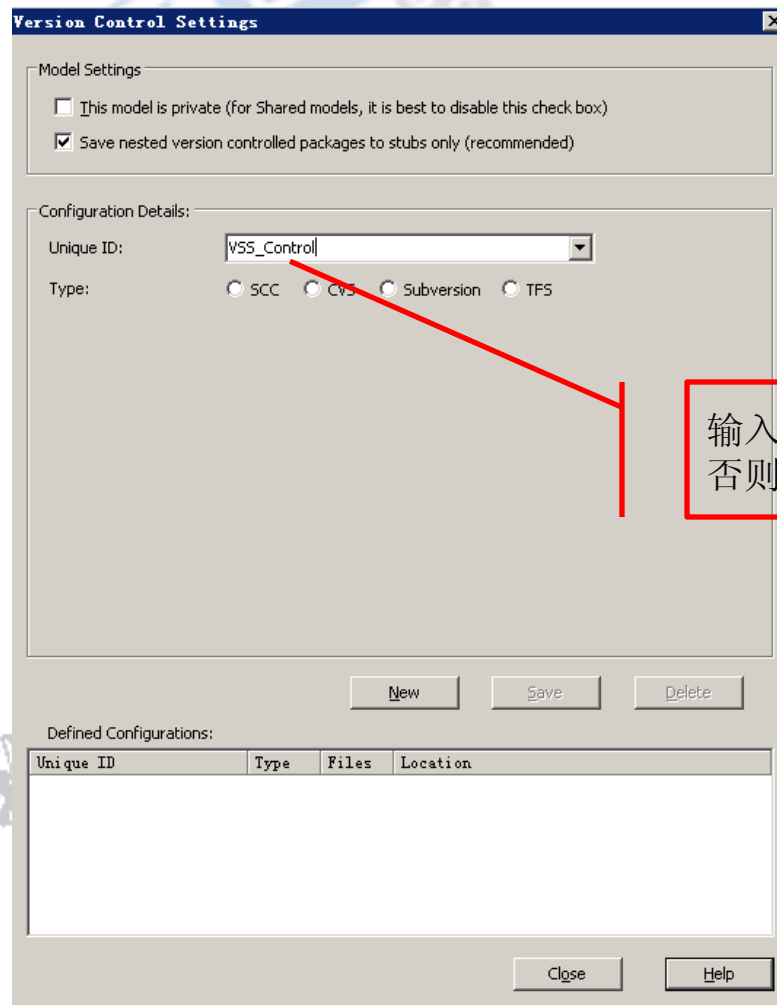
将EA项目绑定到VSS - 版本管理工具设置



选择解决方案，点右键，选择Package Controls，再点击Version Control Settings

EA团队建模-与VSS的结合

将EA项目绑定到VSS - 版本管理工具设置



The image shows the 'Version Control Settings' dialog box. It has a 'Model Settings' section with two checkboxes: 'This model is private (for Shared models, it is best to disable this check box)' which is unchecked, and 'Save nested version controlled packages to stubs only (recommended)' which is checked. Below this is the 'Configuration Details' section. It contains a 'Unique ID:' label and a dropdown menu showing 'VSS_Control'. Below the dropdown are four radio buttons for 'Type': 'SCC', 'CVS', 'Subversion', and 'TFS'. A red arrow points from the 'VSS_Control' dropdown to a red-bordered text box on the right. At the bottom of the dialog are buttons for 'New', 'Save', and 'Delete'. Below these is a 'Defined Configurations:' section with a table that has columns 'Unique ID', 'Type', 'Files', and 'Location'. The table is currently empty. At the very bottom are 'Close' and 'Help' buttons.

Version Control Settings

Model Settings

☐ This model is private (for Shared models, it is best to disable this check box)

☒ Save nested version controlled packages to stubs only (recommended)

Configuration Details:

Unique ID: VSS_Control

Type: ☐ SCC ☐ CVS ☐ Subversion ☐ TFS

New Save Delete

Defined Configurations:

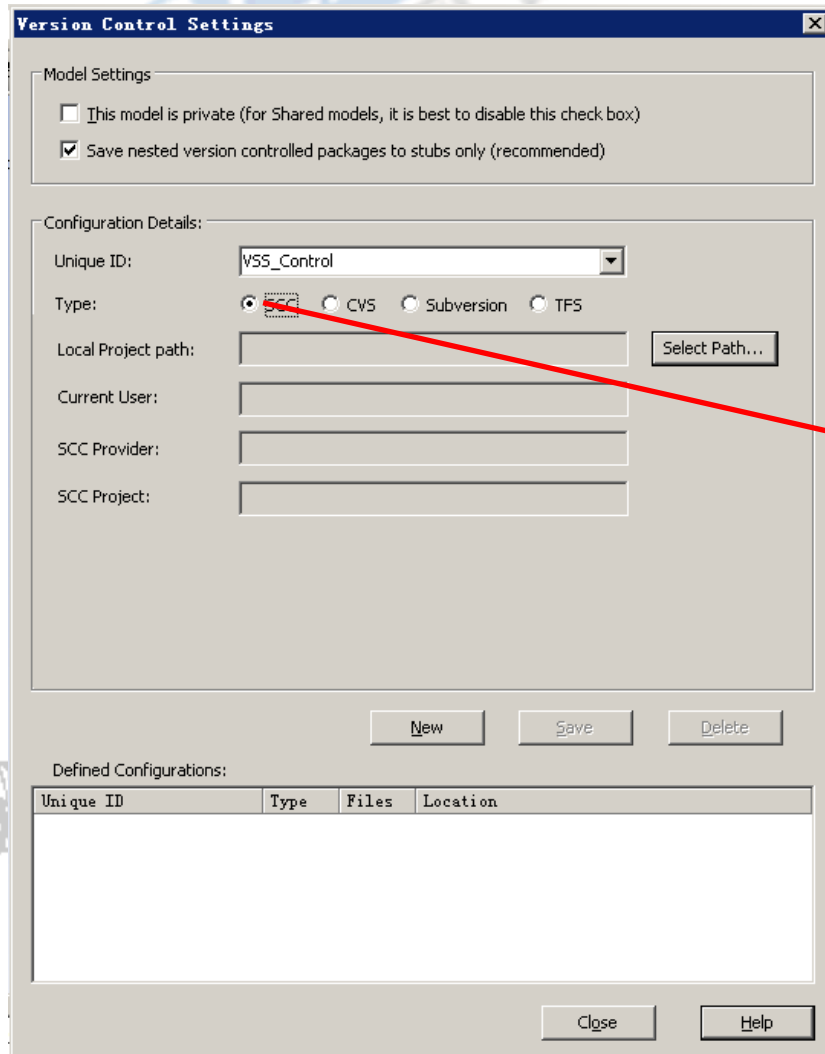
Unique ID	Type	Files	Location
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Close Help

输入版本控制描述ID（一定要先设置该项，
否则Save按钮将无法正常使用）

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The image shows the 'Version Control Settings' dialog box. It has a title bar with a close button. The dialog is divided into several sections. The 'Model Settings' section at the top contains two checkboxes: 'This model is private (for Shared models, it is best to disable this check box)' which is unchecked, and 'Save nested version controlled packages to stubs only (recommended)' which is checked. Below this is the 'Configuration Details' section. It contains a 'Unique ID' dropdown menu set to 'VSS_Control'. The 'Type' section has four radio buttons: 'SCC' (selected), 'CVS', 'Subversion', and 'TFS'. Below the radio buttons are five text input fields: 'Local Project path', 'Current User', 'SCC Provider', and 'SCC Project'. To the right of the 'Local Project path' field is a 'Select Path...' button. At the bottom of the dialog are three buttons: 'New', 'Save', and 'Delete'. Below these buttons is a section titled 'Defined Configurations:' which contains a table with four columns: 'Unique ID', 'Type', 'Files', and 'Location'. The table is currently empty. At the very bottom of the dialog are 'Close' and 'Help' buttons.

Version Control Settings

Model Settings

☐ This model is private (for Shared models, it is best to disable this check box)

☒ Save nested version controlled packages to stubs only (recommended)

Configuration Details:

Unique ID: VSS_Control

Type: ☒ SCC ☐ CVS ☐ Subversion ☐ TFS

Local Project path:

Current User:

SCC Provider:

SCC Project:

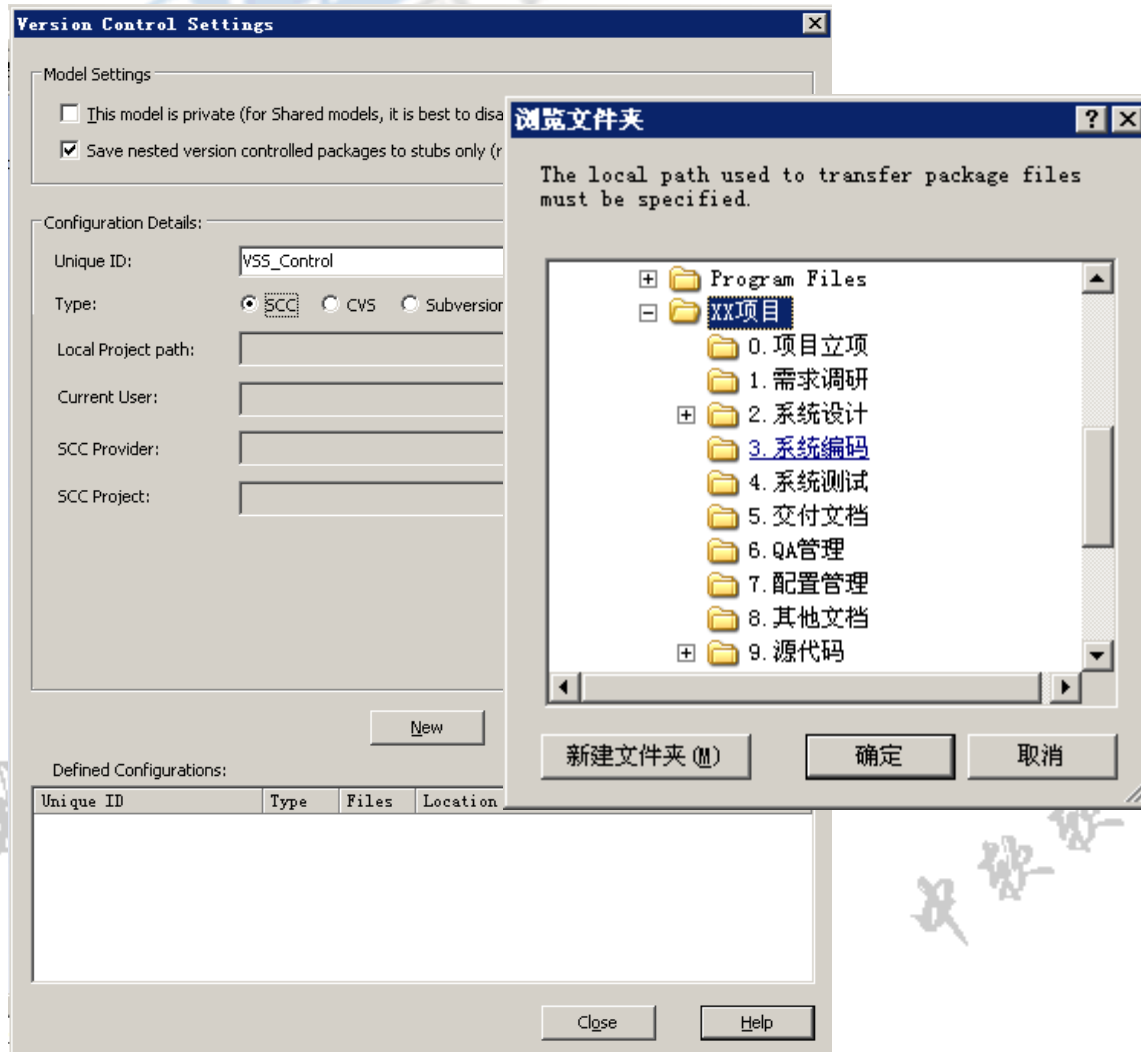
Defined Configurations:

Unique ID	Type	Files	Location
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选择SCC类型

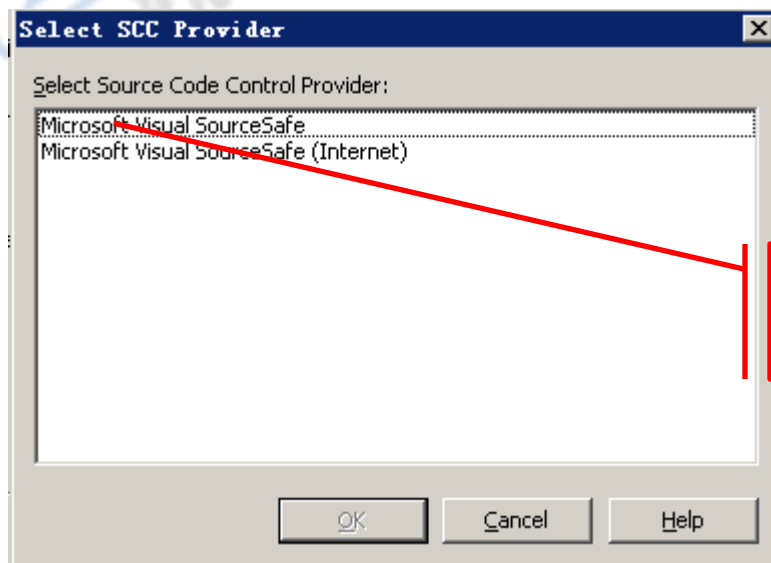
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EA团队建模-与VSS的结合

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选择控制工具

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Version Control Settings

Model Settings:

☐ This model is private (for Shared models, it is best to disable this check box)

☒ Save nested version controlled packages to stubs only (recommended)

Configuration Details:

Unique ID: VSS_Control

Type: ☒ SCC ☐ CVS ☐ Subversion ☐ TFS

Local Project path: E:\XX项目\2.系统设计\EA建模 Select Path...

Current User:

SCC Provider: Microsoft Visual SourceSafe

SCC Project:

New Save Delete

Defined Configurations:

Unique ID	Type	Files	Location
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Close Help

1. Save

2. VSS用户信息
3. OK

Log On to Visual SourceSafe Database

Microsoft
Visual SourceSafe 2005

Provide your credentials to access this database.

Visual SourceSafe credentials may be different than your Windows network user name and password.

User name: zhuy

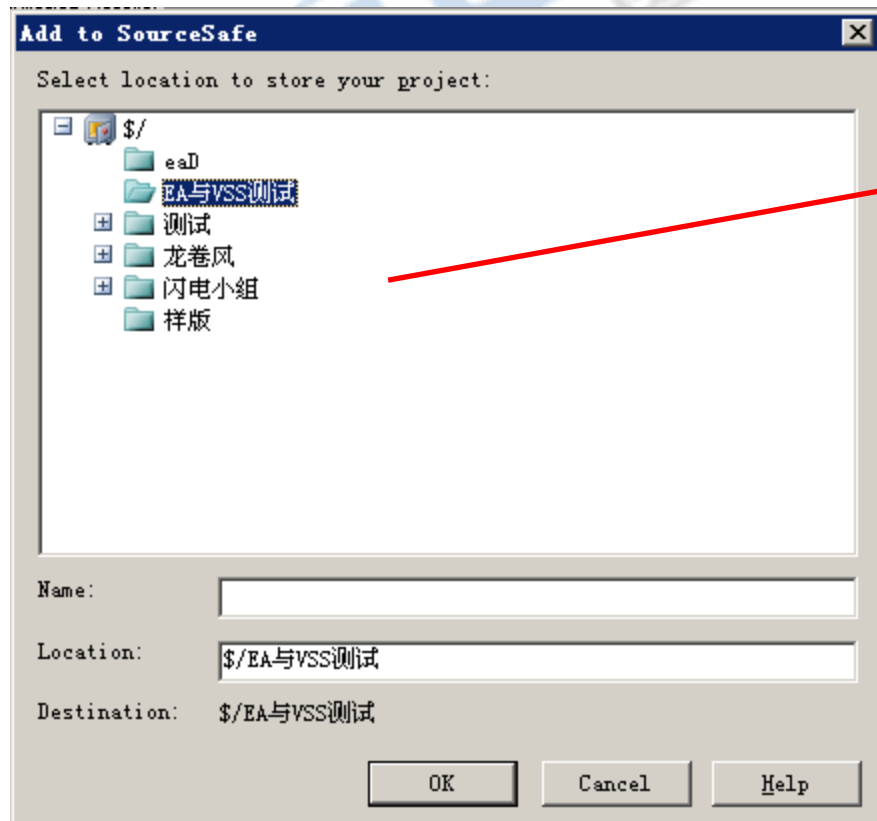
SourceSafe password: ●●●

Database: Z: Browse...

OK Cancel Help

EA团队建模-与VSS的结合

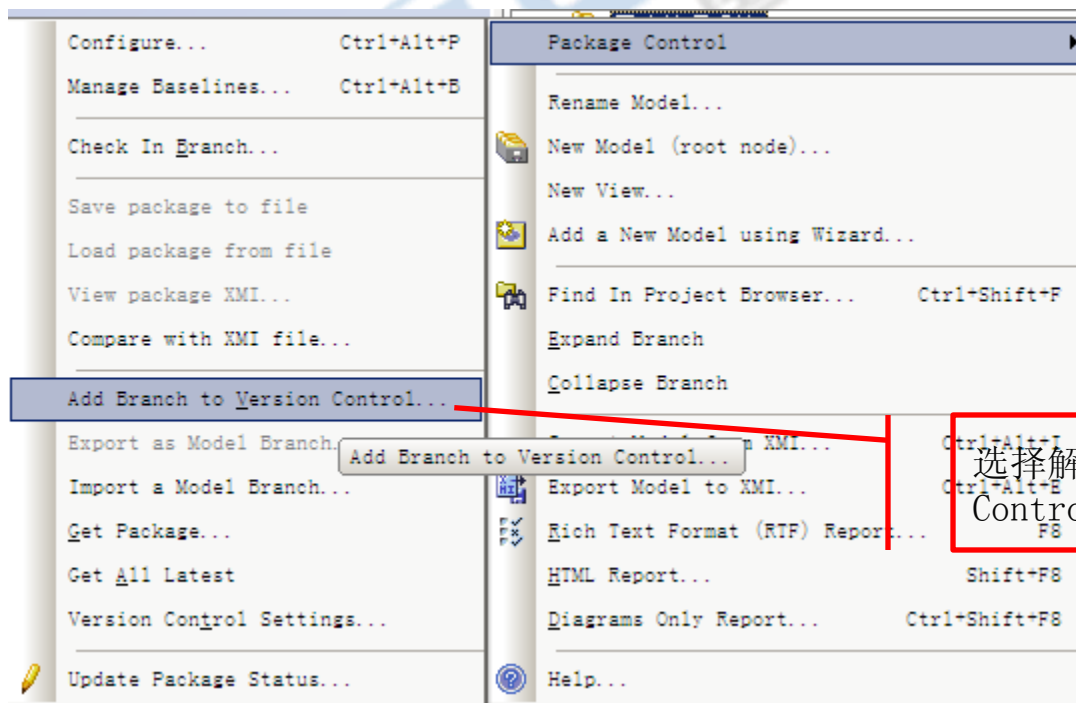
将EA项目绑定到VSS - 版本管理工具设置



1. 选择EA文件要绑定到VSS的具体位置
2. OK
3. 关闭Version Control Settings窗口

EA团队建模-与VSS的结合

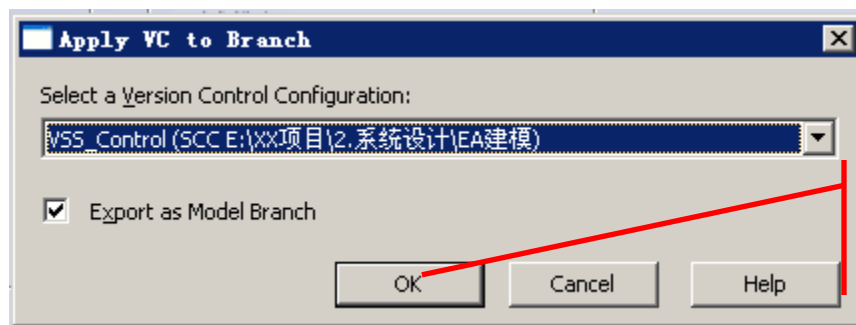
将EA项目绑定到VSS - 将本地文件上传到VSS



选择解决方案，点右键，选择Package Controls，再点击Add Branch To Version...

EA团队建模-与VSS的结合

将EA项目绑定到VSS - 将本地文件上传到VSS

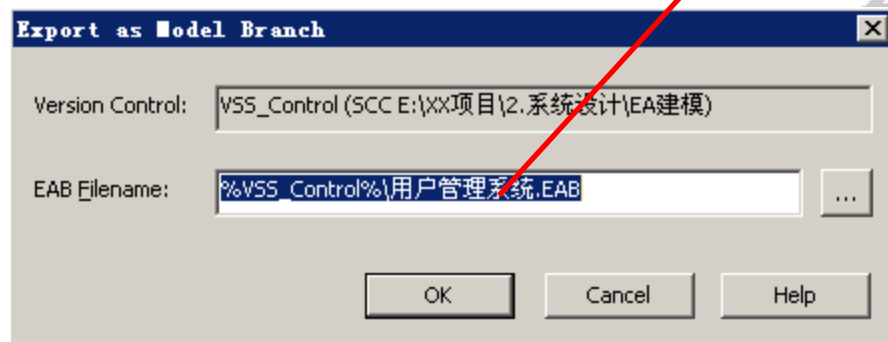


选择刚配置好的设置，点击OK



EA团队建模-与VSS的结合

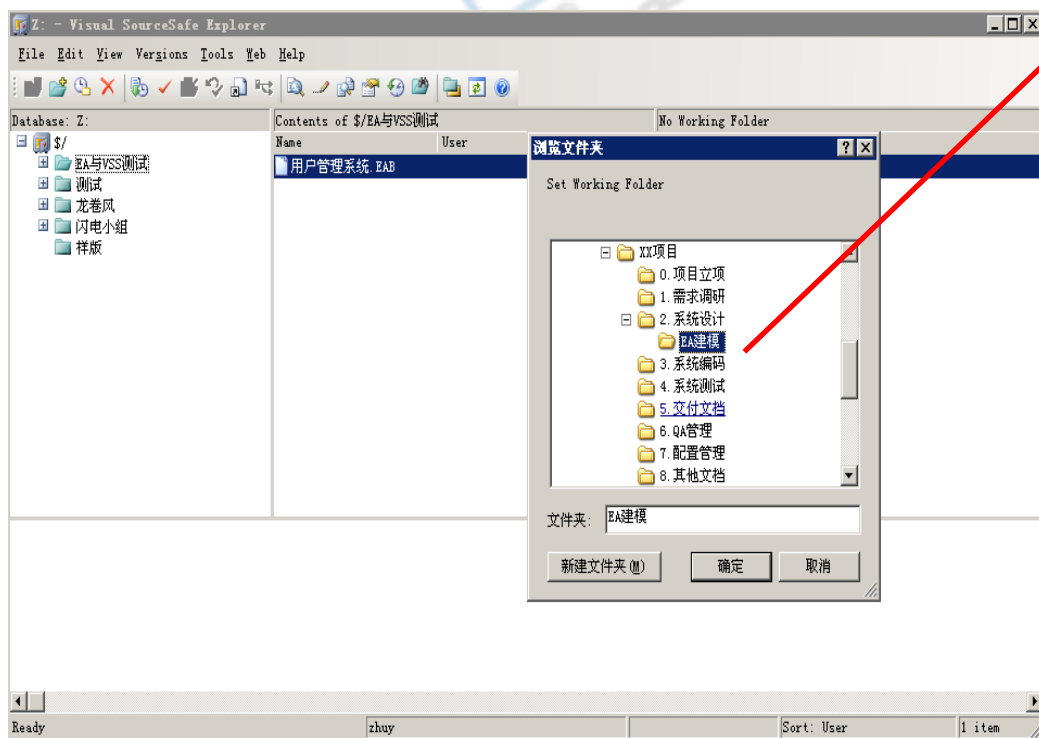
将EA项目绑定到VSS - 将本地文件上传到VSS



指定导出的EAB文件名，点击OK

EA团队建模-与VSS的结合

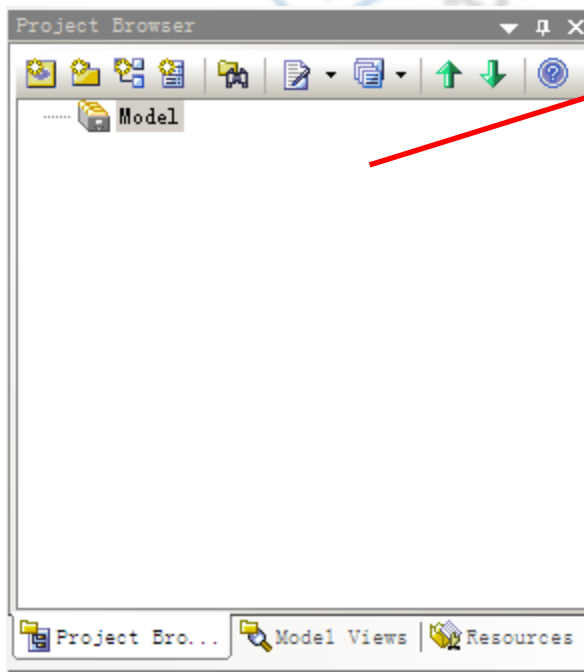
普通客户端连接到VSS - 取EAB文件到本地



将EAB文件取到本地文件夹中

EA团队建模-与VSS的结合

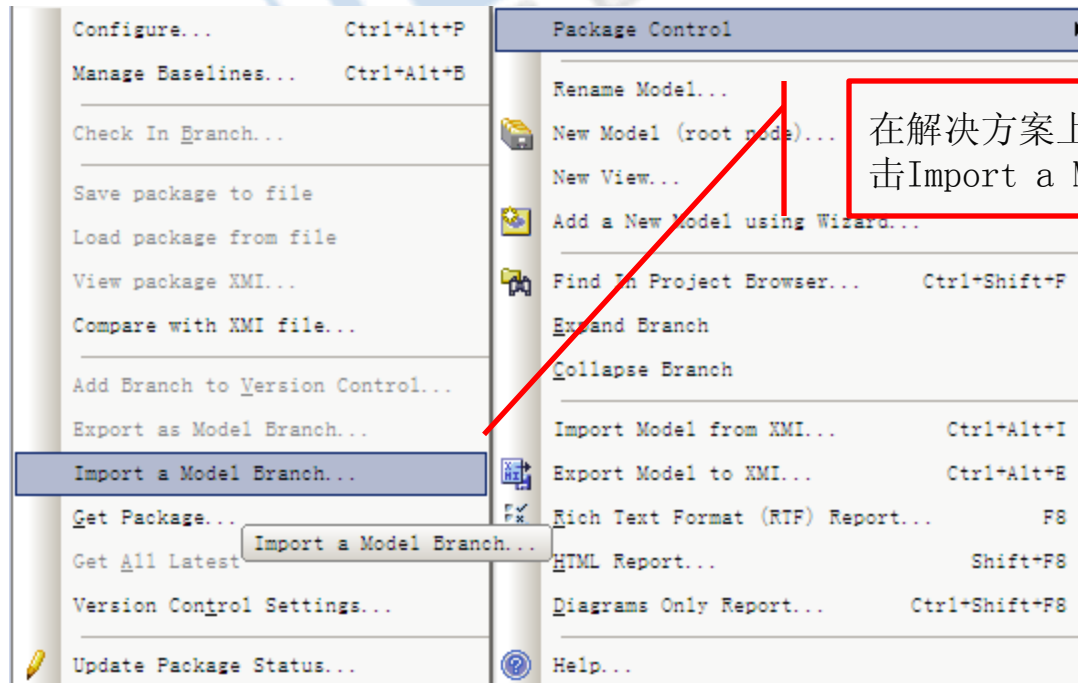
普通客户端连接到VSS - 建立空白EA项目



建立空白的EA项目文件到本地

EA团队建模-与VSS的结合

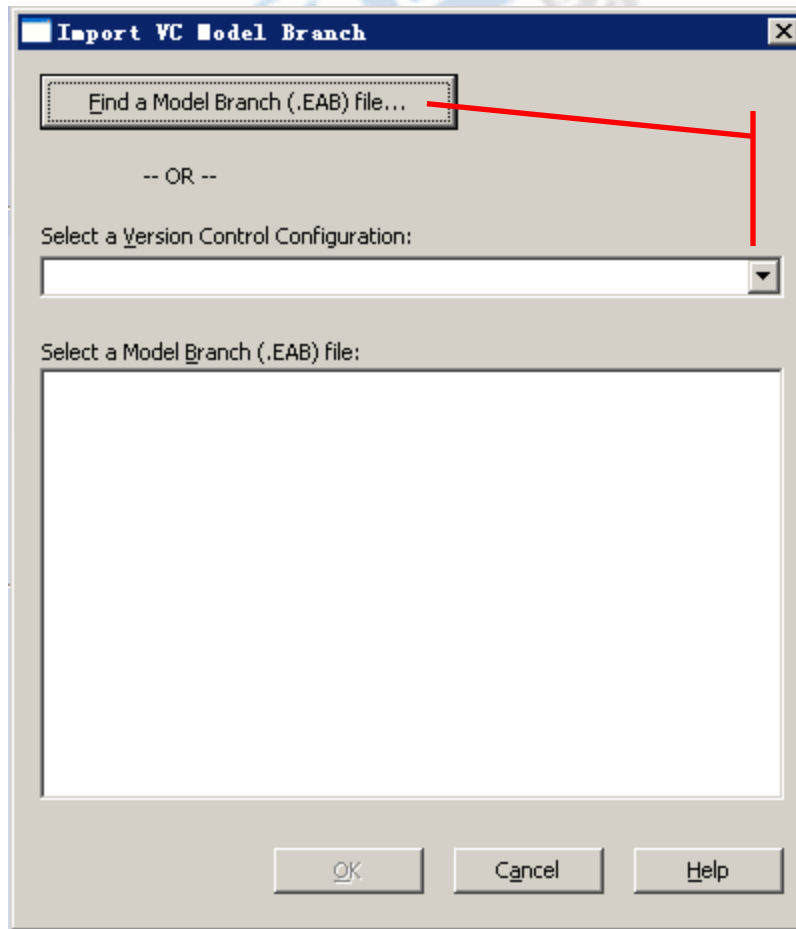
普通客户端连接到VSS - 将EAB文件导入



在解决方案上右键，选Package Control，点击Import a Model...

EA团队建模-与VSS的结合

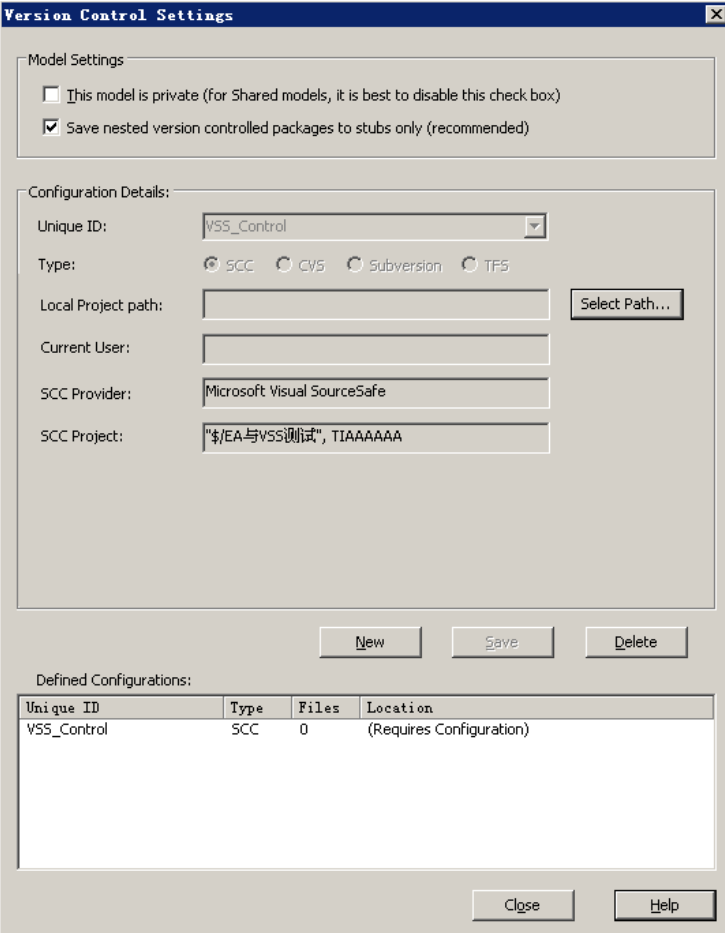
普通客户端连接到VSS - 将EAB文件导入



指定从VSS上取下的EAB文件，点击OK

EA团队建模-与VSS的结合

普通客户端连接到VSS - 连接到VSS



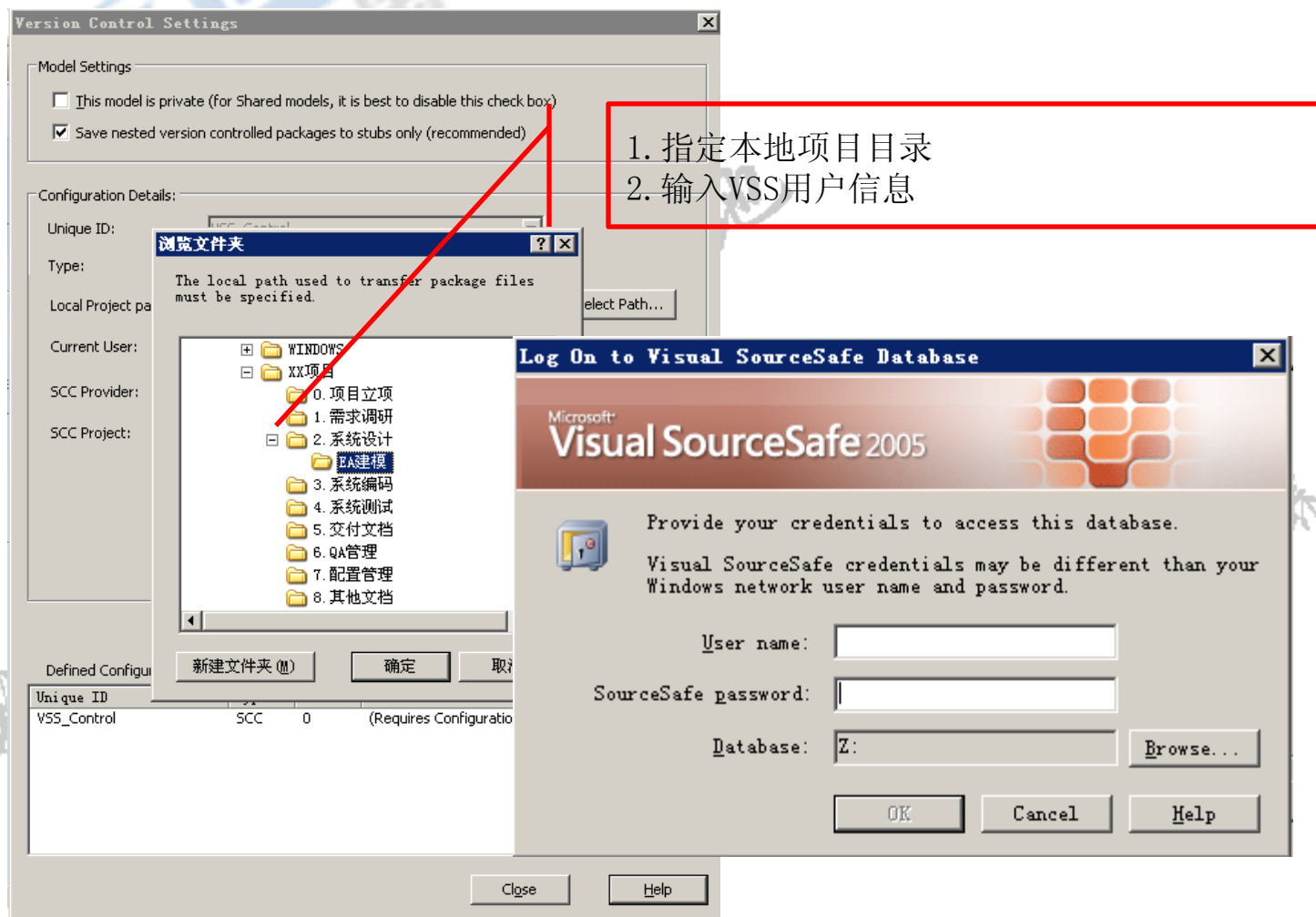
The image shows a 'Version Control Settings' dialog box. It has a 'Model Settings' section with two checkboxes: 'This model is private (for Shared models, it is best to disable this check box)' which is unchecked, and 'Save nested version controlled packages to stubs only (recommended)' which is checked. Below this is a 'Configuration Details' section with several fields: 'Unique ID' is a dropdown menu showing 'VSS_Control'; 'Type' has four radio buttons: 'SCC' (selected), 'CVS', 'Subversion', and 'TFS'; 'Local Project path' is an empty text box with a 'Select Path...' button to its right; 'Current User' is an empty text box; 'SCC Provider' is a text box containing 'Microsoft Visual SourceSafe'; and 'SCC Project' is a text box containing '\$/EA与VSS测试', TIAAAAAA'. At the bottom of the dialog are three buttons: 'New', 'Save', and 'Delete'. Below these buttons is a 'Defined Configurations:' section containing a table with one row of data.

Unique ID	Type	Files	Location
VSS_Control	SCC	0	(Requires Configuration)

At the bottom right of the dialog are 'Close' and 'Help' buttons.

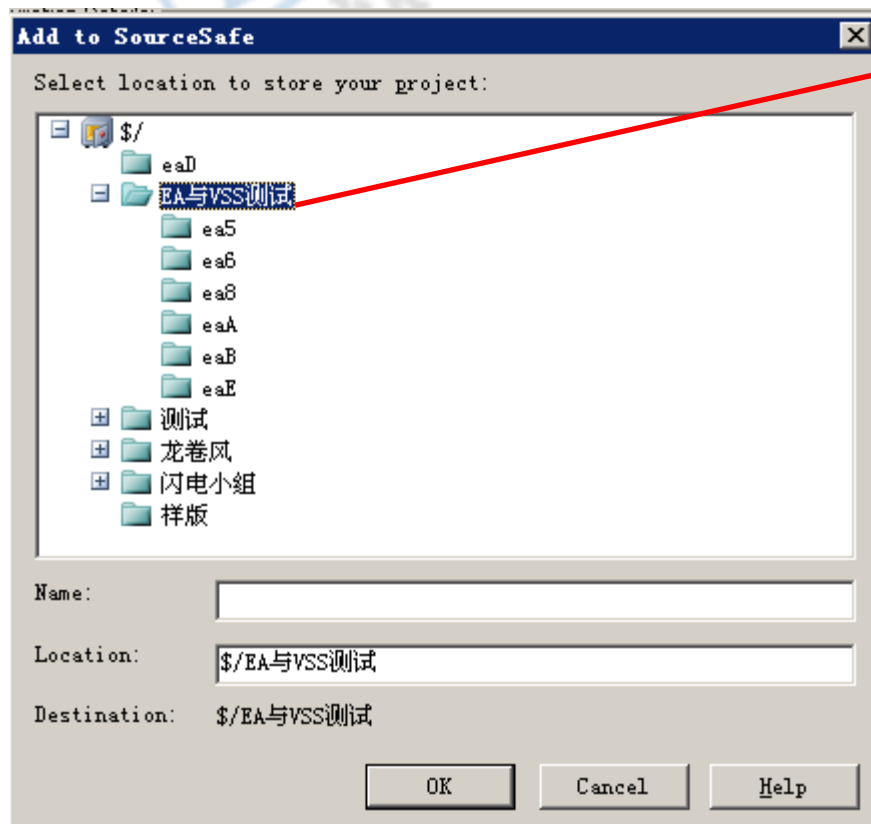
EA团队建模-与VSS的结合

普通客户端连接到VSS - 连接到VSS



EA团队建模-与VSS的结合

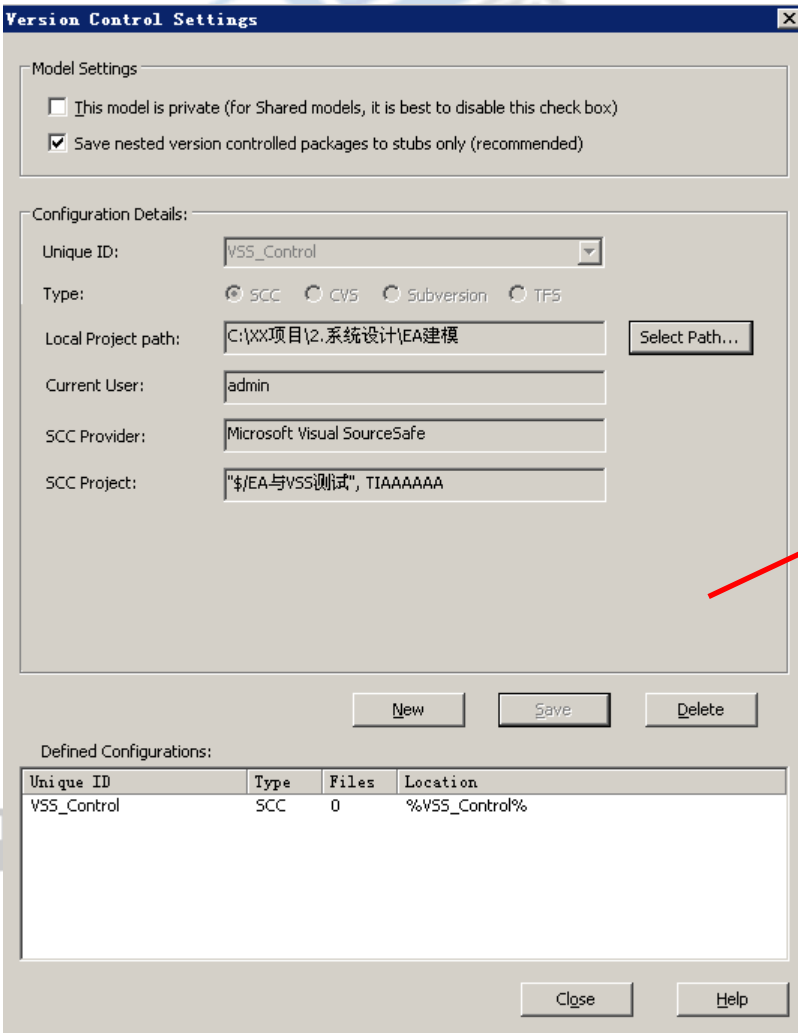
普通客户端连接到VSS - 连接到VSS



指定VSS对应的位置

EA团队建模-与VSS的结合

普通客户端连接到VSS - 连接到VSS



The image shows a 'Version Control Settings' dialog box. It has a title bar with a close button. The dialog is divided into several sections: 'Model Settings' with two checkboxes, 'Configuration Details' with various input fields and radio buttons, and 'Defined Configurations' with a table. At the bottom are 'New', 'Save', 'Delete', 'Close', and 'Help' buttons. A red arrow points from a red box containing the text '关闭' (Close) to the 'Close' button in the dialog.

Model Settings:

- ☐ This model is private (for Shared models, it is best to disable this check box)
- ☒ Save nested version controlled packages to stubs only (recommended)

Configuration Details:

Unique ID: VSS_Control

Type: ☒ SCC ☐ CVS ☐ Subversion ☐ TFS

Local Project path: C:\xxx项目\2.系统设计\EA建模 Select Path...

Current User: admin

SCC Provider: Microsoft Visual SourceSafe

SCC Project: "\$/EA与VSS测试", TIAAAAAA

Defined Configurations:

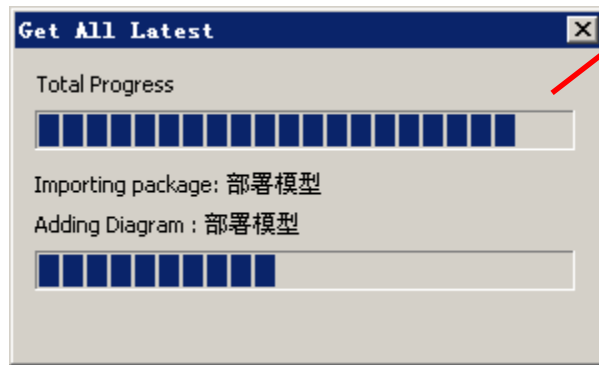
Unique ID	Type	Files	Location
VSS_Control	SCC	0	%VSS_Control%

Buttons: New, Save, Delete, Close, Help

关闭

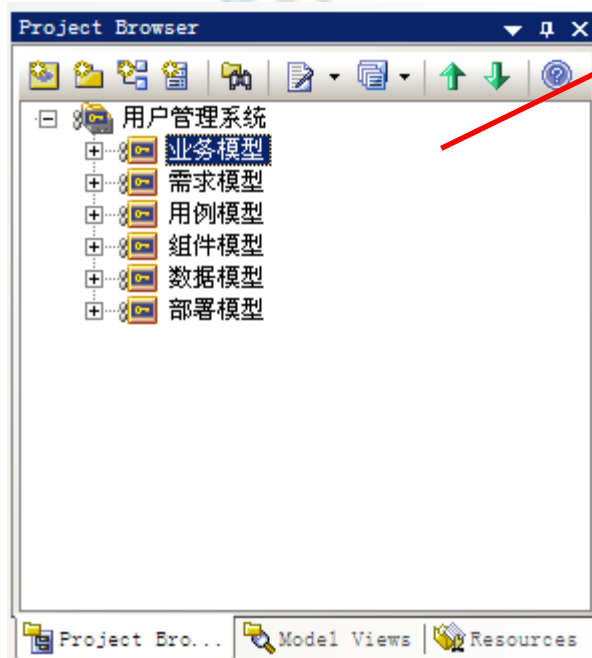
EA团队建模-与VSS的结合

普通客户端连接到VSS - 从VSS取文件内容



EA团队建模-与VSS的结合

普通客户端连接到VSS - 从VSS取文件内容



成功