

EXPERIENCE RECORD

DOLPHIN PROJECT

Computer Science

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July 9, 2016

1

2015.04

¹L^AT_EX mail:jiangtingqiang@gmail.com

1: ¹

1	2015-04-22	
2	2015-06-10	
3	2015-07-01	
4	2015-07-12	WebMVC
5	2015-08-08	WCF
6	2015-09-12	WCF REST
7	2015-09-12	SQL Server
8	2015-09-22	JavaScriptjQuery
9	2015-09-29	NodeJSNodeJS RESTful ServiceNodeJS
10	2015-11-14	Spring.NET
11	2015-11-26	Chrome
12	2015-12-25	(Render)
13	2016-02-05	RESTful API
14	2016-06-11	WiresharkTCP

¹LATEX <http://www.tablesgenerator.com/>

Part I

Great engineers produce designs that are robust, intuitive, extensible, flexible, maintainable, operable, scalable, and efficient. In doing so, they strive to achieve a balance between quality and speed of execution.

1.2. There are only two hard things in Computer Science: cache invalidation and naming things.— Phil Karlton

” ” ”
(As our society grows more dependent on computers, the software we run is of critical importance to securing the future of a free society. Free software is about having control over the technology we use in our homes, schools and businesses, where computers work for our individual and communal benefit, not for proprietary software companies or governments who might seek to restrict and monitor us.)

Chapter 1

1.1

1.1.1

bugAPI

Hofstadter Law Hofstadter Law

John Gall

1.1.2

?Hacker News

1.1.3 Architectural Requirements

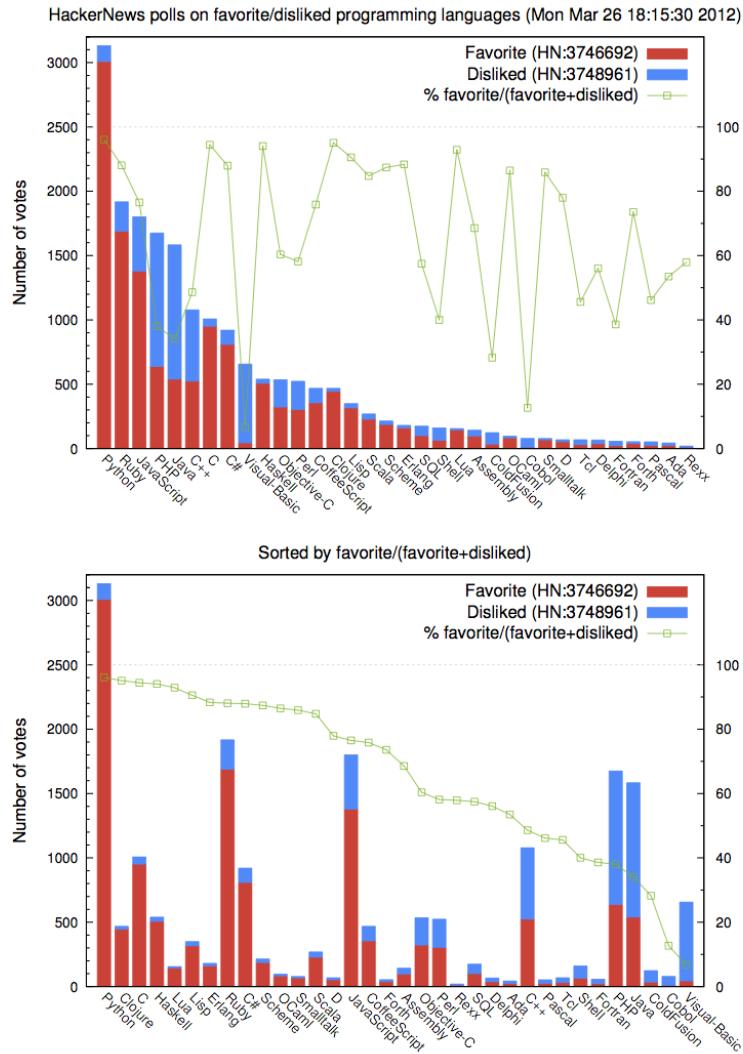
- Easy to separate Autonomy()
- Easy to understand Understandability
- Easy to extend Extensibility
- Easy to change Changeability
- Easy to replace Replaceability
- Easy to deploy Deployability
- Easy to scale Scalability
- Easy to recover Resilience()
- Easy to connect Uniform Interface
- Easy to afford Cost-efficiency(for develop&operation)

Reliability/Fault tolerance/Reusability/Manageability/Monitorability/ Maintainability/Extensibility/Understandability/Auditability/ Performance/Availability/Scalability/Security

1.1.4 DRY - Dont Repeat Yourself

once and only once OAOO Don't repeat yourself DRY (one rule, one place) DRY:: DRY

-



1.1:

-
-
-

1.1.5 (Single Responsibility Principle,SRP)

[1](#)

1.1.6 /Open Closed Principle

(Open for extension, closed for modification)

1.1.7 (Keep It Simple)

[2](#) bug

1.1.8

1.1.9

Premature optimization is the root of all evil!

97% Donald Knuth

1.1.10 (Dependence Inversion Principle)

- A.
- B.

1.1.11 (Interface Segregation Principle)

¹http://en.wikipedia.org/wiki/Single_responsibility_principle

²http://en.wikipedia.org/wiki/KISS_principle

The interface-segregation principle (ISP) states that no client should be forced to depend on methods it does not use. ISP splits interfaces which are very large into smaller and more specific ones so that clients will only have to know about the methods that are of interest to them. Such shrunken interfaces are also called role interfaces. ISP is intended to keep a system decoupled and thus easier to refactor, change, and redeploy. ISP is one of the five SOLID principles of Object-Oriented Design, similar to the High Cohesion Principle of GRASP.

1.1.12 (Separation of Concerns)

Ivar JacobsonAOSD

1.1.13

1.1.14 (You Aint Gonna Need ItYAGNI)

YAGNI

1.1.15 /Composite/Aggregate Reuse PrincipleCARP

/

1.1.16 (Dependency Inversion Principle)

DIP

1,

2,

DIP

1.1.17

OneProxyMySQL/PostgreSQL SQLSQLIPIP MySQL Proxy Horizontal Partitioning Libevent25SQLOneProxyMySQL
MySQLOneProxyMySQL (Failover)

1.1.18**1.1.19 &****1.1.20****1.1.21****1.1.22****1.1.23****1.1.24****1.1.25****1.1.26****1.1.27 &****1.1.28**

2004 PHP Java PHP IDE IDE

eBay 2002 Sun C++ J2EE eBay V3

Windows Linux Windows Stack Overflow.NET

Windows Windows Unix IBM/SUN/ORACLE AIX RISC 600 Solaris Java C/C++ Windows

PHP IDE ;) PHP PHP () Java Weblogic / Jboss Java Java Sun 2004 MySQL Oracle
PC

PHP MySQL MySQL Oracle Feng fen ng Oracle PHP Sql Relay java fen ng MySQL LAMP

DB DB DB Oracle, Mysql KV oracle mysql postgresql

PHP Facebook Java Twitter Ruby Scala

58 Windows iis SQL Sever C# 58

ORM DAO CDN MVC /

1.1.29

Web Nginx Squid Web Nginx CPUSquid Nginx Web

1.2 (Programming Specification)/(Programming Style)

, ,,, , :,()³

1.2.1

1. warnings

2. usings,

3. Refactor often and sooner

4. SOLID⁴

SOLID ()C21SOLID SOLID

5. ⁵ (dataOper)Pascal(DataOper) data_Oper

6. Stringbuilderstring

7. 1024*800 3040

8. for/foreach if(Restrict all code to very simple control flow constructs)

9. (Data objects must be declared at the smallest possible level of scope) (Comments on
Minimizing Scope)⁶ ⁷

10.

11.

12.

13.

14. , , msg,2: , , ,

15. ,,⁸

16. 2 temp⁹

³34.1

⁴http://en.wikipedia.org/wiki/SOLID_%28object-oriented_design%29

⁵11

⁶10.4

⁷34.1

⁸7.1.

⁹10.8

17. :done,error,found,successok
- 18.
19. , NetworkUtilHttpUtil,FTPUtil,TelnetUtil

1.2.2 Variable

- 1)
- 2) Camel Case,.NETconsistent with the Microsoft's .NET Framework and easy to read
- 3) (-)
- 4)
- 5) AvgSumMinMaxIndex
- 6) min/maxbegin/end open/close
- 7) Is Yes/No True/False fileIsFound
- 8) Flag documentFlag documentFormatType
- 10) Array,List,Dictionary,DataSetSet

1.2.3 Namespace

- 1) .
- 2) NamespaceSystem.Web.UI.DesignSystem.Web.UI
- 3) Pascal
- 4) Pascal
- 5) System.Collections
- 6) NamespaceAssembly

1.2.4 Class

- 1) class
- 2) Pascal case.NETconsistent with the Microsoft's .NET Framework and easy to read
- 3)
- 4)
- 5) typeCClassFileStreamCFileStream
- 6)

7) ClassIdentityStore just use it

8) xxxException

1.2.5 Class

```
1  -----
2 <copyright file="$safeitemrootname$.cs" company="RRMall">
3 Copyright (c) RRMall.All Rights Reserved.
4 </copyright>
5 CLRVersion:$clrversion$
6 NameSpace:$rootnamespace$
7 Author:$username$
8 Email:jiangxiaoqiang@renrenmall.com
9 CreateDate:$time$
10 Stamp:$guid10$
11 UserDomain:$userdomain$
12
13 -----
14 Modifier:
15 ModifyDate:
16 ModifyDescription:
17 -----
18 namespace $rootnamespace$
19 {
20     using System;
21
22     /// 
23     /// Write the class summary.
24     /// 
25     public class $safeitemrootname$
26     {
27     }
28 }
```

1.2.6 Interface

1) Interface

2) Pascal case

3)

4) interface Itypeinterface

5) classinterfaceinterfaceI

6)

7)

1.2.7

NOUN NOUN_VERB

```
private const bool WEB_ENABLEPAGECACHE_DEFAULT = true;
private const int WEB_PAGECACHEEXPIRESINSECONDS_DEFAULT = 3600;
private const bool WEB_ENABLESSL_DEFAULT = false;
```

255 25 30 25 30

1.2.8 Method

- 1)
- 2) Pascal case
- 3) bool,IsCan Try

1.2.9 Event

- 1) Pascal case
- 2)
- 3) event handlerEventHandler
- 4) senderesendersenderobjectevent classevent class
- 5) EventArgsclass
- 6) BeforeXxx/AfterXxx
- 7) CloseOnClose
- 8) OnXxxprotected method
- 9) ,EventHandler,On

1.2.10

1¹⁰ProductProducts

2sp_SQL Serversp_sp_Widget

¹⁰C#730.9.3

1.2.11

Visual Studio

```
1 D:\Program Files (x86)\Microsoft Visual Studio 12.0\Common7\IDE\ItemTemplates\
  CSharp\Code\2052\Class
```

??web Visual Studio 2013 StyleCop

```
1 /*-----
2 <copyright file="$safeitemrootname$.cs" company="RRMall">
3 Copyright (c) RRMall.All Rights Reserved.
4 </copyright>
5 CLRVersion:$clrversion$
6 NameSpace:$rootnamespace$
7 Author:$username$
8 Email:jiangxiaoqiang@renrenmall.com
9 CreateDate:$time$
10 Stamp:$guid10$
11 UserDomain:$userdomain$
12 -----
13 -----
14 Modifier:
15 ModifyDate:
16 ModifyDescription:
17 -----
18 namespace $rootnamespace$ {
19     using System;
20
21     /// summary
22     /// Write the class summary.
23     /// /summary
24     public class $safeitemrootname$ {
25     }
26     }
27 }
28 }
```

1.2.12

C#

Client	Wrapper
Service	Factory
Control	FactoryMethod
Controller	Facade
ReportCenter	Builder
View	Common
ViewModel	Security
Filter	Config
Config	Adapter
Business	Component
Core	Widget
Utility	Menu
Entity	Static
Pattern(s)	Template
Handler	Public ¹
Action	Route
Base	Proxy
Library	Tools
Platform	NetworkProcess
Storage	Loader
Preview ²	SubView
Network	Category
Vendor ³	Expand

1.2.13

```

1 root
2   |--Source
3     |   |--Plugin
4     |   |   |--Plugin 1
5     |   |   |--Plugin 2
6     |   |--Project A
7     |   |--Project B
8   |--Test
9     |   |--Test Project A
10    |   |--Test Project B
11   |--Tool
12     |   |--Tool1
13     |   |--Tool2

```

¹Base

²Preview

³Vender()

1.2.14

StyleCop analyzes C# source code to enforce a set of style and consistency rules. It can be run from inside of Visual Studio or integrated into an MSBuild project. StyleCop has also been integrated into many third-party development tools.

1.2.15 Null Reference Exception

Request

```

1 \\ 
2 var sellerId = (sellerModelList == null) ? 0 : sellerModelList [0]. sellerId ;
3 \\
4 \\
5 string requestUrl = Request.Url.OriginalString;
6 \\
7 var requestUrlObj = Request.Url;
8 if (requestUrlObj != null)
9 {
10     string requestUrl = requestUrlObj.OriginalString;
11 }
```

1.3 Performance

1.3.1

1.3.2

1.3.3

Data Structure	Add	Find	Delete	GetByIndex
Array ($T[]$)	$O(n)$	$O(n)$	$O(n)$	$O(1)$
Linked list ($LinkedList[T]$)	$O(1)$	$O(n)$	$O(n)$	$O(n)$

1.4

1.4.1

IDPKID ID ¹¹

```

1 [ID] [int] NOT NULL,
2 [Status] [int] NULL,
3 [CreatedDate] [datetime] NULL,
4 [CreatedBy] [nvarchar] (10) COLLATE SQL_Latin1_General_CI_AS NULL,
5 [RevisedDate] [datetime] NULL,
6 [RevisedBy] [nvarchar] (10) COLLATE SQL_Latin1_General_CI_AS NULL,
7 [IsDel] [tinyint] NULL,
8 [Remark] [nvarchar] (2048) NULL,
9 [RowGuid] [nvarchar] (38) NULL,
10 [Sort] [int] NULL

```

GUID12816 GUID 10000000GUID3240

1.4.2

1.5

1.5.1

Interpreted Language

An interpreted language is a programming language for which most of its implementations execute instructions directly, without previously compiling a program into machine-language instructions. The interpreter executes the program directly, translating each statement into a sequence of one or more subroutines already compiled into machine code.

¹²

A compiled language is a programming language whose implementations are typically compilers (translators that generate machine code from source code), and not interpreters (step-by-step executors of source code, where no pre-runtime translation takes place).

¹¹HibernateJava
¹²3

Compiled Language C/C++ Pascal/Object Pascal Delphi JavaScript VBScript Perl Python-Ruby MATLAB C#

	Visual Studio	2013	
	log4net	1.2.13.0	
	NUnit	2.6.4	
	StyleCorp	4.7	
	SQL Server	2008 R2	
	Visual SVN	2.7.11	
Json	Json.NET	4.5.11.15520	
	.NET Framework	4.0	
BS	easyUI	1.2.2	
	CruiseControl.NET	1.8.5.0	
	WCFRESTful	.NET 4.0	
WCF REST	HttpRequester	2.1.1	
WCF REST	RestClient	2.0.3	
Json	JsonViewer		
REST	Rest Client for Chrome		
WCF	RSA		
Web	FireDebug	2.0.12	
RESTful	NodeJS	4.1.1	
NodeJS	Express	4.13.1	
	HeidiSQL	9.3.0.4984	
	JMeter	2.13	
WCF	WCF Storm		
Google Cookie	EditThisCookie	1.4.1	
VS	Indent Guids		
	PerfView	1.8.0.0	
HTTP	Fiddler	4.6.1.4	
	MiniProfiler	latest	
	dotTrace	10.0.0.2(Commercial)	
	dotMemory	10.0.0.2(Commercial)	
Rest	RestSharp	latest	

Visual Studio Code

Fedora

```
1 /usr/share/code
```

code

1.5.2 Web Server

OpenResty(BSD)

OpenResty ngx_openresty Web Nginx Nginx OpenResty Nginx Web Lua Nginx Nginx C Web
 OpenResty Nginx Nginx I/O HTTP MySQL PostgreSQL Memcached Redis OpenResty
 Nginx OpenResty

OpenResty:

Tengine

Tengine Web Nginx Tengine Web

Tengine

Phusion Passenger

Phusion Passenger Web Ruby Node.js Passenger 4.0.21 Passenger Apache Nginx Web Web Phusion Passenger Node.js Node.js Passenger Apache/Nginx

1.5.3 Apache

()

```

1 /etc/apache2/httpd.conf
2 /etc/apache2/apache2.conf
3 /etc/httpd/httpd.conf
4 /etc/httpd/conf/httpd.conf

```

1.5.4

	OS			
MEAN	Linux/Windows	MongoDB	NodeJS+Express	AngularJS
LAMP	Linux	MySQL	Apache Tomcat	Perl/PHP/Python
WAMP	Windows	MySQL/MariaDB	Apache Tomcat	Perl/PHP/Python
LNMP	Linux	MySQL	Nginx	PHP
WSIC	Windows	Microsoft SQL Server	IIS	C#

1.5.5

- Rails
- Java EE
- LAMP
- Microsoft .NET
- Django

Chapter 2

WCF

Windows Communication Foundation(WCF) Windows.NET .NET Framework 3.0 WCFInternet WCFWeb.net RemotingEnterprise ServicesVisual Studio WCF WCFASP.NET \J2EE \Web ServiceTransport ReliabilityMessage Reliability TCPPoint-to-Point Guaranteed Delivery .net RemotingDCOM WebServiceHTTPTCP XMLSOAP IIS(Development)(Dispose) Web Service.net Remoting .net RemotingC/S.net RemotingTCPWeb Service

WCF**SvcConfigEditor.exe** C:\Program Files (x86)\Microsoft SDKs\Windows\v8.1A\bin\NETFX 4.5.1 Tools **SvcTraceViewer.exe** DORPC Web Web

2.1

REST JSPREST REST APIwidgetAjaxHTML5 HTTP WCFRESTful API(...) RESTful API¹

- APIHTTPS
- API<https://api.example.com> API <https://example.org/api/>
- RESTfulresource ""collection API
- APIURI² URIHTTPAccept
-

1	GET /	collection
2	GET /collection/	resource
3	POST /	collection
4	PUT /collection/	resource
5	PATCH /collection/	resource

¹:www.ruanyifeng.com/blog/2011/09/restful.html

²<http://www.informit.com/articles/article.aspx?p=1566460>

6	DELETE /collection/	resource
---	---------------------	----------

- API

```

1 ?limit=10
2 ?offset =10
3 ?page=2&per_page=100
4 ?sortby=name&order=
      asc
5 ?animal_type_id=1

```

- APIOAuth 2.0

- JSONXML

- ³ (Status Code)HTTP

1	200 OK – [GET]	Idempotent
2	201 CREATED – [POST/PUT/PATCH]	
3	204 NO CONTENT – [DELETE]	
4	400 INVALID REQUEST – [POST/PUT/PATCH]	
5	404 NOT FOUND – [*]	
6	500 INTERNAL SERVER ERROR – [*]	

///?

1	public class BaseModel
2	{
3	#region
4	
5	private int _errorCode;
6	
7	public int ErrorCode
8	{
9	get { return _errorCode; }
10	set { _errorCode = value; }
11	}
12	
13	#endregion
14	
15	#region

³HTTP <http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html>

```

16
17     private string _errorMessage;
18
19     public string ErrorMessage
20     {
21         get { return _errorMessage; }
22         set { _errorMessage = value; }
23     }
24
25     #endregion
26
27     #region
28
29     private string _errorTip;
30
31     public string ErrorTip
32     {
33         get { return _errorTip; }
34         set { _errorTip = value; }
35     }
36
37     #endregion
38 }
```

body

```

1  public class Explorer : BaseModel
2  {
3      #region Name
4
5      private discount_awardModel _body;
6
7      public discount_awardModel Body
8      {
9          get { return _body; }
10         set { _body = value; }
11     }
12
13     #endregion
14 }
```

```

1  public Explorer a(string a)
2  {
3      Explorer ex = new Explorer();
4      ex.ErrorCode = 2000;
5      ex.ErrorMessage = "OK";
6      discount_awardModel award = new discount_awardModel();
7      award.awardName = "      ";
```

```

8 award.awardStatus = 1;
9 award.awardId = 1;
10 ex.Body = award;
11 return ex;
12 }

```

??

Response Headers	Response Body (Raw)	Response Body (Highlight)
------------------	---------------------	---------------------------

```

1. {
2.     "ErrorCode": 2000,
3.     "ErrorMessage": "OK",
4.     "ErrorTip": null,
5.     "Body":
6.     {
7.         "awardContext": null,
8.         "awardId": 1,
9.         "awardName": "熊猫玩具",
10.        "awardOrder": 0,
11.        "awardStatus": 1,
12.        "awardTag": null,
13.        "awardTypeId": 0,
14.        "expireDate": 0,
15.        "picUrl": null,
16.        "ratio": null,
17.        "remaindCount": 0,
18.        "sellerId": 0,
19.        "totalCount": 0,
20.        "validEndTime": null,
21.        "validStartTime": null,
22.        "verifyUserId": null
23.    }
24. }

```

2.1:

RESTfulresource collection API

```

1 https://api.example.com/zoops

```

2.1.1 WCF

Windows Communication Foundation(WCF)(WcfTestClient.exe) GUI WCF the MSDN documentation tells you to navigate to the

```

1 %SystemDrive%\Program Files\Microsoft Visual Studio 10.0\Common7\IDE

```

folder. BUT, if youre running 64-bit Windows, you wont find it there. Youll need to look in

```
1 | %SystemDrive%\Program Files (x86)\Microsoft Visual Studio 10.0\Common7\IDE folder
```

instead.

2.1.2 WCFWeb Service

WCF is a replacement for all earlier web service technologies from Microsoft. It also does a lot more than what is traditionally considered as "web services".

WCF "web services" are part of a much broader spectrum of remote communication enabled through WCF. You will get a much higher degree of flexibility and portability doing things in WCF than through traditional ASMX because WCF is designed, from the ground up, to summarize all of the different distributed programming infrastructures offered by Microsoft. An endpoint in WCF can be communicated with just as easily over SOAP/XML as it can over TCP/binary and to change this medium is simply a configuration file mod. In theory, this reduces the amount of new code needed when porting or changing business needs, targets, etc.

ASMX is older than WCF, and anything ASMX can do so can WCF (and more). Basically you can see WCF as trying to logically group together all the different ways of getting two apps to communicate in the world of Microsoft; ASMX was just one of these many ways and so is now grouped under the WCF umbrella of capabilities.

Web Services can be accessed only over HTTP & it works in stateless environment, where WCF is flexible because its services can be hosted in different types of applications. Common scenarios for hosting WCF services are IIS,WAS, Self-hosting, Managed Windows Service.

The major difference is that Web Services Use XmlSerializer. But WCF Uses DataContractSerializer which is better in Performance as compared to XmlSerializer⁴.

2.1.3 WCF

WCFbindingsServicesbehaviors behaviors4behavior serviceBehaviors, endpointBehaviors, contractBehaviorsoperationBehaviors behavior GetJsonXml endpointBehaviors

```
1 | <endpointBehaviors>
2 |   <behavior name="commonEndpoint">
3 |     <webHttp helpEnabled="true" />
4 |   </behavior>
5 | </endpointBehaviors>
```

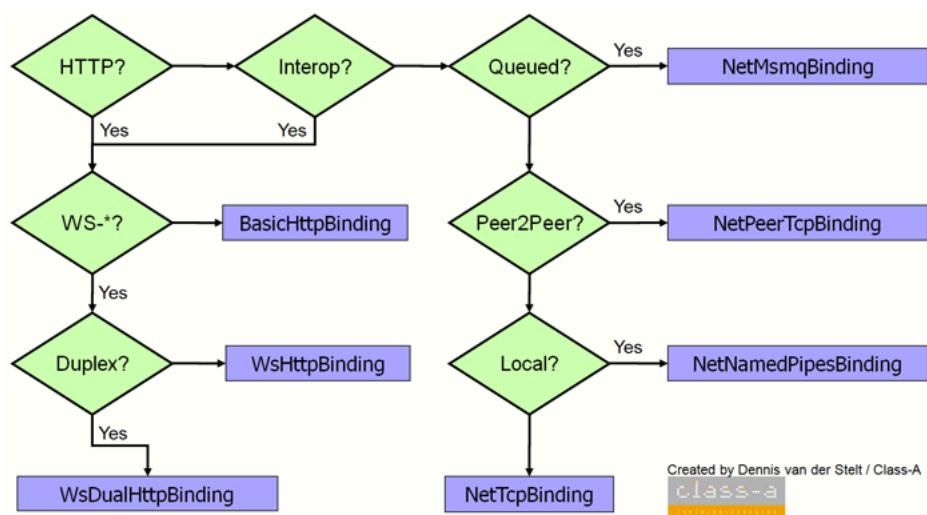
"WCF" svcConfigEditor.exeWCF ??

system.serviceModel bindingsclientbinding??

⁴ <http://www.codeproject.com/Articles/139787/What-s-the-Difference-between-WCF-and-Web-Services>



2.2: WCF



2.3: WCFbinding

WCF⁵ MEX-Metadata Exchange WCF() ()

2.1.4 WCF

DataContract WCFDataContract (Serialization) DataMember DataContractName\Namespace
ServiceContractNameNamespace DataContract

2.1.5 WCF

WCFsvc <http://129.21.11.121:8018/WCFSERVICE/Tools/UploadFile.svc?wsdl> Visual StudioWeb Service

```

1 <system.serviceModel>
2   <bindings>
3     <basicHttpBinding>
4       <binding name="BasicHttpBinding_IUploadFile" messageEncoding="Mtom" /
5         >
6       </basicHttpBinding>
7     </bindings>
8     <client>
9       <endpoint address="http://129.21.11.121:8018/WCFSERVICE/Tools/UploadFile.
10      svc?wsdl"
11        binding="basicHttpBinding" bindingConfiguration=""
12        contract="WCFFileService.IUploadFile" name="
13          BasicHttpBinding_IUploadFile" />
14      </client>
15    </system.serviceModel>
```

MTOM(Message Transmission Optimization Mechanism)⁶ bindings basicHttpBindingWeb
HTTPHTTPS ⁷ ??

Listing 2.1: WCF

```

1 #region
2 /// |summary|
3 ///
4 /// |/summary|
5 /// |param name="extension"||/param|
6 /// |param name="path"||/param|
7 /// |param name="source"||/param|
8 /// |param name="inputStream"||/param|
9 public void UploadFileWithFileStream(string extension, string path, string source,
10                                     Stream inputStream)
```

⁵Metadata data about data property

⁶MTOMMessage Transmission Optimization Mechanism MTOMSOAP MTOM MTOMSOAP XMLBase64

MTOM /

⁷C#43.5

```

10 {
11     try
12     {
13         UploadFileClient uploadFileClient = new UploadFileClient();
14         string fullPath = string.Empty;
15         string fileName = string.Empty;
16         bool isSuccess = true;
17         string errorMesssage = uploadFileClient.StreamToFile(extension, path,
18             inputStream, out fileName, out fullPath, out isSuccess);
19         if (!isSuccess)
20         {
21             logger.Error("Upload file failed!" + errorMesssage);
22         }
23         uploadFileClient.Close();
24     }
25     catch (Exception e)
26     {
27         logger.Error("Upload file failed,path:" + source, e);
28     }
29 }
#endregion

```

Web APIWCF CloseWCF (10) , :

```

1 <serviceThrottling maxConcurrentCalls="20" maxConcurrentSessions="20"
2     maxConcurrentInstances="30" />

```

:maxConcurrentCalls 16; maxConcurrentSessions PerSession10; maxConcurrentInstances26

2.1.6 Web Requestajax

WCF.NET AjaxGetWCF RESTful⁸ REST⁹ Roy Thomas Fielding2000 RESTful

1URI

2

3HTTP Representational State Transfer

RESTful ¹⁰ HTTPHTTP GETPOSTPUTDELETE GETPOST PUTDELETE WCFWe
bGet

```

1 [OperationContract]
2 [WebGet(UriTemplate = "/GetSellerListByPage/pageIndex={pageIndex}&pageSize={"
3     pageSize}&count={count}",
4     ResponseFormat = WebMessageFormat.Json,
5     BodyStyle = WebMessageBodyStyle.Wrapped)]

```

⁸RPCRemote Procedure Call Protocol SOAPSimple Object Access Protocol

⁹RESTRepresentational State Transfer”

¹⁰<http://www.ruanyifeng.com/blog/2011/09/restful.html>

```

5 List<discount_sellerModel> GetSellerListByPage(int pageIndex, int pageSize, ref int count
    );

```

WebGetAttribute WCF UriTemplate¹¹ (URI) Object WebGet WebGetWebMessageBodyStyleWrapped¹²
 WebMessageBodyStyleBare Wrapped BareJson WrappedJsonModel Bare Bare, Bare XMLJSON
 Bare

```

1 [ServiceContract(Namespace = "http://www.artech.com/")]
2 public interface ICalculator
3 {
4     [WebInvoke(BodyStyle = WebMessageBodyStyle.Bare)]
5     double Add( double x, double y);
6 }

```

BareCreatexy InvalidOperationException ICalculatorAdd WebGetAttribute/WebInvokeAt-
 tributeBodyStyleWrapped (ref)(out)Bare

```

1 [ServiceContract(Namespace = "http://www.artech.com/")]
2 public interface ICalculator
3 {
4     [WebInvoke(BodyStyle = WebMessageBodyStyle.WrappedRequest)]
5     void Add(double x, double y, out double result);
6 }

```

WebInvokeAttributeBodyStyleWrappedRequest WrappedBare InvalidOperationException
 ICalculatorAdd WebGetAttribute/WebInvokeAttributeBodyStyleBare BodyStyle Wrapped pageIn-
 dexGet &

```

1 <system.serviceModel>
2 <services>
3 <service behaviorConfiguration="RR.API.WCFSERVICE.User.UserServiceBehavior"
4     name="RR.API.WCFSERVICE.User.UserService">
5     <endpoint address="" binding="webHttpBinding" contract="RR.API.WCFSERVICE.User.
6         IUserService" behaviorConfiguration="test" bindingConfiguration="basicWeb">
7         <identity>
8             <dns value="localhost" />
9         </identity>
10        <endpoint address="mex" binding="mexHttpBinding" contract="IMetadataExchange" />
11    </service>
12 </services>
13
14 <bindings>
15     <basicHttpBinding>

```

¹¹<https://msdn.microsoft.com/zh-cn/library/system.uritemplate%28v=vs.100%29.aspx>

¹²4 BareBoth requests and responses are not wrapped. WrappedBoth requests and responses are wrapped.
 WrappedRequestRequests are wrapped, responses are not wrapped. WrappedResponseResponses are wrapped,
 requests are not wrapped.

```

16    <binding closeTimeout="00:10:00" receiveTimeout="00:20:00" sendTimeout="00
17        :20:00" maxBufferSize="20000000" maxReceivedMessageSize="20000000">
18        <security mode="None"></security>
19    </binding>
20    </basicHttpBinding>
21    <webHttpBinding>
22        <binding name="basicWeb"/>
23    </webHttpBinding>
24  </bindings>
25
26  <behaviors>
27      <serviceBehaviors>
28          <behavior name="RR.API.WCFSERVICE.User.UserServiceBehavior">
29              <serviceMetadata httpGetEnabled="true"/>
30              <serviceDebug includeExceptionDetailInFaults="false"/>
31          </behavior>
32      </serviceBehaviors>
33
34      <endpointBehaviors>
35          <behavior name="test">
36              <webHttp/>
37          </behavior>
38      </endpointBehaviors>
39  </behaviors>
40  <serviceHostingEnvironment multipleSiteBindingsEnabled="true" />
41 </system.serviceModel>

```

WebHttpBindingHTTP, , ASP.NET AJAX¹³.WCF

```

1 http://129.11.21.18:8019/WCFSERVICE/Product/PublicProductService.svc/
2 GetSingleSellerAwardListByPage?pageIndex={PAGEINDEX}&pageSize={PAGESIZE}&
   count={COUNT}&sellerId={SELLERID}

```

Web.config | webHttp / | webHttp helpEnabled="true" / | <http://IP:Port/Services/ShowerService.svc/help> ??

RESTHTTPREST WebServiceWCFSSDL Http Request HttpRequest WCFWebweb-HttpBinding basicHttpBinding serviceendpoint Web??

Listing 2.2: Web

```

1 <endpoint address="web" behaviorConfiguration="commonEndpoint" binding=
   "webHttpBinding" contract="RR.API.WCFSERVICE.Custom.IPublicBaseService"/>

```

[webhttp://localhost:50590/WCFSERVICE/Custom/PublicBaseService.svc/web/DoWork?a={A}](http://localhost:50590/WCFSERVICE/Custom/PublicBaseService.svc/web/DoWork?a={A})Url Url <http://localhost:50590/WCFSERVICE/Custom/PublicBaseService.svc/web/help> web ??

¹³ C# 43.5

Uri	Method	Description
GetAwardCount	GET	Service at http://119.29.81.128:8019/WCFService/Seller/PublicSellerService.svc/web/GetAwardCount
GetAwardTypeTotalCount	GET	Service at http://119.29.81.128:8019/WCFService/Seller/PublicSellerService.svc/web/GetAwardTypeTotalCount?sellerId={SELLERID}
GetRecommendSeller	GET	Service at http://119.29.81.128:8019/WCFService/Seller/PublicSellerService.svc/web/GetRecommendSeller
GetSellerById	GET	Service at http://119.29.81.128:8019/WCFService/Seller/PublicSellerService.svc/web/GetSellerById?sellerId={SELLERID}
GetSellerCount	GET	Service at http://119.29.81.128:8019/WCFService/Seller/PublicSellerService.svc/web/GetSellerCount

2.4: WCF

Listing 2.3: service

```
<endpoint binding="basicHttpBinding" contract="RR.API.WCFService.Custom.IPublicBaseService"></endpoint>
```

Http Request Http RequestUrl endpoint Address Http Request WCF??

[OperationContract]
[WebGet(UriTemplate = "/Get/{a}",
 ResponseFormat = WebMessageFormat.Json,
 BodyStyle = WebMessageBodyStyle.Wrapped)]
string Get(string a);

HttpRequester

REQUEST
URL http://192.168.1.254:5590/Product/web/Get/a
GET Submit GET POST PUT
New request Paste Request Authentication...
Content to Send Headers Parameters

RESPONSE
GET on http://192.168.1.254:5590/Product/web/Get/a
Status: 200 OK Browser
{
 GetResult: "a"
}

2.5: WCFUrl

2.1.7 WCF REST Ajax

..... API "API First" RESTful API API [?] JavaScriptHttpHandler WebApp WebApp API
JavaScript WebService json WebService API ajax WebService

Ajax ++ () JavaScript HTML5 Ajax Javascript Ajax JSONP JSON with Padding Ajax

```
1 http://129.29.1.28:8019/Product/web/Get?{%"20%22a%22:  

    "%20%22a%22%20}&_=1441558531991 CORS 'Access-  

    Control-Allow-Origin'
```

Ajax JSONP flash ifame xhr2 CORS Ajax CORS Ajax schema host port

http://example-foo.com/XMLHttpRequest http://example-bar.com/ CORS HTTP PHTTP

CROS Ajax

CORS Cross-Origin Resource Sharing Ajax CORS Ajax CORS JSONP

1. JSONP GET CORS HTTP

2. CORS XMLHttpRequest JSONP

3. JSONP CORS CORS

CORS IE10 CORS CORS Ajax AJAX CORS CORS For WCF service you have to develop new behavior and include it in the endpoint configuration¹⁴:

```

1 <center style="margin-bottom:20px">
2   <a class="btn btn-block btn-lg btn-warning" id="input-verifycros">
3     CROSWCF  </a>
4   <div id="content"></div>
5 </center>
```

Ajax

```

1 var XMLHttpRequest=new XMLHttpRequest();
2 $(function () {
3   $("#input-verifycros").bind("click", function () {
4     //http://127.0.0.1:5509/my/WCFAjaxTest
5     var url = "http://129.19.1.138:7019/WCFService/Custom/ServiceCros.svc/web/
6       DoWork/a";
7     if (xmlHttpRequest) {
8       xmlHttpRequest.open('GET', url, true);
9       xmlHttpRequest.onreadystatechange = handler;
10      xmlHttpRequest.send();
11    }
12    else {
13      document.getElementById("content").innerHTML = " XMLHttpRequest ";
14    }
15  });
16});
```

XMLHttpRequest Ajax, IE7+Firefox Chrome Safari Opera XMLHttpRequest readyStateonreadystatechange readyState XMLHttpRequest XMLHttpRequest 04

0:

1:

2:

¹⁴http://enable-cors.org/server_wcf.html

3:

4:

openURL HttpRequest

```

1  function handler(evtXHR) {
2      if (xmlHttpRequest.readyState == 4) {
3          console.log("HTTP status:" + xmlHttpRequest.status);
4          if (xmlHttpRequest.status == 200) {
5              var response = xmlHttpRequest.responseText;
6              document.getElementById("content").innerHTML = " " + response;
7          } else {
8              console.log(" ");
9              document.getElementById("content").innerHTML = " ";
10         }
11     }
12     else {
13         document.getElementById("content").innerHTML += "<br/>      readyState "
14         + xmlHttpRequest.readyState;
15     }
}

```

15 Step 1

```

1 <system.webServer>
2   <httpProtocol>
3     <customHeaders>
4       <add name="Access-Control-Allow-Origin" value="*" />
5     </customHeaders>
6   </httpProtocol>
7
8   <modules runAllManagedModulesForAllRequests="true"/>
9   <directoryBrowse enabled="true"/>
10 </system.webServer>

```

Step 2:system.serviceModel standardEndpoint

```

1 <standardEndpoints>
2   <webHttpEndpoint>
3     <standardEndpoint crossDomainScriptAccessEnabled="true"/>
4   </webHttpEndpoint>
5 </standardEndpoints>

```

JSONP Ajax

htmlimg,iframescript src JSONPscriptsrc WCF RESTAJaxWCF jsonp ¹⁶

¹⁵<http://debugmode.net/2014/06/12/solved-access-control-allow-origin-error-in-wcf-rest-service/>

¹⁶<http://www.cnblogs.com/artechn/archive/2012/01/16/jsonp-wcf-rest.html>

```

1 <standardEndpoints>
2   <webHttpEndpoint>
3     <standardEndpoint crossDomainScriptAccessEnabled="true"/>
4   </webHttpEndpoint>
5 </standardEndpoints>
6 <bindings>
7   <webHttpBinding>
8     <binding crossDomainScriptAccessEnabled="true" />
9   </webHttpBinding>
10 </bindings>

```

kind

```

1 <services>
2   <service name="Artech.WcfServices.Service.EmployeesService">
3     <endpoint kind="webHttpEndpoint"
4       address="http://127.0.0.1:3721/employees"
5       contract="Artech.WcfServices.Service.IEmployees"/>
6   </service>
7 </services>

```

```

1 <script>
2   $(function () {
3     $("#input-verify").bind("click", function () {
4       //http://192.168.1.254:5508/my/WCFAjaxTest
5       var url = "http://129.9.1.138:8019/Product/web/Get/a";
6       jQuery.ajax({
7         url: url,
8         type: 'get',
9         dataType: 'jsonp',
10        success: function (data) {
11          alert(data);
12        },
13        error: function (xhr, status, error) {
14          console.log(xhr);
15          if (xhr === 'undefined' —— xhr === undefined)
16            alert('undefined');
17          } else {
18            alert('object is there');
19          }
20          alert(status);
21          alert(error);
22        }
23      });
24    });
25  </script>

```

NVelocity jQuery.ajax \$.ajax \$Jquery\$jquery jquery.js \$.ajaxjQuery.ajax jQuery

```

1 //Expose jQuery to the global object
2 window.jQuery = window.$ = jQuery;
```

JavaScript\$jQuery jQuery\$jQuery \$ jQuery jQueryJavaScript \$.noConflict()

AjaxdataTypejsonp json,console.logFirefox FirebugsFirefox IE8Firebug (F12)console.log
console.log()alert()document.write() console.log("Hello World")

2.1.8 WCF RESTful

4

Base64 byte[]

```

byte[]Web Service byte[]
byte[] base64encodeWeb Service base64decode byte[]
base64byte[]SOAPXML XML OOMOut of Memory
```

SOAP Attachments

EmailSOAP XML SOAPXML SAAJAPIAttachmentPart

MTOM

MTOMSOAP Attachments bytes OOM(Out of Memory).

Streaming Mode

Streaming Mode OOM(Out of Memory)

WCF

```

1 /// isummary{
2 /// WCF REST
3 /// i/summary{
4 /// iparam name="url" iWCF RESTi/param{
5 /// iparam name="fileFullLocalPath" iiParam{
6 public virtual string RESTUpload(string url, string fileFullLocalPath)
7 {
8     string jsonResult = string.Empty;
9     try
10    {
11        HttpClient httpClient = new HttpClient();
```

```

12     HttpContent httpContent = HttpContent.Create(File.OpenRead(fileFullLocalPath));
13     HttpResponseMessage httpResponse = httpClient.Post(url, httpContent);
14     httpResponse.EnsureStatusIsSuccessful();
15     jsonResult = httpResponse.Content.ReadAsStringAsync();
16 }
17 catch (Exception e)
18 {
19     logger.Error("Upload failed!", e);
20 }
21 return jsonResult;
22 }
```

```

1 [OperationContract]
2 [WebInvoke(Method="POST",
3         UriTemplate = "UploadJpegImage",
4         BodyStyle = WebMessageBodyStyle.Wrapped,
5         ResponseFormat = WebMessageFormat.Json)]
6 JpegFileInfoResult UploadJpegImage(Stream fileStream);
7
8 /// 
9 ///
10 /// 
11 /// 
12 public JpegFileInfoResult UploadJpegImage(Stream fileStream)
13 {
14     JpegFileInfoResult jpegFileInfoResult = null;
15     JpegFileInfo jpegFileInfo = null;
16     var storePath = string.Empty;
17     var fileFullName = string.Empty;
18     try
19     {
20         if (System.Web.HttpContext.Current != null)
21         {
22             storePath = System.Web.HttpContext.Current.Server.MapPath("~/upload/");
23         }
24         else
25         {
26             storePath = Path.Combine(HttpRuntime.AppDomainAppPath, "\\upload\\");
27         }
28         if (!Directory.Exists(storePath))
29         {
30             Directory.CreateDirectory(storePath);
31         }
32         string filename = System.Guid.NewGuid().ToString() + ".jpeg";
33         fileFullName = Path.Combine(storePath, filename);
34         var bitmap = Bitmap.FromStream(fileStream);
35         bitmap.Save(fileFullName);
36     }
37     catch (Exception e)
```

```

38     {
39         logger.Error("WCF receive image encount an error,fullpath:" + fileFullName, e)
40         ;
41     }
42     return jpegFileInfoResult;
43 }
```

2.1.9 WebGetWebInvoke

WebInvoke allows you to specify which verb will be allowed, defaulting to POST. WebGet requires the client to be using a GET request. In either case, if the wrong verb is used, you'll get "method is not allowed". You were using the browser, so it was making a GET request, so a normal POST-only WebInvoke would reject it, whereas a WebGet would allow it. You could specify Method="GET" in the WebInvoke attribute declaration to allow GET, of course.

WebInvokeAttribute HTTP WebInvokeAttribute POST MethodHTTPGETWebGetAttribute

2.1.10 WCF

WCF ConfigurationWCF

```

1 <system.diagnostics>
2   <sources>
3     <source name="System.ServiceModel.MessageLogging" switchValue="Warning,
4       ActivityTracing">
5       <listeners>
6         <add type="System.Diagnostics.DefaultTraceListener" name="
7           Default">
8           <filter type="" />
9         </add>
10        <add name="ServiceModelMessageLoggingListener">
11          <filter type="" />
12        </add>
13      </listeners>
14    </source>
15    <source name="System.ServiceModel" switchValue="Warning, ActivityTracing"
16      propagateActivity="true">
17      <listeners>
18        <add type="System.Diagnostics.DefaultTraceListener" name="
19          Default">
20          <filter type="" />
21        </add>
22        <add name="ServiceModelTraceListener">
23          <filter type="" />
24        </add>
25      </listeners>
```

```

23     </source>
24   </sources>
25   <sharedListeners>
26     <add initializeData="app_messages.svclog"
27       type="System.Diagnostics.XmlWriterTraceListener, System, Version
28         =2.0.0.0, Culture=neutral, PublicKeyToken=b77a5c561934e089"
29       name="ServiceModelMessageLoggingListener" traceOutputOptions="Timestamp
30     "做人>
31       <filter type="" />
32     </add>
33     <add initializeData="app_tracelog.svclog"
34       type="System.Diagnostics.XmlWriterTraceListener, System, Version
35         =2.0.0.0, Culture=neutral, PublicKeyToken=b77a5c561934e089"
36       name="ServiceModelTraceListener" traceOutputOptions="Timestamp">
37         <filter type="" />
38       </add>
39     </sharedListeners>
40     <trace autoflush="true" />
41   </system.diagnostics>

```

System.serviceModel ??

Listing 2.4: WCFserviceModel

```

1 <diagnostics wmiProviderEnabled="true" performanceCounters="All">
2   <messageLogging logMalformedMessages="true" logMessagesAtTransportLevel="true" /
3     >
4   </diagnostics>

```

app_messages.svclogapp_tracelog.svclog.

2.1.11 WCF

WCF Transfer Security Authorization OR Access Control Auditing Authentication Message Protection WCF Transport Message Windows Communication Foundation (WCF) Microsoft WCF WCF

- Windows Windows Windows
- MembershipProvider MembershipProvider
- UsernamePasswordValidator /

WCF Windows X509 Issued Tokens Windows X509 X509 WCF Message X509 makecert.exe X509 cmd

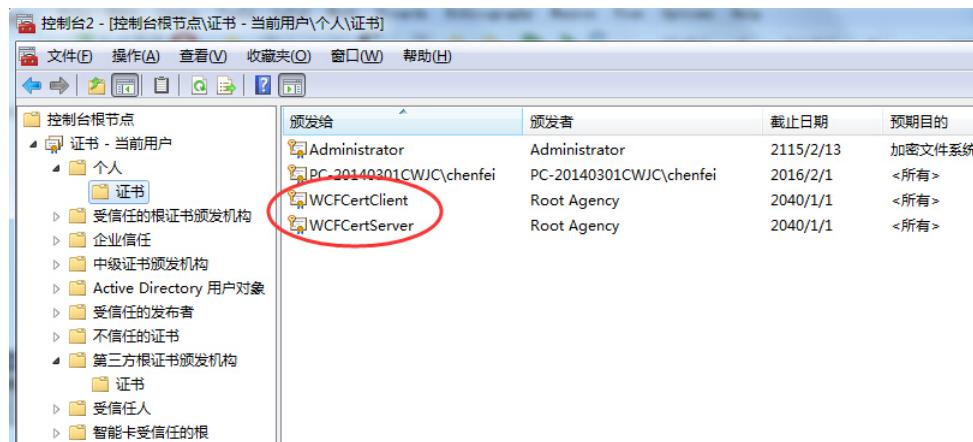
```

1 C:\Program Files (x86)\Windows Kits\8.1\bin\x64>makecert.exe -sr currentUser -ss
2 My -a sha1 -n CN=WCFCertServer -sky exchange -pe //
```

```

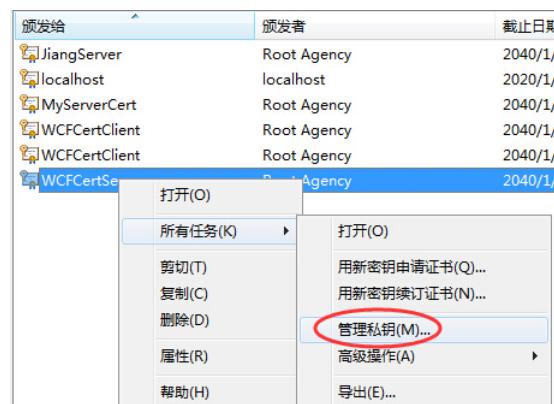
4 C:\Program Files (x86)\Windows Kits\8.1\bin\x64>makecert.exe -sr currentUser -ss
5 My -a sha1 -n CN=WCFCertClient -sky exchange -pe //
```

makecert.exe C:\Program Files (x86) \Windows Kits\8.1\bin\x64 mmc Microsoft Manager Control ??



2.6: X.509

-sr currentUser HKEY_CURRENT_USER. localMachine HKEY_LOCAL_MACHINE. WCF X.509 : StoreNameMyStoreLocationLocalMachineFindTypeFindBySubjectNameFindValuejirisoft ??



2.7: X.509

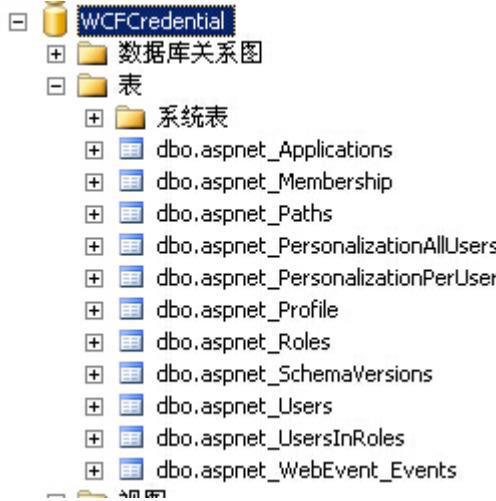
Everyone LocalMachine

C:\WINDOWS\microsoft.net\Framework64\v4.0.30319

??

```

1 <add name="WCFCredential" connectionString="Data Source=129.39.1.138,5002;Uid=
    WCFCredential;Pwd=WCFCredential!@#321;database=WCFCredential"/>
```



2.8: WCF

X509 X.509 certificate CN=MyServerCert certificateValidationMode 'WCF'

WCFWindows WindowsIWAIntegrated Windows Authentication/ WindowsADActive DirectoryIntranet WindowsWindows IISSQL ServerASP.NETWCF Windowsendpoint

```

1 <service behaviorConfiguration="CertificateBehavior" name="RR.API.WCFSERVICE.Custom
2   .Service1">
3     <endpoint behaviorConfiguration=""
4       binding="wsHttpBinding"
5       bindingConfiguration="CertificateBinding"
6       name="Service1EndPoint"
7       contract="RR.API.WCFSERVICE.Custom.IService1" />
8   </service>

```

behavior

```

1 <behavior name="CertificateBehavior">
2   <serviceMetadata httpGetEnabled="true" httpGetBinding="webHttpBinding"
3     httpGetBindingConfiguration="" />
4   <serviceDebug />
5   <serviceCredentials>
6     <serviceCertificate findValue="WCFCert1" storeLocation="LocalMachine"
7       x509FindType="FindBySubjectName" />
8   </serviceCredentials>
9 </behavior>

```

binding

```

1 <wsHttpBinding>
2   <binding name="CertificateBinding" messageEncoding="Mtom">
3     <security>
4       <transport clientCredentialType="None" />

```

```

5   <message clientCredentialType="UserName" negotiateServiceCredential="false" />
6   </security>
7   </binding>
8 </wsHttpBinding>
```

Windows endpoint

```

1 <endpoint address="http://192.168.1.254:5590/WCFService/Custom/Service1.svc"
2   binding="wsHttpBinding"
3   bindingConfiguration="Service1EndPoint"
4   behaviorConfiguration="CertificateBehavior"
5   contract="WCFValidateService.IService1"
6   name="Service1EndPoint">
7   <identity>
8     <certificate encodedValue="AwAAAAEAAAUAABMqx3Nytjb4gOX+WAefU5NwHH1OgAAAA
9       AQAAADgCAAAwggIOMIIIB4qADAgECAhCMdbk14fDgqkppNsBq0zC2MAkGBSs0AwIdBQAwFjEUMBI
10      GA1UEAxMLUm9vdCBZ2VuY3kwHhcNMTUwODA2MDkwNDUxWhcNMzKxMjMxMjM1OTU5WjATMREwDw
11      YDVQQDEwhXQ0ZDXJ0MTCCASIwDQYJKoZIhvcNAQEBBQADggEPADCCAQoCggEBALMOFmjKx88RP
12      JUcGAdLOUBA2yBO/FiCDDHEagjCvKORWXsa+haON30EjZ5NqvD9jtq0xb2fgm/1FbyP23MaCp2
13      mL9McV7Afft3m1/betkskUHZD5y/EUGzXFwyhGFezD5o6BFjn8zlcQYjU8aRIyFpQf0MeC062Z
14      tUd/92CyCsuzt8xsIXMm63i2yV46RhU5v0bgB/D40FVHuJUBbbrDYmRVqaUjIS2yq9DiX5+7oim
15      vz9CHQp6r3vnNz3pW8xcwE3zL/xEUNP+zs6ZLuOF/adOSNYrDa0+BYAQ1FUVJfiZz351arGLDzd
16      ikqty4kJxHf7W/CxbiSaXMoGb2Fq8MCawEAAAaNLMEkwRwYDVR0BBAwPoAQEuQJLQYdHU8AjWEh
17      3BZkY6EYMBYxFDASBgNVBAMTC1Jvb3QgQWdlbmN5ghAGN2wAqgBkihHPuNSqXDXOMAkGBSs0AwI
18      dBQADQQAuCvXzvzI7Ec+VeU89Z09AKuLL9M5cEPUmri40z615FaqyIbA9LzvFp/nQ7fu1cPjK6C
19      0cqWWlk6vTollPWk8R" />
20   </identity>
21 </endpoint>
```

bindings

```

1 <wsHttpBinding>
2   <binding name="Service1EndPoint" messageEncoding="Mtom">
3     <security>
4       <message clientCredentialType="UserName" negotiateServiceCredential="false" />
5     </security>
6   </binding>
7 </wsHttpBinding>
```

behavior

```

1 <behavior name="CertificateBehavior">
2   <clientCredentials>
3     <clientCertificate findValue="WCFCert1" storeLocation="LocalMachine"
4       x509FindType="FindBySubjectName" />
5   <serviceCertificate>
6     <defaultCertificate findValue="WCFCert1" storeLocation="LocalMachine"
7       x509FindType="FindBySubjectName" />
8     <authentication certificateValidationMode="None" trustedStoreLocation="
      LocalMachine" />
```

```

9   </serviceCertificate>
10  </clientCredentials>
11  </behavior>

```

Windows

Listing 2.5: WCF

```

1 Service1Client service1Client = new Service1Client();
2 service1Client.ClientCredentials.UserName.UserName = "Administrator";
3 service1Client.ClientCredentials.UserName.Password = "123";
4 string returnValue = service1Client.GetData(100);
5 service1Client.Close();

```

AdministratorWindows 123Windows

WCF WindowsUserNamePasswordValidator

Listing 2.6:

```

1 public class WCFCustomValidator : UserNamePasswordValidator
2 {
3     public override void Validate(string userName, string password)
4     {
5         if (userName != "jiangxiaoqiang" || password != "jiangxiaoqiang")
6         {
7             throw new Exception("Unauthorized access!");
8         }
9     }
10 }

```

behavior

```

1 <behavior name="CertificateBehavior">
2   <serviceMetadata httpGetEnabled="true" httpGetBinding="webHttpBinding"
3     httpGetBindingConfiguration="" />
4   <serviceDebug />
5   <serviceCredentials>
6     <serviceCertificate findValue="WCFCert1" storeLocation="LocalMachine"
7       x509FindType="FindBySubjectName" />
8     <userNameAuthentication userNamePasswordValidationMode="Custom"
9       customUserNamePasswordValidatorType="RR.Labs.Utils.WCFCustomValidator, RR.
10      Labs" />
11   </serviceCredentials>

```



2.9:

Listing 2.7: MemberShip

```

1 public void CreateUser()
2 {
3     if (Membership.FindUsersByName("jiangxiaoqiang").Count == 0)
4     {
5         Membership.CreateUser("jiangxiaoqiang", "jiangxiaoqiang",
6             "jiangtingqiang@gmail.com");
7     }
8 }
```

System.Web

```

1 <system.web>
2     <compilation debug="true" targetFramework="4.0" />
3     <membership defaultProvider="SqlProvider">
4         <providers>
5             <clear />
6             <add name="SqlProvider"
7                 type="System.Web.Security.SqlMembershipProvider"
8                 connectionStringName="WCFCredential"
9                 applicationName="demosite"
10                enablePasswordRetrieval="false"
11                enablePasswordReset="true"
12                requiresQuestionAndAnswer="false"
13                requiresUniqueEmail="true"
14                passwordFormat="Hashed" />
15         </providers>
16     </membership>
17     <httpRuntime maxRequestLength="20000000" executionTimeout="600"
18                 requestValidationMode="2.0" />
19 </system.web>
```

2.1.12 WCF RESTful Security

SOAPWCFSOAPHeaderMessageHeader) WebService REST WCF HttpHeader ??Header HeaderAuthorization"123" 405 MethodNotAllowed

Listing 2.8: WCF

```

1 private bool CheckAuthorization()
2 {
3     var ctx = WebOperationContext.Current;
4     var auth = ctx.IncomingRequest.Headers[HttpRequestHeader.Authorization];
5     if (string.IsNullOrEmpty(auth) || auth != "123")
6     {
7         ctx.OutgoingResponse.StatusCode = HttpStatusCode.MethodNotAllowed;
8         return false;
9     }
10    return true;
11 }
```

??

Listing 2.9: WCF

```

1 public string GetData(string a)
2 {
3     if (!CheckAuthorization())
4     {
5         return "Access Failed!";
6     }
7     else
8     {
9         return "OK! You enter:" + a.ToString();
10    }
11 }
```

CheckAuthorization HTTP¹⁷ Custom HTTP ModuleRequest HTTP HTTPXML Web services Internet(IIS)7.0 Forms

```

1 public void Init(HttpApplication context)
2 {
3     context.BeginRequest +=
4     (new EventHandler(this.Application_BeginRequest));
5 }
```

```

1 private void Application_BeginRequest(Object source, EventArgs e)
2 {
3     HttpApplication application = source as HttpApplication;
```

¹⁷<https://msdn.microsoft.com/zh-cn/library/ms227673%28v=vs.100%29.aspx>

```

4   HttpContext context = application.Context;
5   if (context != null)
6   {
7     CheckAuthorization(context);
8   }
9 }
```

```

1 private bool CheckAuthorization(HttpContext context)
2 {
3   string auth = context.Request.Headers["Authorization"];
4   if (string.IsNullOrEmpty(auth) || auth != "123")
5   {
6     throw new HttpException(404, "HTTP/1.1 404 Unauthorized");
7   }
8   return true;
9 }
```

HttpContext ASP.NET HttpContext HttpContext, HttpContextRequestResponseServer, ASP.NET
Cache HttpContext.Item HttpContext

SHA1

HttpWebRequest HTTP HttpWebResponse RequestHeaderKey-Value MD5 ??

Listing 2.10: WCF

```

1 /// \summary
2 /// GET()
3 /// \summary
4 /// \param name="url"\WCF\param
5 /// \param name="privateKey"\param
6 /// \param name="postDataParam"\param
7 public static string HttpGet(string url, string postDataParam,string privateKey)
8 {
9   string postUrl = url + (postDataParam == "" ? "?" : "?") + postDataParam;
10  HttpWebRequest request = (HttpWebRequest)WebRequest.Create(postUrl);
11  request.Method = "GET";
12  request.ContentType = "text/html; charset=UTF-8";
13  string signatureData = Encrypter.HashAndSignString(postUrl, privateKey);
14  request.Headers.Add("Authorization", signatureData);
15  HttpWebResponse response = (HttpWebResponse)request.GetResponse();
16  Stream myResponseStream = response.GetResponseStream();
17  StreamReader myStreamReader = new StreamReader(responseStream, Encoding.UTF8)
18    ;
19  string resultString = myStreamReader.ReadToEnd();
20  myStreamReader.Close();
21  myResponseStream.Close();
22  return resultString ;
```

```
22 }
```

url`http://192.168.1.254:5590/WCFService/Custom/Service1.svc/web/GetData` postDataParamid=18??

Listing 2.11:

```
1  /// isummary;
2  ///
3  /// i/summary;
4  /// jparam name="context";HttpContext;param;
5  /// jreturns;i/returns;
6  private bool CheckAuthorization(HttpContext context)
7  {
8      string signatureData = context.Request.Headers["Authorization"];
9      if (!string.IsNullOrEmpty(signatureData))
10     {
11         string publicKey = Developer.GetDeveloperPublicKeyByAppSecretKey("12");
12         string originalText = context.Request.Url.OriginalString;
13         bool sucess = SecurityUtil.VerifySigned(originalText, signatureData, publicKey);
14         if (!sucess)
15         {
16             throw new HttpException(404, "HTTP/1.1 404 Unauthorized");
17         }
18     }
19     else
20     {
21         //throw new HttpException(404, "HTTP/1.1 404 Unauthorized");
22         //context.Response.End();
23     }
24     return true;
25 }
```

`throw new HttpException(404,"HTTP/1.1 404 Unauthorized") context.Response.End()`
EndWeb

WCF REST HTTPS

2.1.13 WCFsvc

(.SVC)File-Less ActivationWCF 4.0 system.serviceModel

```
1 <serviceHostingEnvironment>
2   <serviceActivations>
3     <add relativeAddress="WCFService/Custom/RemoveSvcService.svc" service="RR.API.
4       WCFService.Custom.RemoveSvcService"/>
5   </serviceActivations>
6 </serviceHostingEnvironment>
```

```
service servicefactory.svc %@ServiceHost;_ServiceFactory relativeAddressIIS.svc
```

2.1.14 WCF

WCF `http://localhost/applicationname/Serivce.svc/Name http://localhost/applicationname/aa/Name` Global.asax Application_Start

```
1 public static void RegisterRoutes(RouteCollection routes)
2 {
3     routes.EnableFriendlyUrls();
4     WebServiceHostFactory factory = new WebServiceHostFactory();
5     RouteTable.Routes.Add(new ServiceRoute("aa", factory, typeof(ConferenceService)));
6 }
```

Global.asax EnableFriendlyUrlsMicrosoft.AspNet.FriendlyUrls.dll ??



2.10: WCF Url

`http://192.168.1.254:5590/WCFSERVICE/Custom/RemoveSvcService.svc/web/help` Url
`http://192.168.1.254:5590/aa/web/help`

```
1 <system.serviceModel>
2   <serviceHostingEnvironment aspNetCompatibilityEnabled="true"/>
3 </system.serviceModel>
```

Web API .svc Web API

```
1 [AspNetCompatibilityRequirements(RequirementsMode =
2   AspNetCompatibilityRequirementsMode.Allowed)]
```

2.1.15 WCFCookie

webcookiewcf IClientMessageInspector BeforeSendRequestAfterReceiveReply beforeSendRequest
cookieAfterReciveReply cookie Cookie

```

1 <wsHttpBinding>
2   <binding name="CertificateBinding"
3     messageEncoding="Mtom"
4     allowCookies="True">
5     <security>
6       <transport clientCredentialType="None" />
7       <message clientCredentialType="UserName" negotiateServiceCredential="false"/>
8     </security>
9   </binding>
10  </wsHttpBinding>

```

ASP.NET host

```

1 <!-- ASP . NET -->
2 <serviceHostingEnvironment aspNetCompatibilityEnabled ="true"
  multipleSiteBindingsEnabled="true" />

```

ASP.NET

```

1 [AspNetCompatibilityRequirements(RequirementsMode =
  AspNetCompatibilityRequirementsMode.Allowed)]

```

```

1 public class CookieMessageInspector : IClientMessageInspector
2 {
3   public void AfterReceiveReply(ref Message reply, object correlationState)
4   {
5     return;
6   }
7
8   public object BeforeSendRequest(ref Message request, IClientChannel channel)
9   {
10    var cookie = "example";
11    HttpRequestMessageProperty httpRequestMessage;
12    object httpRequestMessageObject;
13    if (request.Properties.TryGetValue(HttpRequestMessageProperty.Name, out
14      httpRequestMessageObject))
15    {
16      httpRequestMessage = httpRequestMessageObject as
17      HttpRequestMessageProperty;
18      if (string.IsNullOrEmpty(httpRequestMessage.Headers["Cookie"]))
19      {
20        httpRequestMessage.Headers["Cookie"] = cookie;
21      }
22    }
23    else
24    {
25      httpRequestMessage = new HttpRequestMessageProperty();
26    }
27  }
28}

```

```
24     httpRequestMessage.Headers.Add("Cookie", cookie);
25     request.Properties.Add(HttpRequestMessageProperty.Name,
26         httpRequestMessage);
27     }
28     return null;
29 }
```

CookieBehavior

```
1 public class CookieBehavior : IEndpointBehavior
2 {
3     public void AddBindingParameters(ServiceEndpoint endpoint,
4         BindingParameterCollection bindingParameters)
5     {
6         return;
7     }
8
9     public void ApplyClientBehavior(ServiceEndpoint endpoint, ClientRuntime
10        clientRuntime)
11     {
12         clientRuntime.MessageInspectors.Add(new CookieMessageInspector());
13     }
14
15     public void ApplyDispatchBehavior(ServiceEndpoint endpoint, EndpointDispatcher
16        endpointDispatcher)
17     {
18         return;
19     }
20
21     public void Validate(ServiceEndpoint endpoint)
22     {
23         return;
24     }
25 }
```

Cookie

```
1 try
2 {
3     if (HttpContext.Current != null)
4     {
5         foreach (string s in HttpContext.Current.Request.Cookies.AllKeys)
6         {
7         }
8     }
9     else
10    {
11        logger.Info("Request is null!");
12    }
13 }
```

```

13 }
14 catch (Exception e)
15 {
16     logger.Error("aa", e);
17 }

```

CookieCookie

```
1 HttpContext.Current.Response.Cookies.Add(new HttpCookie("test123", "123"));
```

Set-Cookie??

```

WebHeaderCollection coll = httpResponse.Headers;
foreach(string str in coll.AllKeys)
{
}

//string cookie = httpResponse.Headers
//if(!string.IsNullOrEmpty(cookie))
//{
//}

```

coll.AllKeys	{string[9]}
coll.AllKeys[0]	MIME-Version
coll.AllKeys[1]	Transfer-Encoding
coll.AllKeys[2]	Cache-Control
coll.AllKeys[3]	Content-Type
coll.AllKeys[4]	Date
coll.AllKeys[5]	Set-Cookie
coll.AllKeys[6]	Server
coll.AllKeys[7]	X-AspNet-Version
coll.AllKeys[8]	X-Powered-By

2.11: Set-Cookie

Tips:

2.1.16 WCF RESTCookie

WCFsession

```

1 CookieContainer Cookie = new CookieContainer();
2 request.CookieContainer = Cookie;

```

2.1.17 HTTPSWeb Service

Web ServiceJavaHTTPSWeb Service HTTPSURL URI httpshttp TransportTransportHTTPS

```
<security mode="Transport" />
```

2.1: Security Choice

Member Name	Description
None	The SOAP message is not secured during transfer. This is the default behavior.
Transport	Security is provided using HTTPS. The service must be configured with SSL certificates. The SOAP message is protected as a whole using HTTPS. The service is authenticated by the client using the services SSL certificate. The client authentication is controlled through the ClientCredentialType.

Transport seems to require HTTPS to encrypt credentials and throws an exception if there is no SSL. TransportCredentialsOnly will send the credentials in plain text and unencrypted and is recommended for testing ONLY! ??

[https://msdn.microsoft.com/en-us/library/system.servicemodel.basichttpsecuritymode\(v=vs.100\).aspx](https://msdn.microsoft.com/en-us/library/system.servicemodel.basichttpsecuritymode(v=vs.100).aspx)

2.2 WCF

WCFWCF

```

1 <serviceBehaviors>
2   <behavior name="">
3     <serviceMetadata httpGetEnabled="true" />
4     <serviceDebug includeExceptionDetailInFaults="true" />
5   </behavior>
6 </serviceBehaviors>

```

ServiceDebugincludeExceptionDetailInFaults true Enterprise LibWCFException BlockWCF
Try catch Microsoft.Practices.EnterpriseLibrary.ExceptionHandling.dll

Microsoft.Practices.EnterpriseLibrary.ExceptionHandling.WCF.dll

Microsoft.Practices.EnterpriseLibrary.Common.dll

Microsoft.Practices.ObjectBuilder2.dll

Microsoft Enterprise Library C:\Program Files (x86)\Microsoft Enterprise Library 5.0\Bin

AttributeIErrorHandlerWCF

IErrorHandler

Listing 2.12: IErrorHandler

```

1  public class GlobalExceptionHandler : IErrorHandler
2  {
3      /// \summary
4      ///
5      /// \/summary
6      private readonly log4net.ILog logger = log4net.LogManager.GetLogger(MethodBase.
7          GetCurrentMethod().DeclaringType);
8
9      /// \summary
10     ///
11     /// \/summary
12     /// \param name="error"\/param
13     /// \returns\true false false\/returns
14     public bool HandleError(Exception error)
15     {
16         return true;
17     }
18
19     /// \summary
20     ///
21     /// \/summary
22     /// \param name="error"\/param
23     /// \param name="version"\/param
24     /// \param name="fault"\/param
25     public void ProvideFault(Exception error, MessageVersion version, ref Message fault)
26     {
27         logger.Error("    WCF    ", error);
28         /*
29         var clientException = new FaultException(string.Format("    WCF    {0}",
30             error.TargetSite.Name));
31         MessageFault msgFault = clientException.CreateMessageFault();
32         fault = Message.CreateMessage(version, msgFault, clientException.Action);
33     }
34 }
```

Service Behaviour Attribute WCFWCFAttribute IServiceBehavior ApplyDispatchBehavior Activator.CreateInstance handler channelDispatcher channelDispatcherServiceHostOpen WCFChannelDispatcher ChannelDispatcherChannelListener, ChannelListenerMessage AcceptChannelMessage

Listing 2.13: IServiceBehavior

```

1  public class GlobalExceptionHandlerBehaviourAttribute : Attribute, IServiceBehavior
2  {
3      private readonly Type _errorHandlerType;
4
5      public GlobalExceptionHandlerBehaviourAttribute(Type errorHandlerType)
6      {
7          _errorHandlerType = errorHandlerType;
8      }
9 }
```

```

10  public void AddBindingParameters(ServiceDescription serviceDescription,
11      ServiceHostBase serviceHostBase, Collection<ServiceEndpoint> endpoints,
12      BindingParameterCollection bindingParameters)
13  {
14  }
15
16  public void ApplyDispatchBehavior(ServiceDescription serviceDescription,
17      ServiceHostBase serviceHostBase)
18  {
19      var handler = (IErrorHandler)Activator.CreateInstance(_errorHandlerType);
20      foreach (ChannelDispatcherBase dispatcherBase in serviceHostBase.
21          ChannelDispatchers)
22      {
23          var channelDispatcher = dispatcherBase as ChannelDispatcher;
24          if (channelDispatcher != null)
25          {
26              channelDispatcher.ErrorHandlers.Add(handler);
27          }
28      }
29
30
31  }
32 }
```

WCFGlobalExceptionHandlerBehaviour

```

1 [GlobalExceptionHandlerBehaviour(typeof(GlobalExceptionHandler))]
2 public class PublicBaseService : IPublicBaseService
3 {
4     public string DoWorkWithValue(string a)
5     {
6         return a;
7     }
8
9     public void DoWork(string a)
10    {
11        int ia = 1;
12        int b = 0;
13        int c = ia / b;
14    }
15 }
```

2.2.1

clientCredentialTypeUserName

```

1 <wsHttpBinding>
2   <binding name="NewBinding0" messageEncoding="Mtom">
3     <security>
4       <transport clientCredentialType="None" />
5       <message clientCredentialType="UserName" negotiateServiceCredential="false"/>
6     </security>
7   </binding>
8 </wsHttpBinding>
```

http://myServerUrlSspiNegotiation / KerberosUPN(acmedomain/alice)SPN(/ bob-s-machine) negotiateServiceCredential ¹⁸

```

1 <wsHttpBinding>
2   <binding name="NewBinding0" messageEncoding="Mtom">
3     <security>
4       <transport clientCredentialType="None" />
5       <message clientCredentialType="UserName" negotiateServiceCredential="false"/>
6     </security>
7   </binding>
8 </wsHttpBinding>
```

WCF

The operation could not be loaded because it has a parameter or return type of type System.ServiceModel.Channels.Message or a type that has MessageContractAttribute and other parameters of different types. When using System.ServiceModel.Channels.Message or types with MessageContractAttribute, the method must not use any other type of parameters.

WCF

3

- MixType1: Contract type and primitive types as operation parameters
- MixType2: Contract type as a parameter and primitive type as return type
- MixType3: Primitive type as a parameter and Contract type as return type

¹⁸http://www.cnblogs.com/aritech/archive/2011/06/12/Authentication_043.html

: (400) Bad Request GETPOST

Listing 2.14:

```

1 [OperationContract]
2 [WebInvoke(Method="POST", UriTemplate = "GetAwardCount",
3     ResponseFormat = WebMessageFormat.Json,
4     BodyStyle = WebMessageBodyStyle.Wrapped)]
5 string GetAwardCount();

```

<http://192.168.1.254:5590/WCFSERVICE/Custom/PublicBaseService.svc> SOAP InnerException

behaviorConfiguration="webBehavior"

```

1 <behaviors>
2   <endpointBehaviors>
3     <behavior name="webBehavior">
4       <webHttp/>
5     </behavior>
6   </endpointBehaviors>
7 </behaviors>
8 <client>
9   <endpoint name="employeeService"
10      address="http://127.0.0.1:3721/employees"
11      behaviorConfiguration="webBehavior"
12      binding="webHttpBinding"
13      contract="Artech.WcfServices.Service.Interface.IEmployees"/>
14 </client>

```

: (405) Method Not Allowed basicHttpBinding

X.509

service

```

1 <endpoint address="mex" binding="mexHttpBinding" contract="IMetadataExchange" />

```

text/html; charset=utf-8 (multipart/related; type="application/xop+xml") IsContentTypeSupported 1024 :;html;

WCF

Chapter 3

ASP.NET Web API(Apache License 2.0)

ASP.NET Web API is a framework that makes it easy to build HTTP services that reach a broad range of clients, including browsers and mobile devices. ASP.NET Web API is an ideal platform for building RESTful applications on the .NET Framework. Web API functionstring value Urlvalue=1 GlobalConfiguration.ConfigurationGlobalConfigurationSystem.Web.Http.WebHost.dll

3.1 Web Api

3.1.1 Controller

Step 2:DefaultHttpControllerSelector The second part of the solution is to create an implementation of IHttpControllerSelector that actually uses the area name.

3.2 Web Api Area

3.3 Web Api

```
apiwebAPI (MapHttpRouteMapRoute routeTemplateurl) routeTemplatecontroller apicon-
troller
```

3.4

3.4.1 Web Api Json

http://blog.csdn.net/besley/article/details/23955147?utm_source=tuicool&utm_medium=referral

3.4.2 Exception Handling in ASP.NET Web API

You can customize how Web API handles exceptions by writing an exception filter. An exception filter is executed when a controller method throws any unhandled exception that is not an HttpResponseException exception. The HttpResponseException type is a special case, because it is designed specifically for returning an HTTP response. Exception filters implement the System.Web.Http.Filters.IExceptionFilter interface. The simplest way to write an exception filter is to derive from the System.Web.Http.Filters.ExceptionFilterAttribute class and override the OnException method.

Listing 3.1: Web API

```
1 public class NotImplExceptionFilterAttribute : ExceptionFilterAttribute
2 {
3     public override void OnException(HttpActionExecutedContext context)
```

```

4  {
5      if (context.Exception is NotImplementedException)
6      {
7          context.Response = new HttpResponseMessage(HttpStatusCode.
8              NotImplemented);
9      }
10 }

```

3.4.3 (HTTP Message Handlers in ASP.NET Web API)

A message handler is a class that receives an HTTP request and returns an HTTP response. Message handlers derive from the abstract `HttpMessageHandler` class.

Typically, a series of message handlers are chained together. The first handler receives an HTTP request, does some processing, and gives the request to the next handler. At some point, the response is created and goes back up the chain. This pattern is called a delegating handler¹.

3.4.4 Model(Model Binding)

Model binding is the process that maps data from request and supply to Action methods parameters. Model binding takes places after the authorization filters have executed and model is ready to bind. Model binder works with Value provides to get and map data. By default there are four value provides that MVC framework uses, Form Data, Route Data, Query string and posted Files. You can create your own custom value provider to choose data from, such as Cookie Value provider as custom value provider.

Model Binder is implemented from `IModelBinder` interface. By default, MVC provides a very powerful model binder but you can create your own custom model binder for your specific project needs. ModelHTTPRouteDatavalue ASP.NET MVCModel ViewASP.NET MVC Model IModelBinder ModelDefaultModelBinder DefaultModelBinder(System.Web.ModelBinding)Model ASP.NET MVCDefaultModelBinderModel Action,ASP.NET MVC

- Form
- RouteData
- QueryString

¹<http://www.asp.net/web-api/overview/advanced/http-message-handlers>

3.5 Automated Documentation for REST APIs

3.5.1 Swagger-UI

Swagger-UI

```
1 Install –Package Swashbuckle
```

3.5.2 Swagger

The goal of Swagger is to define a standard, language-agnostic interface to REST APIs which allows both humans and computers to discover and understand the capabilities of the service without access to source code, documentation, or through network traffic inspection. When properly defined via Swagger, a consumer can understand and interact with the remote service with a minimal amount of implementation logic. Similar to what interfaces have done for lower-level programming, Swagger removes the guesswork in calling the service. Swagger-UI

Listing 3.2: Swagger

```
1 http://localhost:5509/swagger/ui/index
```

Web Api Tracing WebApiConfig.csRigester

Listing 3.3: Tracing

```
1 config .EnableSystemDiagnosticsTracing();
```

EnableSystemDiagnosticsTracingHttpConfiguration System.Web.Http.Tracing SwaggerWebApiConfig.cs XML XML ??



3.1:

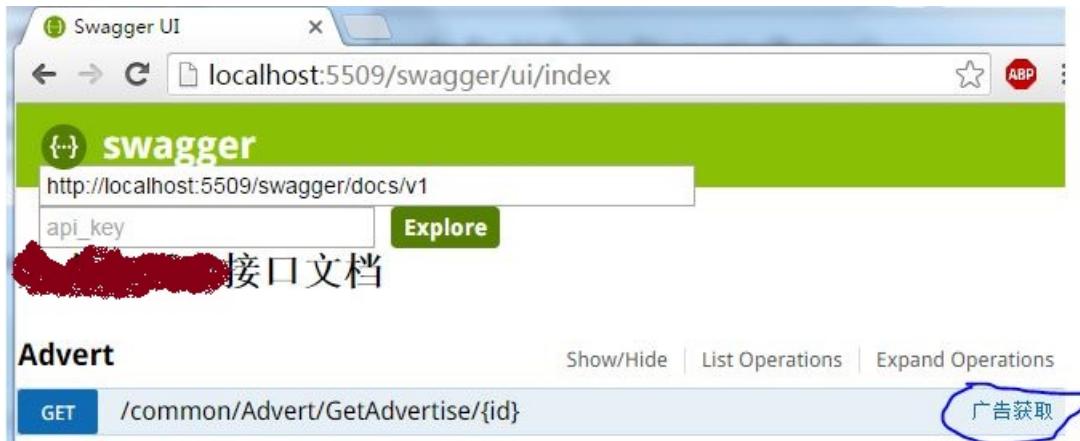
WebApi(Comments)SwaggerConfig.csRegister

Listing 3.4: Swagger

```
1 c.IncludeXmlComments(GetXmlCommentsPath());
```

```
2  
3 private static string GetXmlCommentsPath()  
4 {  
5     return System.String.Format(@"{0}\bin\WebApi.XML",System.AppDomain.  
6         CurrentDomain.BaseDirectory);  
}
```

WebApi?? ApiController AdvertController GetAdvertiseActionArea



3.2:

Chapter 4

(Data Operate)

4.1 (Generate QRCode)

ThoughtWorks.QRCode.dll QRCodeEncoderQRCodeEncodeMode QRCodeScaleQRCodeVersionQRCodeErrorCorrect

Listing 4.1:

```

1 #region
2 /// isummary;
3 ///
4 /// i/summary;
5 /// iparam name="data" i/param;
6 /// ireturns; i/returns;
7 public string CreateQrCodeWithRelativePath(string data)
8 {
9     var savePath = string.Empty;
10    var qrCodeEncoder = new QRCodeEncoder
11    {
12        QRCodeEncodeMode = QRCodeEncoder.ENCODE_MODE.BYTE,
13        QRCodeScale = 12,
14        QRCodeVersion = 0,
15        QRCodeErrorCorrect = QRCodeEncoder.ERROR_CORRECTION.M
16    };
17    try
18    {
19        var fileName = Guid.NewGuid() + ".png";
20        var tempPath = Path.Combine(HttpRuntime.AppDomainAppPath, "qrcode\\");
21        if (!Directory.Exists(tempPath))
22        {
23            Directory.CreateDirectory(tempPath);
24        }
25        savePath = tempPath + fileName;
26        qrCodeEncoder.Encode(data, Encoding.UTF8).Save(savePath);
27    }
28    catch (Exception e)
29    {
30        PublicAttribute.Logger.Error("Generate QRCode encount an error", e);
31    }
32    return savePath;
33 }
34 #endregion

```

Web

```

1 HttpContext.Current.Server.MapPath("/")

```

HttpContext.Currentnull CacheAPM MapPathHttpRuntime.AppDomainAppPath D:\zouwo\RR.DataCommon\b

```

1 Server.MapPath("/") // C:\Inetpub\
2           wwwroot\
3 Server.MapPath("~/") // C:\Inetpub\wwwroot\Example\
4 Server.MapPath("./") // 
5 Server.MapPath("../") //

```

```

1 string filePath = System.IO.Path.Combine(HttpRuntime.AppDomainAppPath, "\\qrcode\\a
 .png");

```

HttpRuntimeWEB WEB HttpContextWEB HttpRuntime

- Path.Combine null
- string.Empty
- path2path2
- path2\ / path2

4.1.1

Windows Service

```

1 var currentDirectory = AppDomain.CurrentDomain.BaseDirectory;
2 var configFilePath = currentDirectory + @"Config\quartz_jobs.xml";

```

4.2 SerializationDeserialization

¹ Json ² Json

```

1 {
2   "response": {
3     "total_results": 33,
4     "trades": [
5       {
6         "tid": "E231958349",
7         "num": 1,
8         "buyer_type": 1,
9         "seller_flag": "5",

```

¹ 2012

² JavaScript Object Notation:JavaScript

```

10     "orders": [
11         {
12             "oid": 14776,
13             "num_iid": 3424234,
14             "sku_id": 32221,
15             "discount_fee": 0,
16             "payment": 200.02,
17             "buyer_messages": [
18                 {
19                     "title": "\u989c\u8272\u8981\u6c42",
20                     "content": "\u7ea2\u8272\u7684\u6216\u8005\u9ec4\u8272
21                         \u7684"
22                 },
23                 {
24                     "title": "\u989c\u8272\u8981\u6c42",
25                     "content": "\u7ea2\u8272\u7684\u6216\u8005\u9ec4\u8272
26                         \u7684"
27                 }
28             ],
29         }
30     }

```

JsonModelModelModel JsonResponseContainerResponseModelTradeModelOrderModel Model
 elJsonresponsetradesordersJson Model

```

1 public class ResponseContainer
2 {
3     public ResponseModel response { get; set; }
4 }

```

```

1 public class ResponseModel
2 {
3     public int total_results { set; get; }
4     public List<TradeModel> trades{ set; get; }
5 }

```

Model:

```

1 public class TradeModel
2 {
3     #region Attribute
4
5     #region
6     private List<OrderModel> orders;
7
8     public List<OrderModel> Orders
9     {

```

```

10     get { return orders; }
11     set { orders = value; }
12   }
13   #endregion
14
15   #endregion
16 }
```

Model:

```

1 public class OrderModel
2 {
3     #region Attribute
4
5     #region
6     private string price;
7
8     public string Price
9     {
10         get { return price; }
11         set { price = value; }
12     }
13     #endregion
14 }
```

JsonModel,Newtonsoft.Json.dll JsonConvert

```

1 #region      JsonResponseModelContainer
2 /// [summary]
3 /// JsonResponseModelContainer
4 /// [/summary]
5 /// [param name="json"][/param]
6 /// [returns][/returns]
7 public static ResponseContainer MapResponseJsonToContainer(string json)
8 {
9     ResponseContainer container = new ResponseContainer();
10    try
11    {
12        container = JsonConvert.DeserializeObject<ResponseContainer>(json);
13    }
14    catch(Exception e)
15    {
16        logger.Error("          Json          ",e);
17    }
18    return container;
19 }
20 #endregion
```

JsonJsonkey C# JsonJsonkey³

Listing 4.2: Jsonkey

```

1  public class LowercaseJsonSerializer
2  {
3      private static readonly JsonSerializerSettings Settings = new
4          JsonSerializerSettings
5      {
6          ContractResolver = new LowercaseContractResolver()
7      };
8
9      public static string SerializeObject(object o)
10     {
11         return JsonConvert.SerializeObject(o, Formatting.Indented, Settings);
12     }
13
14     public class LowercaseContractResolver : DefaultContractResolver
15     {
16         protected override string ResolvePropertyName(string propertyName)
17         {
18             return propertyName.ToLower();
19         }
20     }

```

Listing 4.3:

```

1 var json = LowercaseJsonSerializer.SerializeObject(new { Foo = "bar" });
2 // "foo": "bar"

```

4.2.1 Serialization

Key-Value (Dictionary)DataContractSerializer XML(Readable,) XmlWriterSettings

Listing 4.4: XML

```

1 /// isummary
2 ///
3 /// i/summary
4 /// itypeparam name="T" i/typeparam
5 /// iparam name="instance" i/param
6 /// iparam name="fileName" i/param
7 private static void Serialize<T>(T instance, string fileName)
8 {
9     var serializer = new DataContractSerializer(typeof(T));
10    /*
11        XML
12    */
13    var xmlWriteSettings = new XmlWriterSettings { Indent = true };

```

³:<http://stackoverflow.com/questions/6288660/net-ensuring-json-keys-are-lowercase#>

```

12     using (var writer = XmlWriter.Create(fileName, xmlWriteSettings))
13     {
14         serializer .WriteObject(writer, instance);
15     }
16 }
```

4.2.2 XML

4.2.3 XML

SelectSingleNode null xml xml

4.2.4 XML

4.3

4.3.1 DataTableList

,DataTable,List

Listing 4.5: DataTableList

```

1 #region      DataTableList
2 /// |summary|
3 ///
4 /// |/summary|
5 /// |typeparam name="T"||/typeparam|
6 /// |param name="dt"||/param|
7 /// |returns||/returns|
8 public static List<T> ConvertDataTableToList<T>(DataTable dt) where T : class,new
9     ()
10    {
11        var propertyList = new List< PropertyInfo >();
12        Type type = typeof(T);
13        Array.ForEach(
14            type.GetProperties(),
15            propertyInfo =>
16            {
17                if (dt.Columns.IndexOf(p.Name) != -1)
18                {
19                    propertyList.Add(propertyInfo);
20                }
21            });
22        var objectList = new List<T>();
23        foreach (DataRow row in dt.Rows)
24        {
25            var singleObject = new T();
```

```

25     propertyList.ForEach(
26         PropertyInfo =>
27         {
28             if (row[p.Name] != DBNull.Value)
29             {
30                 PropertyInfo.SetValue(singleObject, row[propertyInfo.Name], null);
31             }
32         });
33     objectList.Add(singleObject);
34 }
35     return objectList;
36 }
37 #endregion

```

-
-
-

T()ConvertDataTableToList <T>, ,(), Where:T,where T : class,new()T, SetValue

```

1     PropertyInfo.SetValue(objectT, Convert.ChangeType(row[propertyInfo.Name], PropertyInfo.
    PropertyType), null);

```

ChangeType(Object, TypeCode)Object TypeCode ChangeType

```

1     T GetObject<T>(string str)

```

stringT

```

1     return (T)Convert.ChangeType(str, typeof(T));

```

strTChangeType

4.3.2 Double

double.TryParse.Parse Parse TryParsefalse result0 FCL⁴ TryParseParse

```

1     string str = string.Empty;
2     double d;
3     try
4     {
5         d = double.Parse(str);

```

⁴Framework Class Library,Framework

```

6 }
7 catch (Exception ex)
8 {
9     d = 0;
10}

```

Convert.ToDouble.ToDouble(Char)InvalidCastException

4.3.3 Liststring

List<string>;

```

1 List<string> studentNames = new List<string>();
2
3 studentNames.Add("John");
4 studentNames.Add("Mary");
5 studentNames.Add("Rose");

```

```

1 string .Join(", ", studentNames.ToArray());

```

John, Mary, Rose

4.3.4

```

1 var questionIdCollectionList = from qids in questionnaire.QuestionsModel.
2                             QuestionModelList
3                             select qids.ID;
4
5 string questionIdCollection = string .Join(", ", questionIdCollectionList .ToArray());

```

4.3.5 List

ListDistinct IEquatable<T>; IEqualityComparer<T>;

```

1 public class WantGoPlaceCompare : IEqualityComparer<tour_wantToPlacesModel>
2 {
3     public bool Equals(tour_wantToPlacesModel x, tour_wantToPlacesModel y)
4     {
5         return x.objId == y.objId;
6     }
7
8     public int GetHashCode(tour_wantToPlacesModel obj)
9     {
10        return obj.objId.GetHashCode();
11    }

```

```

11 }
12 }
```

DistinctHashCode DistinctSet;T_i hash⁵ GetHashCode hashCodeEquals ListDistinct

```

1 //List
2 wantGoIds = wantGoIds.Distinct(new WantGoPlaceCompare()).ToList();
```

4.3.6 List

Linq (Starttime)(descending)

```

1 var sortedDriverActionInfos = from items in driverActionInfos orderby items.Starttime
                                descending select items;
```

4.3.7 Unix

⁶ 13708387592013610 12:32:39 2013-6-10 12:32:39 ??

Listing 4.6: DateTime

```

1 /// isummary{
2 /// DateTime
3 /// i/summary{
4 /// iparam name="timeStamp" iUnixiParam{
5 /// ireturns iDateTime/returns{
6 private DateTime StampToDateTim(string timeStamp)
7 {
8     DateTime dateTimStart = TimeZone.CurrentTimeZone.ToLocalTime(new DateTime
9         (1970, 1, 1));
10    long totalSecondTime = long.Parse(timeStamp + "0000000");
11    TimeSpan toNow = new TimeSpan(totalSecondTime);
12    return dateTimStart.Add(toNow);
13 }
14 /// isummary{
15 /// DateTimeUnix
16 /// i/summary{
17 /// iparam name="time" iDateTimeiParam{
18 /// ireturns iUnix/returns{
19 private long DateTimeToStamp(System.DateTime time)
20 {
21     System.DateTime startTim = TimeZone.CurrentTimeZone.ToLocalTime(new System.
22         DateTime(1970, 1, 1));
23    return (long)(time - startTim).TotalSeconds;
```

⁵Hash table (Key value)

⁶,Unix Stamp. 197011UTC/GMT

```
23 }
```

4.3.8 Linq

Linq Linq

```
1 #region      LinqOrderModel
2 /// isummary;
3 ///
4 /// i/summary;
5 /// iparam name="PageSize" ;i/param;
6 /// iparam name="CurPage" ;i/param;
7 /// iparam name="objs" ;i/param;
8 /// ireturns; i/returns;
9 private List<shop_orderModel> QueryByPage(int PageSize, int CurPage, List<
10           shop_orderModel> objs)
11 {
12     var query = from oneItem in objs select oneItem;
13     return query.Take(PageSize * CurPage).Skip(PageSize * (CurPage - 1)).ToList();
14 }
#endregion
```

```
1 #region      LinqsellerModel
2 /// isummary;
3 ///
4 /// i/summary;
5 /// iparam name="PageSize" ;i/param;
6 /// iparam name="CurPage" ;i/param;
7 /// iparam name="objs" ;i/param;
8 /// ireturns; i/returns;
9 private List<T> QueryByPage<T>(int PageSize, int CurPage, List<T> objs)
10 {
11     var query = from oneItem in objs select oneItem;
12     return query.Take(PageSize * CurPage).Skip(PageSize * (CurPage - 1)).ToList();
13 }
```

Linqtake skip

Linq LinqLinq

```
1 var resultRows = (from DataGridViewRow row in gridAlarmInfo.Rows.Cast<
2           DataGridViewRow>().Where(row => row.Cells[12].Value != null)
3             where row.Cells[12].Value.ToString() == e.SerialNo.ToString()
4             select row).ToList();
```

LinqAnyAll LINQAny()All() truefalseAny TrueFalse 2

```

1 var wantGoResult = from query in alreadyGoneModel
2 where query.played == 1 && query.collectionStatus == 1
3 select query;
4 var isContains = wantGoResult.Any<tour_wantToPlacesModel>();
```

LinqareadyGoneModel any(bool)(tour_wantToPlacesModel) All

```

1 var containsAlreadyGone = alreadyGoneModel.Any(alreadyGome => alreadyGome.played ==
1 && alreadyGome.collectionStatus == 1);
```

foreach

DictionaryList

```
1 var vechicleList = vechicleDicitonary.Select(vechicle => vechicle.Value).ToList();
```

Linq

```

1 from prod in db.Products
2 select prod.UnitPrice)
3 .Min()
```

4.3.9

SQL Server SQL Server 2005

```

1 SELECT TOP      *
2 FROM
3 (
4     SELECT ROW_NUMBER() OVER (ORDER BY id) AS RowNumber,* FROM
5         table1
6 ) A
6 WHERE RowNumber >  *(-1)
```

*(-1) SQL DataTableDataTableList ROW_NUMBER() OVER() SQL 2003ISO SQL MS
 SQL ServerOracleDB2 ISO SQL Oracle DB2OLAP

() OVER()

OVER SQL OVER COUNT(*) OVER() OVER OVER

4.3.10

TransactionScope TransactionScopeSystem.Transactions Framework 2.0, TransactionScopeLTM()
 Transaction.Current TransactionScopeComplete Dispose MSDTC⁷ net start msdtc

```

1  using (TransactionScope transactionScope = new TransactionScope())
2  {
3      try
4      {
5          // 
6          transactionScope.Complete();
7      }
8      catch (Exception e)
9      {
10         logger.Error("", e);
11     }
12 }
13 return success;

```

Complete() Complete()

sql

```

1 SELECT *
2 FROM <TABLENAME>
3 WITH (ROWLOCK,UPDLOCK,READPAST)
4 WHERE CONDITION

```

ROWLOCK UPDLOCK UPDLOCK READPAST 1 READPAST SELECT

Granularity and isolation level and mode are orthogonal.

Granularity = what is locked = row, page, table (PAGLOCK, ROWLOCK, TABLOCK)

Isolation Level = lock duration, concurrency (HOLDLOCK, READCOMMITTED, REPEATABLEREAD, SERIALIZABLE)

Mode = sharing/exclusivity (UPDLOCK, XLOCK)

"combined" eg NOLOCK, TABLOCKX

4.3.11

SQL

```

1 select top 2 *
2 from discount_seller

```

⁷msdtc.exe Microsoft Personal Web ServerMicrosoft SQL Server msdtc:Microsoft Distributed Transaction Coordinator

```

3 | where isRecommend=1
4 | order by newid()

```

isRecommend=12

4.3.12 Custom Exception

C#System.Exception, ,System.Exception. :SystemException CLRSysException ApplicationException: () ??

Listing 4.7:

```

1 | public class RestfulNullDataException : Exception
2 | {
3 |     public RestfulNullDataException()
4 |     {
5 |
6 |     }
7 |
8 |     public RestfulNullDataException(string message)
9 |     {
10 |         PublicAttribute.Logger.Error(message);
11 |     }
12 |
13 |     public RestfulNullDataException(string message, Exception inner)
14 |         : base(message, inner)
15 |     {
16 |         PublicAttribute.Logger.Error(message, inner);
17 |     }
18 |

```

4.3.13

22 Google

$$S = 2 \arcsin \sqrt{\sin^2 \left(\frac{a}{2} \right) + \cos(Lat1) \times \cos(Lat2) \times \sin^2 \frac{b}{2}} \times 6378.1$$

Lat1 Lng1A Lat2 Lng2B a = Lat1 Lat2b = Lng1 - Lng2 6378.137

```

1 | #region
2 | //|summary|
3 | //|
4 | //|/summary|
5 | //|param name="d"|
6 | //|/param|
7 | //|returns|
8 | private static double rad(double d)
{

```

```

9     return d * Math.PI / 180.0;
10 }
11
12 /// |summary|
13 ///
14 /// |/summary|
15 /// |param name="lat1"|A|/param|
16 /// |param name="lng1"|A|/param|
17 /// |param name="lat2"|B|/param|
18 /// |param name="lng2"|B|/param|
19 /// |returns|km|/returns|
20 public static double GetDistance(double lat1, double lng1, double lat2, double lng2)
21 {
22     double a = rad(lat1) - rad(lat2);
23     double b = rad(lng1) - rad(lng2);
24     double distance = 2 * Math.Asin(Math.Sqrt(Math.Pow(Math.Sin(a / 2), 2) +
25         Math.Cos(radLat1) * Math.Cos(radLat2) * Math.Pow(Math.Sin(b / 2), 2)));
26     distance = distance * EARTH_RADIUS;
27     distance = Math.Round(distance * 10000) / 10000;
28     return distance;
29 }
30 #endregion

```

```

1 /// |summary|
2 /// km
3 /// |/summary|
4 private const double EARTH_RADIUS = 6378.137;

```

```

1 /*
2      *          106           .484957,29.532313(           )
3      *          106           .498388,29.535303(           )
4      *      1     .35km
5 */

```

4.3.14

SQL ??

Listing 4.8:

```

1 string condition = string.Empty;
2 int[] a = { 12, 13, 14, 15 };
3 condition = a.Aggregate(condition, (current, i) => current + ("'" + i + "'", ")).Trim('','');
4 this.Text = condition;
5

```

```
6      '12','13','14','15'
```

SQLin 2()

4.3.15 foreach

C#foreachfor foreachfor foreach foreach foreach foreach,

Listing 4.9: foreach

```
1 int i = 0;
2 foreach(var item in arr)
3 {
4     i++;
5     item ....
6 }
```

IndexOf ??

Listing 4.10: foreach

```
1 foreach(var item in arr)
2 {
3     int index = arr.IndexOf(item); //index
4     item ....
5 }
```

Lambda??

Listing 4.11: foreach

```
1 foreach (var roadLineModel in roadLineModels.Select((currentModel, currentIndex) =>
2     new { currentModel, currentIndex }))
3 {
4     @(roadLineModel.currentIndex)//
5     @(roadLineModel.currentModel.lineId)//
6 }
```

4.3.16 byte

Socket or Serialbyte[]byte[] byte[]string:

```
1 var str = System.Text.Encoding.Default.GetString(result);
```

byte[](Hexadecimal)

```
1 public static string ByteArrayToString(byte[] byteArr)
2 {
```

```

3     string hex = BitConverter.ToString(byteArr);
4     return hex.Replace("-", "");
5 }
```

byte[]

```

1 public byte[] StringToByteArray(string hex) {
2     return Enumerable.Range(0, hex.Length)
3         .Where(x => x % 2 == 0)
4         .Select(x => Convert.ToByte(hex.Substring(x, 2), 16))
5         .ToArray();
6 }
```

intbyte[] ushortbyte[] Big Endian Little Endian BitConverterLittle Endian Little EndianBig
EndianServer TCP/IPBig-Endian TCP/IP Array.Reverse

```

1 byte[] bytes = BitConverter.GetBytes(i);
2 //TCP/IP(Big-Endian)
3 if (BitConverter.IsLittleEndian) Array.Reverse(hex)
```

PowerPCPentium The order of bytes in the array returned by the GetBytes method depends on whether the computer architecture is little-endian or big-endian. 126BCD

```

1 public byte[] ConvertToBcd6(string mobileNo)
2 {
3     var mobileArray = new byte[6];
4     if (mobileNo.Length != 12) return mobileArray;
5     for (var i = 0; i < 6; i++)
6     {
7         mobileArray[i] = Convert.ToByte(mobileNo.Substring(i * 2, 2), 16);
8     }
9     return mobileArray;
10 }
```

DecimalBCD DecimalBCD.

```

1 private IEnumerable<Byte> DecimalToBcd(Decimal value)
2 {
3     Byte currentByte = 0;
4     Boolean odd = true;
5     while (value > 0)
6     {
7         if (odd)
8             currentByte = 0;
9             Decimal rest = value % 10;
10            value = (value - rest) / 10;
11            currentByte |= (Byte)(odd ? (Byte)rest : (Byte)((Byte)rest << 4));
12            if (!odd)
```

```

13         yield return currentByte;
14     odd = !odd;
15   }
16   if (!odd)
17     yield return currentByte;
18 }
```

4.3.17

```

1 public string GetNumberFromString(string mixedString)
2 {
3     var resultNumber = string.Empty;
4     for (var i = 0; i < mixedString.Length; i++)
5     {
6         if (char.IsNumber(mixedString, i))
7         {
8             resultNumber += mixedString.Substring(i, 1);
9         }
10        else
11        {
12            if (mixedString.Substring(i, 1) == ",")
13            {
14                resultNumber += mixedString.Substring(i, 1);
15            }
16        }
17    }
18    return resultNumber;
19 }
```

4.4 Windows(Windows Service)

??

4.4.1 Demo

ServiceBase

```

1 static void Main()
2 {
3     ServiceBase[] ServicesToRun;
4     ServicesToRun = new ServiceBase[]
5     {
6         new OrderImportService()
```

```

7     };
8
9     ServiceBase.Run(ServicesToRun);
10 }

```

OrderImportService

4.4.2

Windows

```

1 ----- Windows -----
2 C:\Windows\Microsoft.NET\Framework64\v4.0.30319>InstallUtil.exe -i D:\\zouwo\\
   RRInterop\\bin\\Debug\\RRInterop.exe

3 -----
4 ----- Windows -----
5 C:\Windows\Microsoft.NET\Framework64\v4.0.30319>InstallUtil.exe -u D:\\zouwo\\
   RRInterop\\bin\\Debug\\RRInterop.exe

6 -----
7 ----- Windows -----
8 sc start OrderImportService
9
10 ----- Windows -----
11 sc stop OrderImportService

```

InstallUtilC:/Windows/Microsoft.NET/ iinstalluuninstallscService Controller net.exesc.exe

4.4.3

```

1 #region change configuration file
2 /// 
3 /// change configuration file
4 /// 
5 /// 
6 public void ChangeConfiguration(string createdTime)
7 {
8     var exePath = System.AppDomain.CurrentDomain.BaseDirectory + @"\RRInterop.exe"
9     ;
10    var appDomainConfigFile = AppDomain.CurrentDomain.SetupInformation.
11        ConfigurationFile;
12    var config = ConfigurationManager.OpenExeConfiguration(exePath);
13    var appSettings = (AppSettingsSection)config.GetSection("appSettings");
14    appSettings.Settings.Remove("queryTime");
15    appSettings.Settings.Add("queryTime", createdTime);
16    config.Save();
17    ConfigurationManager.RefreshSection("configuration");

```

```

16 }
17 #endregion

```

App.config.config, StackOverFlow⁸

This is because OpenExeConfiguration takes the exe name as input and automatically looks for a config file name exe.config (This is the default format).

```

exe.config +exe.config configexePathexePath System.AppDomain.CurrentDomain.BaseDirectorySystem.Environment
9 C:\System\Windows32

```

4.4.4

:

```

1 AppDomain domain = AppDomain.CurrentDomain;
2 string configFilePath = domain.SetupInformation.ConfigurationFile;

```

NUnit NUnit bin D:/zouwo/RRInterop/bin/Debug/Project1.config Project1.config CSexe
RRMall.WxPrint.DalRRMall.WxPrint.exe.config

4.5 Format

```

1 //250,000.0020:N1,1NNumber
2 string result =string.Format("{0:N}", 250000);

```

4.6

4.6.1 Code Contract

Microsoft .NET 4.0

ContractRequires Ensures Requires Ensures Property setProperty ccrewriteContract Contract.Requires

DebugRelease Build DebugReleaseRuntime check

Contractfeature Declaration Programming,

```

1 public void Invoke(string input)

```

⁸<http://stackoverflow.com/questions/30836963/why-the-program-generate-a-new-configuration-file>

⁹Gets or sets the fully qualified path of the current working directory.

```

2 {
3     Contract.Ensures(!string.IsNullOrEmpty(input));
4 }

```

input System.Diagnostics.Contracts._ContractsRuntime.ContractException

4.6.2

```

1 #region
2 //|summary:-
3 ///
4 //|/summary|
5 //|param name="shutdownTime"||/param|
6 //|returns||/returns|
7 [TestCase("19:23", Result = true)]
8 [TestCase("09:00", Result = true)]
9 [TestCase("25:55", Result = false)]
10 [TestCase("00:00", Result = true)]
11 [TestCase("03:77", Result = false)]
12 [TestCase("", Result = false)]
13 public static bool IsValidShutdownTimeFormat(string shutdownTime)
14 {
15     return Regex.IsMatch(shutdownTime, @"^(([0-1]\d)|(2[0-4])):[0-5]\d$");
16 }
17 #endregion

```

Regular Expression ^ \$[0-1]\d019 2[0-4]2023[0-5]\d059

4.6.3 GUID

DNBPD

```

1 var guid = Guid.NewGuid();
2
3 //10244798-9a34-4245-b1ef-9143f9b1e68a
4 Console.WriteLine(guid.ToString("D")); //D:hyphens,
5
6 //102447989a344245b1ef9143f9b1e68a
7 Console.WriteLine(guid.ToString("N")); //N:digits,( digit )
8
9 //{{10244798-9a34-4245-b1ef-9143f9b1e68a}
10 Console.WriteLine(guid.ToString("B")); //B:brace
11
12 //((10244798-9a34-4245-b1ef-9143f9b1e68a)
13 Console.WriteLine(guid.ToString("P")); //P:parentheses

```

4.7 (Code Generate)

4.7.1 CSharpCodeProvider

Listing 4.12: CSharpCodeProvider

```

1  /// summary
2  ///
3  /// /summary
4  /// [param name="sourceCodeContent"]/[param
5  /// [param name="outAssemblyPath"]/[DLL]/[param
6  /// [param name="referencedAssemblies"]/[param
7  /// [returns]/[returns]
8  public static bool CompileUtil(string sourceCodeContent, string outAssemblyPath,
                                IEnumerable<string> referencedAssemblies)
{
    var compileSuccess = true;
    var compileInfo = string.Empty;
    var csharpCodePrivoder = new CSharpCodeProvider();
    var codeCompiler = csharpCodePrivoder.CreateCompiler();
    var compilerParameters = new CompilerParameters();
    foreach (var singleReference in referencedAssemblies)
    {
        //
        compilerParameters.ReferencedAssemblies.Add(singleReference);
    }
    compilerParameters.GenerateExecutable = false;
    compilerParameters.GenerateInMemory = false;
    compilerParameters.OutputAssembly = outAssemblyPath;
    var compilerResult = codeCompiler.CompileAssemblyFromSource(compilerParameters,
        sourceCodeContent);
    if (compilerResult.Errors.HasErrors)
    {
        foreach (CompilerError compilerError in compilerResult.Errors)
        {
            compileInfo += compilerError.ErrorText;
        }
        compileSuccess = false;
        LogHelper.Logger.Error("Compile error:" + compileInfo);
    }
    return compileSuccess;
}

```

4.7.2 CodeDOMProvider

4.8

4.8.1 ini

INI(section)(key) WindowsINI INIInitialization INI

4.8.2 COM

```
1 #region
2 /// [summary]
3 ///
4 /// [/summary]
5 /// [param name="classId"]/[param]
6 /// [returns]/[returns]
7 public static void IsDllRegisteredSuccess(string[] classId)
8 {
9     foreach (var currentClassId in classId)
10    {
11        var registerKey = Registry.ClassesRoot.OpenSubKey("CLSID\\" + currentClassId);
12        if (registerKey != null) continue;
13        var i = DllRegisterServer();
14        if (i < 0)
15        {
16            Log.Logger.Error("Control registered failed");
17        }
18        else
19        {
20            Log.Logger.Info("Control registered success");
21        }
22    }
23 }
24 #endregion
```

Chapter 5

Web

WebWeb

1999 HTML

2000 CGI

2001 asp

2002 xhtml

2003 flash

2004 ajax

2005 php perl java

2006 now-RIA

5.0.3 URL

URL(url normalization)URL URLURL(<http://www.cnblogs.com/shuchaohttp://www.cnblogs.com/shuchao/>) URL URL URLURL Url

```

1 protocol://hostname[:port]/path/[;parameters][?query-string]\#fragment\\
2 : // [ : ]/ / [ : ] [? ]\#Fragment

```

- protocol()http,ftp,mailtofile
- hostname(),www.schoolfree.com.cn
- port()TCP, ,, ""HTTP80 webip80 webip ip IIS,web
 - (1) ip
 - (2)
 - (3)
- path() /
- query-stringhttp
- searchURL QUERY_STRINGASP
- hash, (#)

5.0.4 Uri

URIURLURN??



5.1: URIURLURN

URL(Uniform/Universal Resource Locator)

URI(Uniform Resource Identifier)

URI URL URIURLURIURLURI URI URL http://

5.1: IIS Application Mappings for aspnet_isapi.dll

Extension	Resource Type
.asax	ASP.NET application files. Usually global.asax.
.ascx	ASP.NET user control files.
.ashx	HTTP handlers, the managed counterpart of ISAPI extensions.
.asmx	ASP.NET web services.
.aspx	ASP.NET web pages.
.axd	ASP.NET internal HTTP handlers.

5.0.5 CommonJS

CommonJSNodeJS CommonJS CommonJS ApacheCouchDBnode.js CommonJS

5.1

5.1.1

22 SSHSecure ShellIETFN Network Working Group SSHSSH SSHSSHUNIX SSHSSH UNIXHP-UXLinuxAIXSolarisDigital UNIXIrixSSH

5.1.2 Internet Information Service

IIS3

```

1   :          E:\OneDrive\Source Code\Renrenmall\Tour\trunk\RR.Web.CCN
     .Tour\web.config
2   :          C:\Windows\Microsoft.NET\Framework64\v4.0.30319\aspnet.config
3 C:\Windows\Microsoft.NET\Framework64\v4.0.30319\config\machine.config

```

IIS 5.x.; ISAPI(Internet Server Application Programming Interface)InetInfo.exe, (aspnet.exe), ., IIS 6.0ISAPI(aspnet.exe). ASP.NETaspnet_wp.exe Web IIS 6.0Application Pool w3wp.exe Web [?] Windowsw2wp.exe IISResource HtmlCSSJS aspxasmx RemotingWCF Service HostIIS IISHttp ResponseClient IISRequest Http ResponseIISClient IISISAPI Extension ASP.NETResourceISAPI ExtensionASP.NET ISAPI aspnet_isapi.dll IISMetadata databaseISAPI Extension Mapping ResourceISAPI Extension ??

IIS

IIS5.1Windows XP

IIS6.0 Windows Server 2003

IIS7.0 Windows Vista Windows Server 2008

IIS7.5 Windows 7 Windows Server 2008 R2

IIS

IIS5.1 ASP.NET aspnet_wp.exe aspnet_wp.exe aspnet_wp.exe IIS6.0 ASP.NET w3wp.exe
 IIS6.0 w3wp.exe Web Garden w3wp.exe ASP.NET IIS7.0 IIS6.0 IIS7.5 IIS6.0

IIS

IIS5.1 aspnet_wp.exe ASPNET ASPNETUsers UsersASPNET Authenticated Users INTERACTIVE LocalSystem aspnet_wp.exe LocalSystem

IIS6.0 w3wp.exe NETWORK SERVICE IIS NETWORK SERVICE NETWORK SERVICE
 IIS_WPG IIS_WPG IIS_WPG IIS_WPG NETWORK SERVICE IWAM_Service SYSTEM
 IWAM_IIS IIS IIS6.0 IUSR_IIS IIS Guests IIS6.0 NETWORK SERVICE Web AB B

IIS7.0 NETWORKSERVICE IIS7.0 NETWORKSERVICE SID IIS7.0 ACLSID ACL SID-NETWORKSERVICE AB Web IIS6IUSR_IIS7IUSR_IUSRSID ACLWindowsServer2008 IUSR(IIS7 IIS_IUSRS IIS_WPG IIS6IIS_WPG IIS_IUSRS IIS7 IIS_IUSRS IIS_IUSRS Windows Server 2008SID ACLWindowsServer2008(WindowsVista)

5.1.3 (Classic Model)(Integrated Model)

ISAPI ISAPI DLL IIS 7.0

ASP.NET PHP IIS HTTP ISAPI ASP.NET ASP.NET ISAPI ASP.NET ASP.NET IIS ASP.NET IIS7.0 ASP.NET ASP.NET ASP.NET ASP.NET StaticFile ImageHTML IIS ASP.NET

5.1.4 Configuring an ASP.NET 4 Application to Auto-Start

IISRequest ASP.NET 4 auto-start IIS 7.5 Windows 7 Windows Server 2008 R2 ASP.NET 4 ASP.NET HTTP To use the ASP.NET 4 auto-start feature, you first configure the IIS application pool worker process that the application runs within to automatically startup when the web-server first loads. You can do this by opening up the IIS 7.5 applicationHost.config file

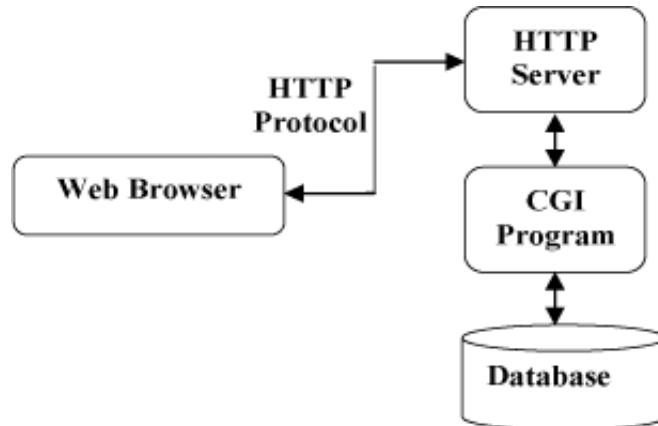
1 C:\Windows\System32\inetsrv\config\applicationHost.config

and by adding a startMode=AlwaysRunning attribute to the appropriate `<applicationPools>` entry:

1 <add name="WebApi" managedRuntimeVersion="v4.0" startMode="AlwaysRunning"/>

5.1.5 CGI(Common Gateway Interface)

WebHTTP HTMLhtml phpasp Common Gateway InterfaceCGI vbcephppython CGI ??



5.2: URIURLURN

CGISTDINSTDOUT CGI WebCGICGI CGIGETQUERY-STRINGCGIForm CGICGIWEBCGI(phpcgi.exe) CGI FastCGIFastCGI(long-live)CGI forkCGIfork-and-execute FastCGI

1. Web ServerFastCGIIIS ISAPIApache Module)
2. FastCGICGI(phpcgi)Web Server
3. Web ServerFastCGICGI Web serverCGIFastCGIphp-cgi
4. FastCGIWeb Server FastCGI FastCGIFastCGI(Web Server) CGIphp-cgi

PHP-FPMSpawn-FCGI

Spawn-FCGIFastCGIlighttpd LighttpdSpawn-FCGIFastCGI PHP-fpmPHPFastcgi Web PHP-fpmPHP¹

5.1.6 MIME

MIME(Multipurpose Internet Mail Extensions) ASCII multiple parts ASCIIHeader information RFC² 2045RFC 2046RFC 2047RFC 2048RFC 2049RFC MIMERFC 822RFC 2822 7ASCII (MIME) InternetIANA(The Internet Assigned Numbers Authority)³ MIME InternetIANAMIME x-x-gzipx-tar MIME HTTPMIME MINEContent-Type" text/plain" primary type-subtype "/"⁹ applicationaudioexampleimagemessagemodelmultiparttextvideo

¹[#undefined](http://www.cnblogs.com/liuzhang/p/3929198.html)

²Request For CommentsRFC UNIX RFCInternet SocietyISOC RFCRFC RFC

³IANA(The Internet Assigned Numbers Authority)Internet Internet IANA

5.2: MIME

	Content-Type(Mime-Type)
.*	application/octet-stream
.mp4	video/mpeg4

1	text/	plain	.txt
2	text/	htmlHTML	.htm .html
3	image/	jpegjpeg	.jpg
4	image/	gifGIF	.gif
5	audio/x-	waveWAVE	.wav
6	audio/	mpegMP3	.mp3
7	video/	mpegMPEG	.mpg
8	application/	zipPK	-
		ZIP	.zip

MIME?? MIME<http://tool.oschina.net/commons>

ashx

HttpHandlerNETwebashx HttpHandlerhttpJavaservlet JavaHttpServletnetIHttpHandler IsReusableProcessRequest(HttpContextctx) processRequestHttp IsReusableIhttpHandler .ashx

Generic Web handler (*.ashx, extension based processor) is the default HTTP handler for all Web handlers that do not have a UI and that include the @WebHandler directive.

.aspx.ashx.ashx.aspx .aspx ashxVisual Studioashx.cs ashx ashx

```
1 <%@ WebHandler Language="C#" CodeBehind="basics.ashx.cs" Class="XINLG.Weixin._codes.my.basics" %>
```

cshtml

Razor is a view engine for ASP.NET MVC, and also a template engine. Razor code and ASP.NET inline code (code mixed with markup) both get compiled first and get turned into a temporary assembly before being executed. Thus, just like C# and VB.NET both compile to IL which makes them interchangeable, Razor and Inline code are both interchangeable.

5.1.7 (Virtual Directories)

A virtual directory is a directory name (also referred to as path) that you specify in IIS and map to a physical directory on a local or remote server. The directory name then becomes part of the application's URL, and users can request the URL

from a browser to access content in the physical directory, such as a Web page or a list of additional directories and files. If you specify a different name for the virtual directory than the physical directory, it is more difficult for users to discover the actual physical file structure on your server because the URL does not map directly to the root of the site.

In IIS 7 and above, each application must have a virtual directory, which is named the root virtual directory, and which maps the application to the physical directory that contains the application's content. However, an application can have more than one virtual directory. For example, you might use a virtual directory when you want your application to include images from another location in the file system, but you do not want to move the image files into the physical directory that is mapped to the application's root virtual directory.

By default, IIS uses configuration from Web.config files in the physical directory to which the virtual directory is mapped, as well as in any child directories in that physical directory. If you do not want to use Web.config files in child directories, specify false for the allowSubDirConfig attribute on the virtual directory.

Optionally, when you need to specify credentials and a method to access the virtual directory, you can specify values for the username, password, and logonMethod attributes.

⁴ IO IO *N

5.2 HTTP

5.2.1

DNS IP

301 http://www.igoro.com/ http://igoro.com/ 301 wwwwwww

5.2.2 HTTP

HTTPHTTP WebWeb7

1. TCP HTTPWebWeb TCPIPIInternet TCP/IPInternetTCP/IP HTTPTCP TCP80
TCP3(Three-way Handshake)

- SYN_SEND SYNseq=jj0TCP, SYN_SEND,1,
- SYN_RECV synSYNack=j+1 SYNsyn=kSYN+ACK
- ESTABLISHED SYNACK ACK(ack=k+1) ESTABLISHED

⁴<http://www.iis.net/learn>

192.168.1.108	202.102.81.102	[TCP Retransmission] 56908-80 [SYN] Seq=0 win=8192 Len=0 MSS=1460 WS=4
202.102.81.102	192.168.1.108	80-56908 [SYN, ACK] Seq=0 Ack=1 win=14600 Len=0 MSS=1440
192.168.1.108	202.102.81.102	56908-80 [ACK] Seq=1 Ack=1 win=64800 Len=0
192.168.1.108	202.102.81.102	POST /p/pcdn/i.php?v=282079619183 HTTP/1.0 (application/octet-stream)
202.102.81.102	192.168.1.108	80-56908 [ACK] Seq=1 Ack=367 win=15544 Len=0
202.102.81.102	192.168.1.108	HTTP/1.1 200 OK
192.168.1.108	202.102.81.102	56908-80 [RST, ACK] Seq=367 Ack=1345 win=0 Len=0
⊕ Frame 974: 66 bytes on wire (528 bits), 66 bytes captured (528 bits) on interface 0		
⊕ Ethernet II, Src: Azurewave_9a:b6:01 (00:25:d3:9a:b6:01), Dst: Tp-LinkT_8f:1d:0e (e4:d3:32:8f:1d:0e)		
⊕ Internet Protocol Version 4, Src: 192.168.1.108 (192.168.1.108), Dst: 202.102.81.102 (202.102.81.102)		
⊕ Transmission Control Protocol, Src Port: 56908 (56908), Dst Port: 80 (80), Seq: 0, Len: 0		

5.3: TCP3

2. WebWeb TCPWebWeb GET/sample/hello.jsp HTTP/1.1
3. Web Web
4. Web HTTP/1.1 200 OK 80http html phpphp()html
5. Web
6. Web Web Content-Type
7. WebTCP Web TCP Connection:keep-alive TCP HTTP/1.1Keep-Alive HTTPPTCP
Keep-Alive Apache IIS 7120

5.2.3 HttpIIS

HTTP WebIIS Web ASP.NETASP.NET ISAPI HTTPHttpContextHttpContextHttpRuntime
HttpContextHttpRequestHttpResponse

IIS 7.0 Kernel Modehttp.sysAspxHttpRequest IISMetabaseRequestApplicationApplication Pool
Application PoolrequestApplication PoolQueue Application PoolWorker Processw3wp.exeUser
Mode IIS MetabaseApplication Poolworker processMapping WASWeb Administrative servicemap-
ping Application Pool Queue request worker process() worker processASP.NET ISAPIASP.NET
ISAPICLR IIS 5.xAppManagerAppDomainFactoryCreateApplicationApplication Domain ISAPIRun-
timeProcessRequestRequestASP.NET Http Runtime Pipeline

5.2.4 HttpRuntime

Asp.netHttpContext, HttpRequest, HttpResponseHttpRuntime IIS Microsoft ASP.NET
ASP.NET HTTP (Pipline) HTTP URLHTML HTTP HttpRuntime ASP.NETAppDomain
ASP.NET AppDomain

HTTPHttpRuntime ProcessRequest: WWWWinetinfo.exe IISaspaspxnet_isapi.dll, aspnet_isapi.dllw3wp.exeis
IIS6.0 w3wq.exe IIS5.0 aspnet_wp.exe) w3wp.exe.NET,: ISAPIRuntime, HttpRuntime, HttpAp-
plicationFactory, HttpApplication, HttpModule, HttpHandlerFactory, HttpHandler

ISAPIRuntime:HttpWorkerRequest HttpWorkerRequestHttpRuntime

HttpRuntime:HttpWorkerRequestHttpContextHttpContextrequestresponse, HttpContextHttpContext??

Listing 5.1: HttpContext

```

1 private void ProcessRequestInternal(HttpWorkerRequest wr)
2 {
3     HttpContext context;
4     try
5     {
6         context = new HttpContext(wr, false);
7     }
8     catch
9     {
10        wr.SendStatus(400, "Bad Request");
11        wr.SendKnownResponseHeader(12, "text/html; charset=utf-8");
12        byte[] bytes = Encoding.ASCII.GetBytes("<html><body>Bad Request</body></html>");
13        ;
14        wr.SendResponseFromMemory(bytes, bytes.Length);
15        wr.FlushResponse(true);
16        wr.EndOfRequest();
17        return;
18    }
}

```

400 Bad Request HttpContextHttpRuntimeHttpApplicationFactoryIHttpHandler, HttpApplication

HttpApplicationFactory:HttpApplication, ??

Listing 5.2: HttpApplication

```

1 IHttpHandler applicationInstance = HttpApplicationFactory.GetApplicationInstance(context
2 );
3 if (applicationInstance == null)
4     throw new HttpException(SR.GetString("Unable_create_app_object"));

```

HttpApplication:HttpModule, HttpApplicationHttp HttpContextHttpModule: HTTPHttpModuleASP.NET FrameworkHTTP HTTPHttpModuleHTTP HTTPHttpHandlerHTTP HTTPHTTP Filter

HttpHandlerFactory:request HttpHandlerFactory, HttpHandlerFactoryHttpHandler

HttpHandle:Http HttpRuntimeProcessRequest public static void ProcessRequest(HttpWorkerRequest wr); // ASP.NET Web

5.2.5 HttpContext

HttpContextHttpApplication HttpContext HttpContext HttpApplication HttpContextHTTP WebForm(MVC), CurrentHttpContextMVCControllerRequestHttpContextRequest

```

1 //Home/Index
2 string rawUrl = Request.RawUrl;
3 //localhost
4 string host = Request.Url.Host;
5 //http://localhost/Home/Index
6 string concatUrl = "http://" + host + rawUrl;
7 //http://localhost:57699/Home/Index
8 string url = Request.Url.ToString();
9 //http://localhost:57699/Home/Index
10 string originalString = Request.Url.OriginalString;

```

5.2.6 HttpModule

HttpModule HttpModule HttpModule web.configHttpModule

HTTP HTTPASP.NET HTTP HTTP

- HTTPXML Web Services
- HTTP
- XML Web Services

5.2.7 IHttpHandler

IHttpHandler IHttpHandler IHttpHandler IHttpModule IHttpHandler IHttpModule IHttpHandler IHttpHandler IHttpHandler

5.2.8 HTTP

HTTPPASCIPII HTTP3 HTTPUniform Resource Identifiers, URI Internet[RFC5322]InternetMIME[RFC2045]
HTTP request lineheader4

```

1 GET /hello.txt HTTP/1.1[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1;
2 User-Agent: curl/7.16.3 libcurl/7.16.3 OpenSSL/0.9.7l zlib/1.2.3[text=white,font=,inner
   sep=0.2mm,draw,circle,fill=black]2;
3 Host: www.example.com[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]3;
4 Accept-Language: en, mi

```

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1; Key-ValueApi

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2; User-Agent

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]3; HostInteneturlHTTP/1.1400

HTTP : Date Accept Server Content-Type

HTTP

Cache-Control
 Pragma
 Connection
 Date
 Transfer-Encoding
 UpdateVia

 1Cache-Control

 Cache-Control Cache-Control no-cache no-store max-age max-stale min-fresh only-if-cached public private no-no-store no-transform must-revalidate proxy-revalidate max-age

 no-cache

 no-store

 max-age max-age max-stale

 min-fresh Age min-fresh

 max-stale max-stale

 only-if-cached

 Public

 Private

 cache-control private no-cache max-age Cache-control: max-age=55 ASP Response Expires Expires-Absolute Expires Response Cache-Control Cache-control Response.Expires Absolute = #2000-1-1#' GMT Response.Expires = 20' Response.CacheControl = "no-cache" ExpiresIn- ternet

 2Pragma

 Pragma Pragma:no-cache HTTP/1.1 Cache- Control:no-cache

 3Connection

 Connection Servlet Keep-Alive HTTP 1.1 HTTP 1.1 Applet Servlet Content-Length Byte Array OutputStream

 Close WEB

 Keepalive WEB

 Keep-Alive WEB Keep-Alive 300

 4Date

 Date RFC822 Date: Mon, 31 Dec 2001 04:25:57 GMT Date

 5Transfer-Encoding

 WEB chunked Transfer-Encoding: chunked

 6Upgrade

 HTTP/1.1 HTTP/1.0 HTTP/1.1 Update HTTP/1.1

 7Via

OCS

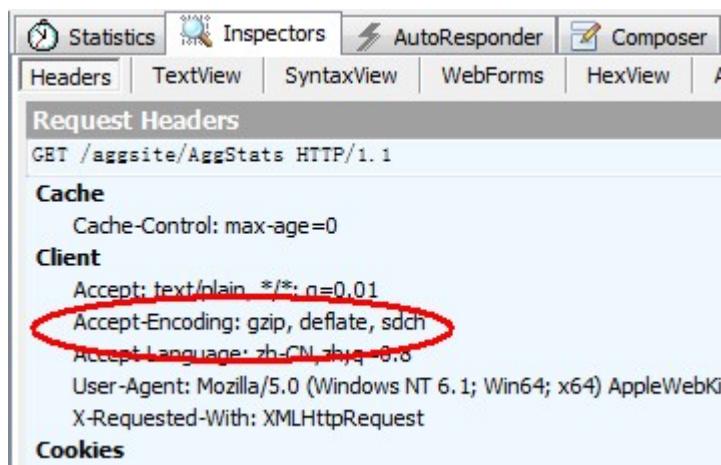
Via Via OCS Via Via1.0 236-81.D07071953.sina.com.cn:80 (squid/2.6.STABLE13)

5.2.9 HTTP-(HTTP Protocol-Compress)

HTTP: Web HTTPgzipHTML,Javascript, CSS HTTPHTTP HTTPbodygzip HTTPHTTPHTTPHTTPHTTP
HTTP Content-Encoding header Content-Encoding

gzip	GNU zip
compress	Unix
deflate	zlib
identity	Content-Encoding header

gzip,compress,deflate gzip HTTP40%,60% Gzip Web HTMLCSS ?? gzip,deflate,sdch deflateDEFLATE DEFLATE⁵ deflate



5,4;

gzip

1 | Content-Encoding: gzip

5.2.10 HTTP ETag

ETagEntity TagETaghash ETagHttp HTTP1.1HTTPETagWeb (Expires)REST (Atom-Pub) ETag(Entity Tag)ETag ETagHTTP1.1ETag ETag (CheckSum) ETag(GUID) ETagETag ETag OutgoingResponseETag??

Listing 5.3: ETag

⁵<http://www.webkaka.com/blog/archives/DEFLATE-Obsolete-Compression-Format.html>

```

1  public void SetETag(string entityTag)
2  {
3      this.ETag = OutgoingWebResponseContext.GenerateValidEtagFromString(entityTag);
4  }
5
6  public void SetETag(int entityTag)
7  {
8      this.ETag = OutgoingWebResponseContext.GenerateValidEtag(entityTag);
9  }
10
11 public void SetETag(long entityTag)
12 {
13     this.ETag = OutgoingWebResponseContext.GenerateValidEtag(entityTag);
14 }
15
16 public void SetETag(Guid entityTag)
17 {
18     this.ETag = OutgoingWebResponseContext.GenerateValidEtag(entityTag);
19 }

```

RESTETAGuidSetETag WCFHTTPETagOutgoingResponse ETagHTTPETagHTTPLast-ModifiedETagETagIf-None-MatchIf-Match HTTP(ETag)ETag ETag(strong ETag)ETag(weak ETag)

ETag”22FAA065-2664-4197-9C5E-C92EA03D0A16”

ETagw/”22FAA065-2664-4197-9C5E-C92EA03D0A16”

ETagApacheETag ApacheFileEtagFileEtag INode Mtime SizeETag ()(1N) ApacheMTimeM-Time ETag1ETagCache(Last-Modified)

5.2.11 HTTP Proxy

Web(proxy)WebWeb HTTPWebWeb Fiddlerweb,:127.0.0.1, :8888. Fiddler

- Facebook YouTubeThe Great of Fire Wall()?
- HTTP HTTPHTTPPIP cookie,URIID IP HTTPPlog()
-
- cache Web
-

5.2.12 HTTP Tunnel

Http 1.CONNECT 2.CONNECT

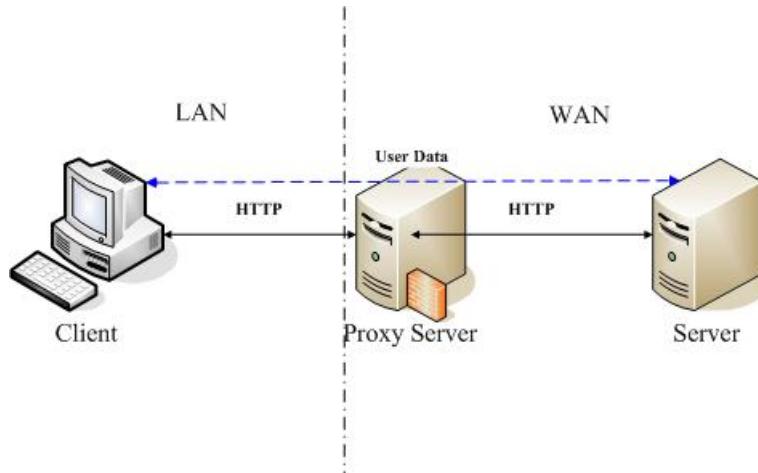
CONNECTProxy HttpCONNECTProxyHttp RequestContent Server ResponseProxyProxyResponseResponse CONNECTProxy

```

CONNECTProxyHttp CONNECT MethodProxy ProxyProxy ProxyResponseProxy Response
HttpProxy

ProxyHttpsHttp CONNECT HttpsProxyHttpsCONNECT
(libcurl, chromium.net)ProxyHttpsCONNECTHttpSSL/TLS
Http CONNECT", Http CONNECTProxyTCPHttp CONNECTHttps 443ProxyHttp CON-
NECTHttps 443

```



5.5: HTTP

```

HttpTuunnel(HttpHttp: HTTPClientServerTunnel ClientServerTunnel HttpTunnel NAT6(Network
address translation)Client Client Client(WAN)ServerHttpTunnel HttpTunnel 1ClientProxySer-
verServerHttp 2Proxy ServerServerHttp 3ClientServerTunnel 4ClientServerClientServerHttpTun-
nel

```

5.2.13 RESTPOSTGET

```

GetURL(HTTP), ,, ,+, , BASE64,: %E4%BD%A0%E5%A5%BD, %XXX16ASCII. GET
http://www.google.com/webhp?hl=zh-CN http://www.google.com/webhp hl=zh-CN hl(key)
zh-CN(value)POSTHTTP POST GET hl=zh-CN&newwindow=1 ??

```

Listing 5.4: RESTPOST

```

1 #region WCFPOST      -
2 /// [summary]
3 /// POST()
4 /// [summary]

```

⁶Network Address Translation (NAT) is a methodology of remapping one IP address space into another by modifying network address information in Internet Protocol (IP) datagram packet headers while they are in transit across a traffic routing device. The technique was originally used for ease of rerouting traffic in IP networks without renumbering every host. It has become a popular and essential tool in conserving global address space allocations in face of IPv4 address exhaustion by sharing one Internet-routable IP address of a NAT gateway for an entire private network.

```

5  /// iparam name="url" iWCFi/param;
6  /// iparam name="postDataParam" i(key=value&key=value)i/param;
7  public static string HttpPost(string url, string postDataParam, string authorization)
8  {
9      string postUrl = url + (postDataParam == "" ? "" : "?") + postDataParam;
10     HttpWebRequest request = (HttpWebRequest)WebRequest.Create(postUrl);
11     request.Method = "POST";
12     //
13     request.Headers.Add("Authorization", authorization);
14     byte[] bytes = Encoding.ASCII.GetBytes(postDataParam);
15     request.ContentLength = bytes.Length;
16     request.ContentType = "text/html; charset=UTF-8";
17     Stream requestStream = request.GetRequestStream();
18     requestStream.Write(bytes, 0, (int)bytes.Length);
19     requestStream.Close();
20     HttpWebResponse response = request.GetResponse() as HttpWebResponse;
21     if (response != null)
22     {
23         Stream responseStream = response.GetResponseStream();
24         if (responseStream != null)
25         {
26             StreamReader myStreamReader = new StreamReader(responseStream,
27                     Encoding.UTF8);
28             resultString = myStreamReader.ReadToEnd();
29             myStreamReader.Close();
30             responseStream.Close();
31         }
32     }
33 }
#endregion

```

GetOS, Get. POST.

- 1)IIS6POST200KB, 100KB.
- 2)IIS616KB.
- 3)IIS64MB.

GetRequest.QueryString. POSTRequest.Form. JSRequest.getParameter(). POSTGet.

5.2.14 HTTP Request and HTTP Response

HTTP(request line)(header)4 HTTPGETPOSTHEADPUTDELETEOPTIONSTRACECONNECT GETGETURL GETURL ?URL /index.jsp?id=100&op=bind,GET googledomety Request

1	GET /search?hl=zh-CN&source=hp&q=domety&aq=f&oq= HTTP/1.1
2	Accept: image/gif, image/x-bitmap, image/jpeg, image/pjpeg, application/vnd.ms-excel,

```

1 application/vnd.ms-powerpoint,
2 application/msword, application/x-silverlight, application/x-shockwave-flash, */
3 Referer: <a href="http://www.google.cn/">http://www.google.cn/</a>
4 Accept-Language: zh-cn
5 Accept-Encoding: gzip, deflate
6 User-Agent: Mozilla/4.0 (compatible; MSIE 6.0; Windows NT 5.1; SV1; .NET CLR
7 2.0.50727; TheWorld)
8 Host: <a href="http://www.google.cn">www.google.cn</a>
9 Connection: Keep-Alive
10 Cookie: PREF=ID=80a06da87be9ae3c:U=f7167333e2c3b714:
11 NW=1:TM=1261551909:LM=1261551917:S=ybYcq2wpfefs4V9g;
12 NID=31=ojj8d-IygaEtSxLgaJmqSjVhCspkviJrB6omjamNrSm8lZhKy-
13 yMfO2M4QMRKcH1g0iQv9u-2hfBW7bUFwVh7pGaRUb0RnHcJU37y-
14 FxlRugatx63JLv7CWMD6UB_O_r

```

GET

```

1 <a href="http://www.google.cn/search?hl=zh-CN&source=hp&q=domety&aq=f&oq=">http
2 ://www.google.cn/search?hl=zh-CN&source=hp
3 &q=domety&aq=f&oq=</a>

```

?GET & 1024⁷ URLIE(2038) URLWeb GET

5.2.15 HTTP HTTP Status Code

Response HTTP HTTP,HTTPResponse. HTTP/1.15

2XX

-

2XX -

204 No Content HTTP204(No Content),,, ..., HTTP,, RESTDELETEAjax.**206 Partial Content** HTTP 206(curlHTTP,curlHEAD:

```

1 curl -I http://192.168.1.222:8085/tour/images/beginPage_1.jpg
2
3 HTTP/1.1 200 OK
4 Content-Length: 311837
5 Content-Type: image/jpeg
6 Last-Modified: Fri, 22 Jan 2016 10:48:07 GMT
7 Accept-Ranges: bytes
8 ETag: "de59761255d11:0"

```

⁷ <http://www.cnblogs.com/henryhappier/archive/2010/10/09/1846554.html>

```

9  Server: Microsoft-IIS/7.5
10 X-Powered-By: ASP.NET
11 Date: Fri, 29 Jan 2016 08:44:21 GMT

```

Accept-Ranges: bytes -Range,(). :,, .Accept-Ranges:none.

Content-Length: 311837 - Content-Length, 311837(304K). GETFlashGetHTTP Range If-Range Content-Range Content-Type multipart/byteranges multipart Content-Range Content-Length Date ETag / Content-Location200 Expires, Cache-Control/ Vary If-Range If-Range 200 ETagLast-Modified 206 Range Content-Range 206

3XX

301 Moved Permanently 301(Permanently Moved) 301301

302 Found FoundURLResponseLocation URLRequest IE http://www.google.com. HTTP302 IEResponseLocation headerURL, Request. 302(Temporarily Moved)Black Hat SEO GoogleBMW spamsspam

304 Not Modified Not Modified Fiddler304

4XX

400 400HTTP400 Bad Request 400 400400 1bad request" 2invalid hostname" WindowsLinux bad request invalid hostname IIS

401 401

4XX - 400 Bad Request 403 Forbidden 404 Not Found URL IEURL http://www.cnblogs.com/tesdf.aspx

5XX

5XX - 500 Internal Server Error 503 Server Unavailable

503 503 cpu

5.2.16 IP

```

1  /// isummary
2  /// ip
3  /// i/summary
4  /// ireturns;i/returns;

```

```

5  public static string GetCurrentIP()
6  {
7      string userHostAddress = string.Empty;
8      try
9      {
10         //HTTP_X_FORWARDED_FORIP
11         userHostAddress = HttpContext.Current.Request.ServerVariables["
12             HTTP_X_FORWARDED_FOR"].ToString().Split(',')[0].Trim();
13         //REMOTE_ADDRIP
14         if (string.IsNullOrEmpty(userHostAddress))
15         {
16             userHostAddress = HttpContext.Current.Request.ServerVariables["REMOTE_ADDR"
17             ];
18         }
19         //Request.UserHostAddressIPIPIPIP
20         if (string.IsNullOrEmpty(userHostAddress))
21         {
22             userHostAddress = HttpContext.Current.Request.UserHostAddress;
23         }
24         //IP
25         if (!string.IsNullOrEmpty(userHostAddress) && IsIP(userHostAddress))
26         {
27             return userHostAddress;
28         }
29     }
30     catch (Exception e)
31     {
32         logger.Error("Get current IP encount an error", e);
33     }
34     return userHostAddress;
}

```

WebHTTPIP REMOTE_ADDRHTTP_VIAHTTP_X_FORWARDED_FOR REMOTE_ADDRIP
 REMOTE_ADDRIP X-Forwarded-For HTTPWebIPHTTP X-Forwarded-ForIP , X-Forwarded-
 For,

5.2.17 placeholder

placeholderHTML5 input inputhint

```

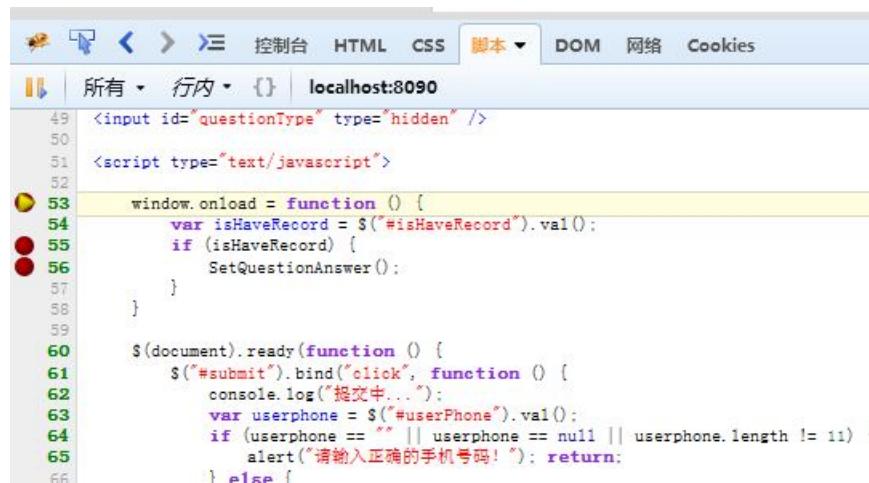
1  <input type="text" name="UserName" class="form-control" placeholder=" ID "/>

```

5.3 Debug

WCF <http://localhost:15973/ShowInfo/ShowAwardingListFC?openId=oM8-3t39DFln91EdJCvUPAIHqbF8&accountId=34>

JavaScriptFireDebug Tab ?? tab



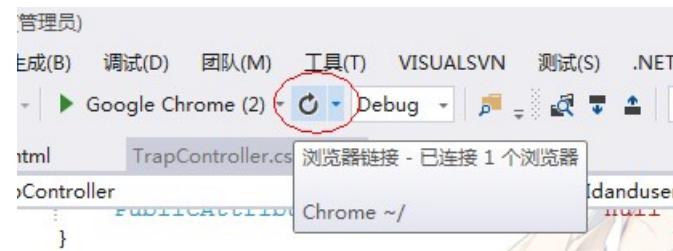
```

49 <input id="questionType" type="hidden" />
50
51 <script type="text/javascript">
52
53 window.onload = function () {
54     var isHaveRecord = $("#isHaveRecord").val();
55     if (isHaveRecord) {
56         SetQuestionAnswer();
57     }
58 }
59
60 $(document).ready(function () {
61     $("#submit").bind("click", function () {
62         console.log("提交中...");
63         var userphone = $("#userPhone").val();
64         if (userphone == "" || userphone == null || userphone.length != 11) {
65             alert("请输入正确的手机号码!"); return;
66         } else {

```

5.6: FirefoxJavaScript

F11 F12 Visual Studio Visual Studio(Browser Link) ?? Javascript Visual Studio



5.7: Visual Studio

Visual Studio MVCActionView Action

5.3.1 Chrome Javascript(Condition Breakpoint)

Javascript 7 Google ChromeF12 SourcesJavascript Edit Breakpoint... true 6 ?? (Google Chrome canary 48.0.2564.0(64-bit))

Javascript Javascript ??

The screenshot shows the Chrome DevTools Sources tab. A file named '75.js' is selected. The code editor displays the following snippet:

```
//显示汽车地方站内容
function showCarCityplace(carcity){
try{
    var tmpname='';

    //判断是否为开放地方站
    if(openCity!=null && openCity!=[])
        for(var i=0;i<openCity.length;
            if(openCity[i][3]==carc
                tmpname=openCity[i]
                break;
}
var tmpnum='';
```

A context menu is open over line 539, listing options: 'Blackbox script', 'Remove breakpoint', 'Edit breakpoint...', and 'Disable breakpoint'. The 'Edit breakpoint...' option is circled in red.

5.8: Javascript

The screenshot shows the Chrome DevTools Sources tab. A file named 'stat.js' is selected. The code editor displays the following snippet:

```
eval(function(p,a,c,k,e,r){e
```

A red circle highlights the opening brace '{' at the start of the eval function call, indicating a breakpoint at this location. The status bar at the bottom right shows 'Line 1, Column 1'.

5.9: Javascript

5.3.2 SlidesJS

SlideJS⁸

```

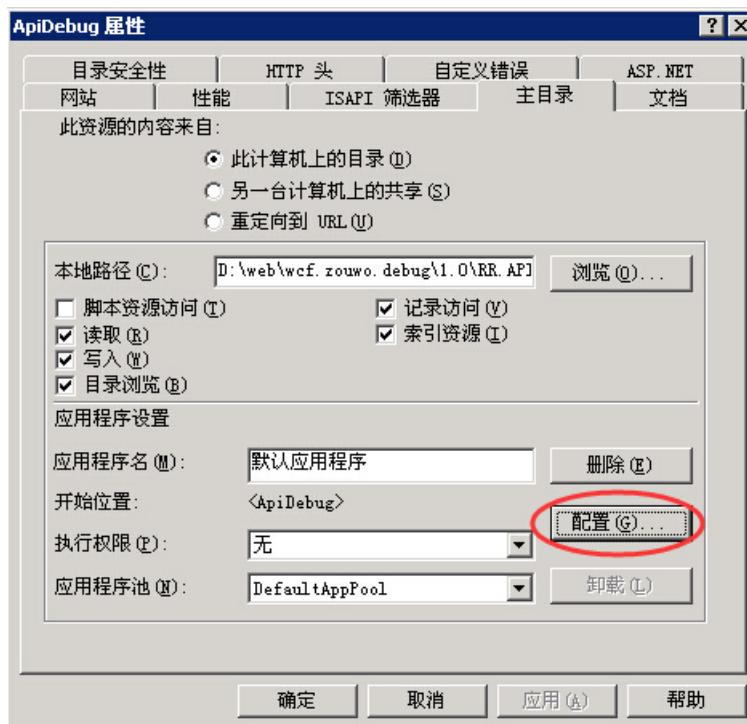
1  $("#slides").slidesjs ({
2      width: 1080,
3      height: 500,
4      play:
5      {
6          auto:true,
7          interval:10000
8      }
9  });

```

interval 10

5.3.3 IIS 6.0MVC

MVC4IIS6.0 ??



5.10: IIS6MVC4

aspnet_isapi.dll

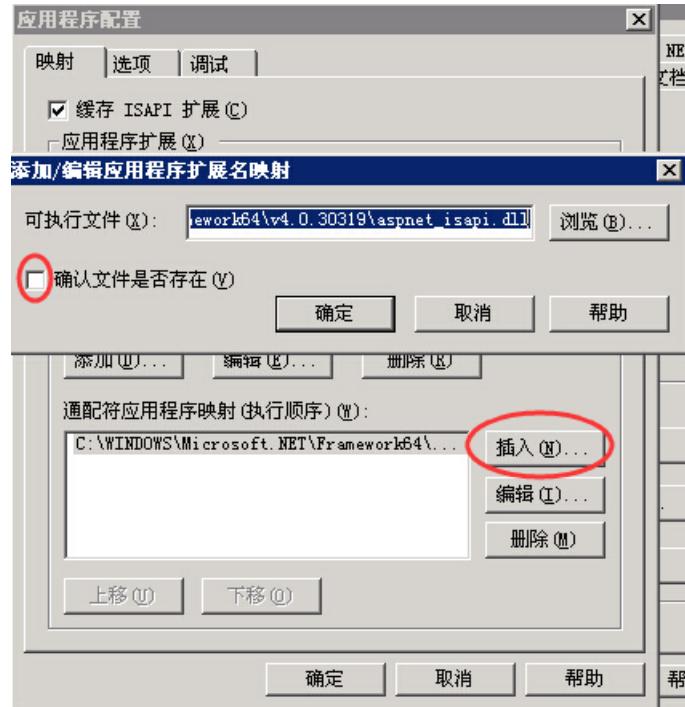
```

1  C:\WINDOWS\Microsoft.NET\Framework64\v4.0.30319\aspnet_isapi.dll

```

⁸SlidesJS is a responsive slideshow plug-in for jQuery (1.7.1+) with features like touch and CSS3 transitions.

?? ISAPI(Internet Server Application Programming Interface)NativeWin32 API, IISWeb
 ISAPIISAPIISAPI ExtensionISAPIISAPI Filter HTTP HTTP IISISAPI HTTP.html.img.text.xml
 IIS .aspx.asp.php IISIIScript MapISAPI aspnet_isapi.dll ASP.NET ISAPIASP.NET IISName
 Pipes [?]



5.11: IIS6MVC4

aspnet_isapi.dll aspnet_isapi.dll Compilation Error: [No relevant source lines] ?? 403 Forbidden



5.12:

?? IIS On Off RemoteOnly asp.netasp.net ModeOff ModeOnRemoteOnly

Listing 5.5:

```
1 <system.web>
```

```

2 <customErrors mode="Off">
3   </customErrors>
4 </system.web>

```

5.3.4 HTML

jsSpan_ inline element,

```

1 <div class="content-text">           <span id="lastCount"></span><
2   /div>

```

span span jsSpan_ |/span_ a div pformHTML5headerfootersetion

```

1 <form name="form" method="post">
2   <center>
3     <textarea id="code" name="qrcode" cols="60"></textarea>
4   </center>
5   <center>
6     <input type="submit" class="btn btn-block btn-lg btn-danger" value="" />
7   </center>
8 </form>

```

form formmethodpost Request.Form["qrcode"] qrcode

5.3.5 AJax

JavaScript

```

1 function getPrintList(id, isRefresh) {
2   var url = api_path + "/weixin/printdata?id=" + id;
3   url += isRefresh ? "&an=refresh" : "";
4   var obj = $(".print-list ul");
5   $.ajax({
6     type: "get",
7     async: true,
8     url: url,
9     dataType: "jsonp",
10    jsonp: "callbackparam",
11    jsonpCallback: "success_jsonpCallback",
12    success: function (pjson) {
13      var tpl = '<li data-id="{guid}" step="{step}"><img src=' + api_path
14      + '{url}' /><span></span><p>{date}</p></li>';
15      var lihtml = "";
16      json = pjson[0].newList;
17      if (pjson[0].count == 0) {
18        obj.html("<p class='info no-empty'>...</p>")
19      } else {
20        for (var i = 0; i < json.length; i++) {
21          lihtml += tpl.replace("{guid}", json[i].guid)
22            .replace("{step}", json[i].step)
23            .replace('{url}', json[i].url);
24        }
25        obj.html(lihtml);
26      }
27    }
28  }
29 }

```

```
18     return;
19 }
20 for (var i = 0; i < json.length; i++) {
21     var waitingSeconds = i * print_speed;
22     var stime = ""
23     if (waitingSeconds >= 60 && waitingSeconds % 60 > 0) {
24         stime = waitingSeconds % 60 + " "
25     }
26     var time = waitingSeconds >= 60 ? parseInt(waitingSeconds / 60) + " " +
27     stime + " " : waitingSeconds + "      ";
28     if (waitingSeconds == 0) {
29         time = "      ...";
30     }
31     lihtml = tpl.replace("{url}", json[i].imageUrl).replace("{date}", time).
32     replace("{guid}", json[i].guid).replace("{step}", json[i].step) + lihtml;
33 }
34 var printQueueNum = pjson[0].count - 1;
35 lihtml = '<li class="more"><p>.....</p><span></span><p>' +
36 printQueueNum + '</p></li>' + lihtml;
37     obj.html(lihtml);
38     obj.find("li[step='5']").addClass("active").find("p").text("      ");
39 },
40 error: function () {
41 }
42 });
43 }
```

dataType jsonp JSONP (JSON with Padding) Script tags javascript callback JSONP ⁹ XMLHttpRequest script JSON

Ajax¹⁰

```
1 <div class="container">
2     <center style="margin-bottom:20px">
3         <input type="tel" name="qrcode" id="qrcode" />
4     </center>
5     <center>
6         <input id="inputbyhand" type="button" class="btn btn-block btn-lg btn-
7             danger" onclick="btsave()"; value=" " />
8     </center>
</div>
```

POST input type="tel" onclick="btSave();

```
1 function btsave() {  
2     var code = $("#qrcode").val();  
3     jQuery.ajax({  
4         url: '/my/qrcode', // action
```

⁹Same Origin Policy Web

¹⁰AJAX = Asynchronous JavaScript and XML JavaScript XML, 2005GoogleGoogle SuggestA.Jax

```

5   data: { "qrcode": code },
6   type: 'post',
7   cache: false,
8   dataType: 'json',
9   success: function (data) {
10     alert(data.msg);
11     $("#qrcode").val(data);
12   },
13   error: function () {
14     alert("失败");
15   }
16 });
17 }

```

NVelocity aJax aAjaxjQuery.ajax\$.ajax AjaxResult.msgdata.msg

5.3.6

HTML5

```

1 <form enctype="multipart/form-data" id="form1" action="/QiuJiFangJiaoHui/
2   OriginalUploadImage" method="post">
3   <input type="hidden" id="userId" name="userId" value="@ ViewData["userId"]" />
4   <input type="hidden" id="activityId" name="activityId" value="@ ViewData["
5     activityId"]" />
6   <div>
7     <input type="file" style="width:220px; margin:20px auto;" id="
8       userUploadFile" name="filename" accept="image/*" class='btn btn-warning'
9     />
10    <a href="#">
11      
13    </a>
14  </div>
15 </form>

```

```

1 // 
2 public JsonResult OriginalUploadImage(int userId, int activityId)
3 {
4   Stream fileStream = Request.Files["filename"].InputStream;
5 }

```

```

1  // 
2  public ActionResult Upload()
3  {
4      try
5      {
6          var requestFiles = Request.Files[text=white,font=,inner
7              sep=0.2mm,draw,circle,fill=black]1;;
8          foreach (string uploadFiles in requestFiles)
9          {
10             string filename = Guid.NewGuid() + ".jpg";
11             string path = Path.Combine(Server.MapPath("~/App_Data"), filename);
12             var requestFilesInstance = Request.Files[uploadFiles];
13             if (requestFilesInstance != null)
14             {
15                 requestFilesInstance.SaveAs(path);
16                 ViewBag.Message = "File(s) uploaded successfully";
17             }
18             else
19             {
20                 logger.Error("requestFilesInstance is null");
21             }
22         }
23         catch (Exception e)
24         {
25             logger.Error("Upload file failed!", e);
26         }
27
28         return RedirectToAction("Index");
29     }

```

[text=white,font=,inner **sep=0.2mm,draw,circle,fill=black**]1; Gets the collection of files uploaded by the client, in multipart MIME format. The file collection is populated only when the HTTP request Content-Type value is "multipart/form-data".

multipart/form-data Content-Type multipart/form-data post Fiddler??

—WebKitFormBoundary2QnuIV0fBw76fRn7Google Chrome Browser ?? multipart/form-data post postname=value multipart/form-data

asp.net4M,90s Web.config

```

1 <system.web>
2     <httpRuntime maxRequestLength="4096" executionTimeout="3600" />
3 </system.web>

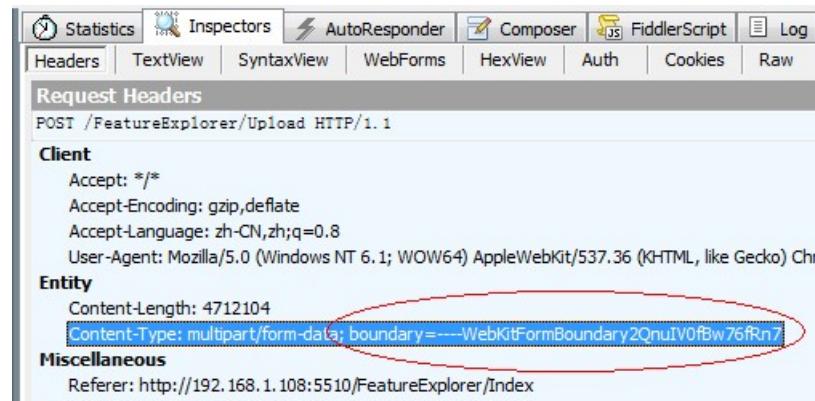
```

HTML5FormData

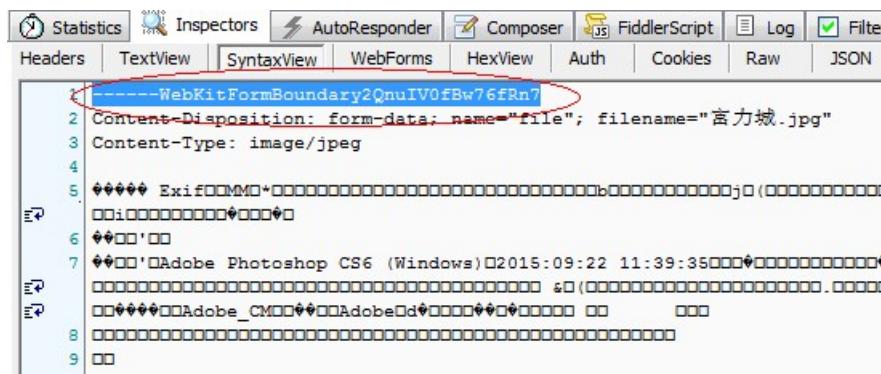
```

1 if (tests.dnd) {

```



5.13: multipart/form-data



5.14: multipart/form-data

```

2  holder.ondragover = function () { this.className = "hover"; return false; };
3  holder.ondragend = function () { this.className = ""; return false; };
4  holder.ondrop = function (e) {
5      this.className = "";
6      e.preventDefault();
7      readfiles (e.dataTransfer. files );
8  }
9 } else {
10     fileupload.className = "hidden";
11     fileupload.querySelector('input').onchange = function ()
12         readfiles (this. files );
13     };
14 }
```

XMLHttpRequest Level 2FormData FormDataJavaScript XMLHttpRequest send() AjaxForm
mData

5.4 Cookie

4096CookieCookie CookieIDID Cookie 20CookieCookie CookieCookie300 Cookie Cookie

Cookie(Session Cookie) CookieCookie

Cookie(Persistent Cookie) Cookie Cookie

HTTP HTTP WebCookie Cookie User-Agent Cookiekey/value CookieCookie CookieWeb
??1webCookie Cookie1Cookie 2CookieWebCookie Cookie



5.15: Cookie HTTP

Google ChromeCookie

```

1 C:\Documents and Settings\Administrator\Local Settings\Application Data\Google\
    Chrome\User Data
```

Mozilla Firefox



Google Chrome Firefox Cookies sqlite sqlite BLOB Cookie JSP sessionid Cookies Cookies Cookies Cookies Cookie Cookie Cookie Cookie Cookie Cookie Cookie

1.XSS¹¹(Cross Site Scripting) Cookie.

2.Cookie()

5.4.1 Cookie

Google Chrome Cookie Edit This Cookie FireFox Firebug Cookie Cookie??



5.16: FireDebugCookie

Cookie Cookie Cookie IP+Cookie Cookie Cookies do not provide isolation by port) Cookie 8889Cookie¹²

For historical reasons, cookies contain a number of security and privacy infelicities. For example, a server can indicate that a given cookie is intended for "secure" connections, but the Secure attribute does not provide integrity in the presence of an active network attacker. Similarly, cookies for a given host are shared across all the ports on that host, even though the usual "same-origin policy" used by web browsers isolates content retrieved via different ports.

Cookies do not provide isolation by port. If a cookie is readable by a service running on one port, the cookie is also readable by a service running on another port of the same server. If a cookie is writable by a service on one port, the cookie is also writable by a service running on another port of the same server. For this reason, servers SHOULD NOT both run mutually distrusting services on different ports of the same host and use cookies to store security sensitive information.

¹¹(Cascading Style Sheets, CSS)XSS

¹²<http://stackoverflow.com/questions/1612177/are-http-cookies-port-specific>

5.5 Session

SessionWeb SessionSessionKey Session Web SessionID SessionID24 SessionID HTTPWeb-
Web SessionSessionon JSPServletSessionHTMLIMAGESession request.getSession(true)Session Ses-
sionSession TomcatSession20 Session SessionCookieHTTPSessionHTTP JSESSIONIDCookie Ses-
sionidHttpSession.getId()SessionCookie Session Session session - session id session idSession ses-
sion idSession session idSessionSessionsession id session id session id session idCookie Cook-
ieSEEESSIONIDWebLogicWebCookie:

1 JSESSIONID=ByOK3vJFD75aPnrF7C2HmdnV6QZcEbzWoWiBYEnLerjQ99zWpBng
!–145788764

JSESSIONID,Cookie Cookiesession id URLsession idURL URL

1 http://...../xxx;jsessionid=ByOK3viFD75aPnrF7C2HmdnV6QZcEbzWoWiBYEnLerjQ99zWpBng!-145788764

URL

1 http://...../xxx?jsessionid=BvOK3viFD75aPnrF7C2HmdnV6QZcEbzWoWiBYEnLeriQ99zWpBng!-145788764

session id session id

5.5.1 Session

Session session session session(session(id))session 20

5.5.2 Session

Session Session SessionSession Session Session Timeout2020 Session2020 20 Web.config Session-
Timeout24 24SessionSession Session Timeout SessionSession

- **bin** asp.netdllSessionaccessbinSessionIIS
 - **SessionID** URLSessionIDURLSessionID SessionCookieSessionIDCookieCookieIECookie20Session
 - **InProcSessionIISSession** StateServerSessionSession
 - Network ServiceIISSession

IIS Session Timeout Session SessionID HTTP SessionID cookieless SQL Server Session ID URL

5.5.3

```

1 <div>
2   <center style="margin-bottom:20px">
3     <embed src="http://player.youku.com/player.php/sid/XNzA1ODUyNjYw/v.swf"
4       allowfullscreen="true"
5       quality="high"
6       width="480"
7       height="400"
8       align="middle"
9       allowscriptaccess="always"
10      type="application/x-shockwave-flash" />
11    </center>
12  </div>

```

FSF:

```

1 <video src="//static.fsf.org/nosvn/FSF30-video/FSF_30_720p.webm" controls width="
2   640" height="390"></video>

```

5.6 Cache

HTTPCache-control privateno-cachemax-agemust-revalidateprivate css,js css example.css

```

1 <link rel="stylesheet" type="text/css" href="http://static.zouwo.com/lottery
2   /1.02/css/lottery2.css?v=1.0.1" />

```

v=1.0.1css css HTML56HTML5

-

- Dom Storage Web Storage

HTTPCache-Control ExpiresLast-Modified Etag HTTP (Expires)WEBHTTP 1.0 GMT
Dom StorageAppCache

5.6.1 Request

Cache-Control ExpiresCache-Control Cache-ControlExpires Cache-ControlHTTP 1.1 Cache-Control:max-age=600 600600 HTTP HTTPSHTTPHTTPS FirefoxHTTPSCache-Control: Public HTTPIEHTTPSCache-Control: max-age=600IE10IEHTTPS

- no-cache (ETag)no-cache

- no-store
- max-age 36000no-cache
- private(default) private HTMLCDN
- s-maxage servers-maxagemax-age
- only-if-cached

Last-Modified If-Modified-Since 304200 Cache-Control Last-Modified Cache-ControlExpires
 Expires Expires: Thu, 10 Nov 2015 08:45:11 GMT ExpiresHTTP1.0Cache-ControlHTTP1.1
 Cache-Control Last-Modified

Etag(Entity Tag) EtagLast-Modified Etag If-None-Match 304200 EtagLast-Modified Last-Modified 304 304304 if-Modified-Since 304 Cache-Control:max-ageExpires 304 ETag(ETag

Cache-ControlLast-Modified QQX5Cache-ControlLast-Modified 12MBHOST

X5

- 1.
- 2.
- 3.
- 4.

X51234 Cache-Control 304Web MD5 common.d5d02a02.jscommon.v1.js Cache-Control:max-age=31536000 304 common.v2.jshtml 1234 Cache-ControlExpiresLast-ModifiedETag ??

HTTP 1.1ExpiresLast-Modified Cache-ControlEtag



5.17: HTTP Cache-ControlEtag

Pragma no-cache http1.0Cache-ControlCache-Control

if-match/if-none-match EtagEtag 200 OK

if-modified-since 200 OK

5.6.2 Response

5.6.3 System.Web.Caching

System.Web.Caching Cache Cache ControllerActionXML

5.7 (Browser Render)

JavascriptJavascript undefined JavaScript

config.backUrl="http://www.baidu.com"

config.JavaScript _script_

_script src="a.js" _script src="b.js" _ HTML

_script defer src="a.js" _ script defer src="b.js" _ HTML

_script async src="a.js" _script async src="b.js" _ HTML

HTML:

- htmlhtml

- html_head_link_CSS

- CSSCSS

- html_body_CSS

- _img_

-

- Javascript_script_

- Javascript_style_style.display=none

9. i/html 10. JavascriptlinkCSS 11. jdiv,jspan,jul,jli,jCSS
 reflow reflow reflowreflow jimg;reflow reflowrepaint repaintrepaintreflowIEmoreflowrepaint



5.18: TimeLine

5.7.1 (Redraw)(Reflow)

HTMLDOMDOM DOM table 3 table

(Redraw)visibilityoutline (Redraw)

1. DOM

DOMDOM

2. DOM

DOM body

3.

Opera offsetTopoffsetLeft offsetWidth offsetHeightscrollTopscrollLeftscrollWidthscrollHeight-clientTopclientLeftclientWidthclientHeightgetComputedStyle() (currentStyle in IE)

-

- positionabsolutefixed

- html

- displaynone2

-

5.8 (Page Redirect)

JavaScript window.locationwindow.location.href window.location.href¹³

```
1 window.location = "http://www.baidu.com";
2 window.location.href = "http://www.baidu.com";[text=white,font=,inner
    sep=0.2mm,draw,circle,fill=black]1;
```

[text=white,font=,inner **sep=0.2mm,draw,circle,fill=black**]1; Like as has been said already, location is an object. But that person suggested using either. But, you will do better to use the .href version. Objects have default properties which, if nothing else is specified, they are assumed. In the case of the location object, it has a property called .href. And by not specifying ANY property during the assignment, it will assume "href" by default. This is all well and fine until a later object model version changes and there either is no longer a default property, or the default property is changed. Then your program breaks unexpectedly.

window.location(URL) window.locationwindow.location.hrefURL

5.8.1 Redirect

.NET()

```
1 System.Web.HttpContext.Current.Response.Redirect("http://www.baidu.com", true);
```

endResponsetrue RedirecturlHome/IndexHome/Index http://192.168.1.1/Detail

```
1 http://192.168.1.1/Detail/Home/Index
```

/Home/Index(Home)

```
1 http://192.168.1.1/Home/Index
```

URL html Response302 Found LocationURL HTTP URLURL http Redirect Response.Redirect
Redirect()Redirect Server.Transfer HTTP 301 HTTP 302 ??System.Web.dll

Listing 5.6: Redirect

```
1 this.StatusCode = permanent ? 301 : 302;
2 this.RedirectLocation = url;
3 url = !UriUtil.IsSafeScheme(url) ? HttpUtility.HtmlAttributeEncode(HttpUtility.UrlEncode
    (url)) : HttpUtility.HtmlAttributeEncode(url);
4 this.Write("<html><head><title>Object moved</title></head><body>\r\n");
5 this.Write("<h2>Object moved to <a href=\"" + url + "\">here</a>.</h2>\r\n");
6 this.Write("</body></html>\r\n");
```

¹³:<http://stackoverflow.com/questions/2383401/javascript-setting-location-href-versus-location>

5.8.2 Meta Refresh

JavascriptsetIntervalsetTimeOut 2()

```
1 <meta http-equiv="refresh" content="5;url=/ShaPingBa/Index" />
```

url55 2000meta (5) spam MVCRedirectToAction

5.8.3 Server.Transfer

```
1 Server.Transfer("WebForm2.aspx",True)
```

Server.Transfer"preserveForm" Truequerystringform WebASPx Server.TransferResponse.Redirect
Server.Transfer AB,, Request,Session, URLAURL. Server.Transfer ,URL Server.Transfer Server.TransferResponse.Redirect
IIS MVC

```
1 //TransferRequest,304,  
2 HttpContext.Server.TransferRequest("~/ Houses/IndexNew");
```

Url

5.8.4 URLFragment URLs

URL # # ¹⁴

5.9 Little Tricks

5.9.1 Cookie

FirefoxCookie Firefox-*i* ??

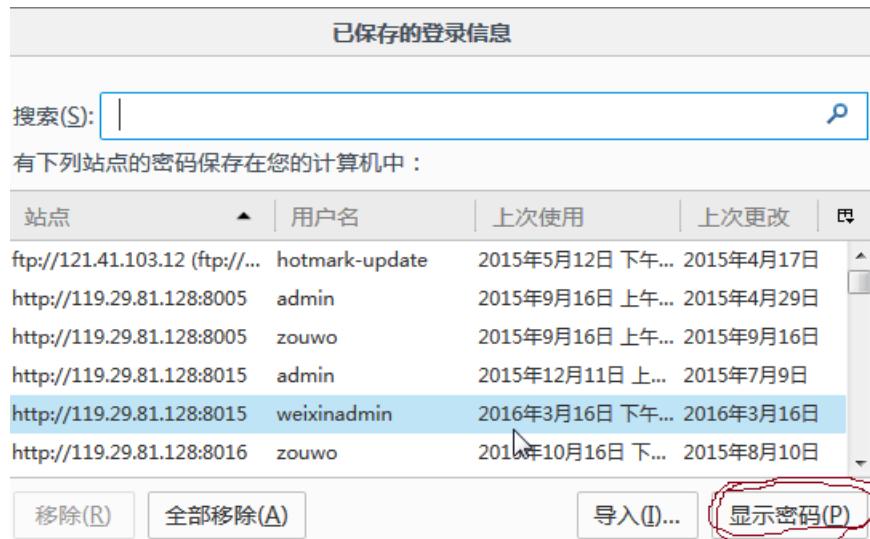
5.9.2 (Refresh Current Page)

Android MVC ??

Listing 5.7:

```
1 <body style="background-color:#f3f3f3;">  
2   <div class="s_part1"><a href="javascript:window.location.reload()">Refresh<  
3     /a></div>  
4   @RenderBody()  
5 </body>
```

¹⁴http://www.ruanyifeng.com/blog/2011/03/url_hash.html



5.19: Firefox

Listing 5.8:

```

1 #region Is Debug Model
2 /// [summary]
3 ///
4 /// [/summary]
5 /// [param name="dllPath"][Assembly path][/param]
6 /// [returns][/returns]
7 public static bool IsDebugged(string dllPath)
8 {
9     var assembly = Assembly.LoadFile(Path.GetFullPath(dllPath));
10    return assembly.GetCustomAttributes(false).OfType<DebuggableAttribute>().Any(
11        debuggableAttribute => debuggableAttribute.IsJITTrackingEnabled);
12 }
#endregion

```

dllPath

Listing 5.9:

```

1 var applicationPath = Assembly.GetExecutingAssembly().Location;
2 var currentApplicationPath = GetType().Assembly.Location;

```

(Debug)(Release)Debuggable ILSPy DebuggingModes

Listing 5.10:

```

1 #Release
2 [assembly: Debuggable(DebuggableAttribute.DebuggingModes.
    IgnoreSymbolStoreSequencePoints)]

```

```

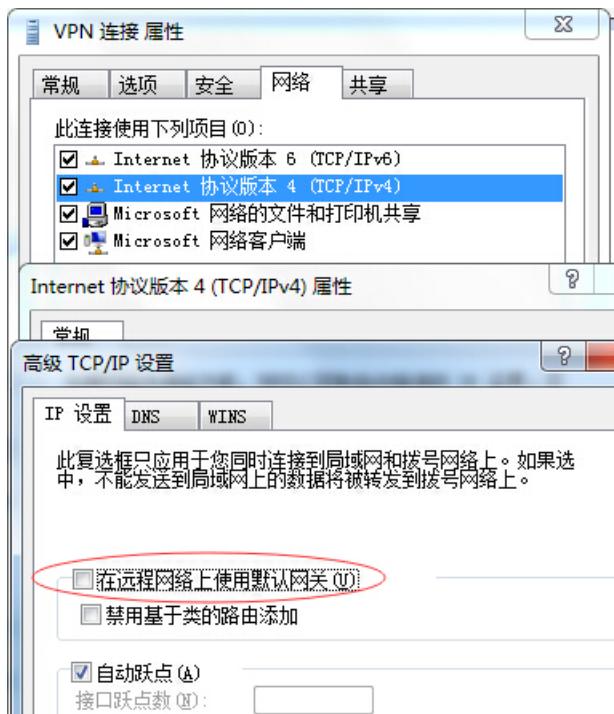
3 #Debug
4 [assembly: Debuggable(DebuggableAttribute.DebuggingModes.Default |
    DebuggableAttribute.DebuggingModes.DisableOptimizations | DebuggableAttribute.
    DebuggingModes.IgnoreSymbolStoreSequencePoints | DebuggableAttribute.
    DebuggingModes.EnableEditAndContinue)]

```

Microsoft (MSIL) JIT MSIL JIT (PDB) PDB 2.0 """ MSIL MSIL "nop" IgnoreSymbolStoreSequencePoints PDB

VPN

VPNVPN VPN VPN ??



5.20: VPN

: VPN : VPN VPN Internet VPN VPN VPN () : VPN

: VPN : : VPN 2

VPNVPN-- VPNVPNVPNVPN Windows 7

```

1 C:\Users\Administrator\AppData\Roaming\Microsoft\Windows\Start Menu\Programs\
    Startup

```

5.9.3 URL

URL URL URL :

```
1 http://www.oyksoft.com/a.asp?b=1&c=2&d=3
```

URLhttp://www.oyksoft.com/e.aspurl

```
1 http://www.oyksoft.com/e.asp?url=http://www.oyksoft.com/a.asp?b=1&c=2&d=3
```

cd url

```
1 http://www.oyksoft.com/a.asp?b=1
```

ASPJavascriptescapeunescape escape(URI) encodeURIencodeURIComponent

```
1 var callbackUrl = "http://www.oyksoft.com/a.asp?b=1&c=2&d=3";
2 var encodeCallbackUrl = encodeURIComponent(callbackUrl);
3 var payUrl = "http://www.oyksoft.com/a.asp?url=" + encodeCallbackUrl;
4 window.location.href = payUrl;
```

```
1 var decodeUrl = Server.UrlDecode("http%3A%2F%2Fwww.oyksoft.com%2Fa.asp%3Fb%3D1%26c
%3D2%26d%3D3");
2 var decodeUrl1 = HttpUtility.UrlDecode("http://www.oyksoft.com/a.asp?b%3D1%26c%3D2
%26d%3D3");
```

encodeURIencodeURIComponentECMA-262, JavaScript, ActionScript URI RFC-2396 RFC-2396URI

reserved characters URIURI ";" — "/" — "?" — ":" — "@" — "&" — "=" — "+" — "\$" — ","

Markmark characters RFC-2396RFC "-" — "_" — "." — "!" — " " — "*" — "" — "(" — ")"

alphanum characters URI

encodeURIencodeURIComponent

encodeURI:Markescaping UTF-8xx "" "%20" ASCII \u0080\u007ff 16Unicode

encodeURIComponent: URL encodeURI ":" "%3A" JSURI encodeURIURI encodeURI-ComponentURI URI URI

```
1 http://www.mysite.com/send-to-friend.aspx?url=http://www.mysite.com/product.html
```

URI send-to-friend.aspx HTML URI url URI URI encodeURI Component URI URI URI

```
1 http://www.mysite.com/send-to-friend.aspx?url=http%3A%2F%2Fwww.mysite.com%2Fproduct.html
```

HTML Escape Sequence Character Entity Entity Name &HTML&(Javascript) &Razor@Html.Raw(str) strEscape Sequence

5.9.4

iPad Safari Safari meta

```
1 <meta name="format-detection" content="telephone=no" />
```

5.9.5 log

log log debug

tail -f log.txt, log tail

less log.txt, F CTRL+C, F tail

Windows tail less Cygwin C:/Cygwin/bin Windows

5.9.6

Piwik PHP+MySQL Google Analytics Piwik , , AJAX/Flash

5.9.7 (Pageview Tracking)

5.9.8 (Resume Broken Transfer)

206 GET GET request, web 206

1. FlashGet, HTTP 206

- 2.

206

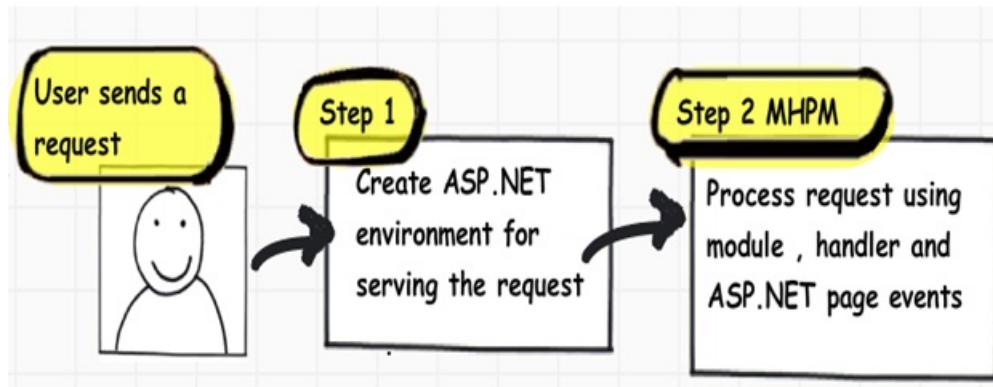
5.9.9 ASP.NET

ASP.NET Web ASP.NET IIS ASP.NET2 'httpHandler' httpModule asp.net Page

asp.net2??IIS

1asp.net

2HandlerMHPM (Module, handler, page and Module event)



5.21: IIS

<http://www.cnblogs.com/suizhouqiwei/archive/2012/08/15/2637775.html>

5.10

5.10.1

meta

```

1 <meta name="viewport" content="width=device-width,initial-scale=1.0, minimum-
scale=1.0, maximum-scale=1.0, user-scalable=no"/>
  
```

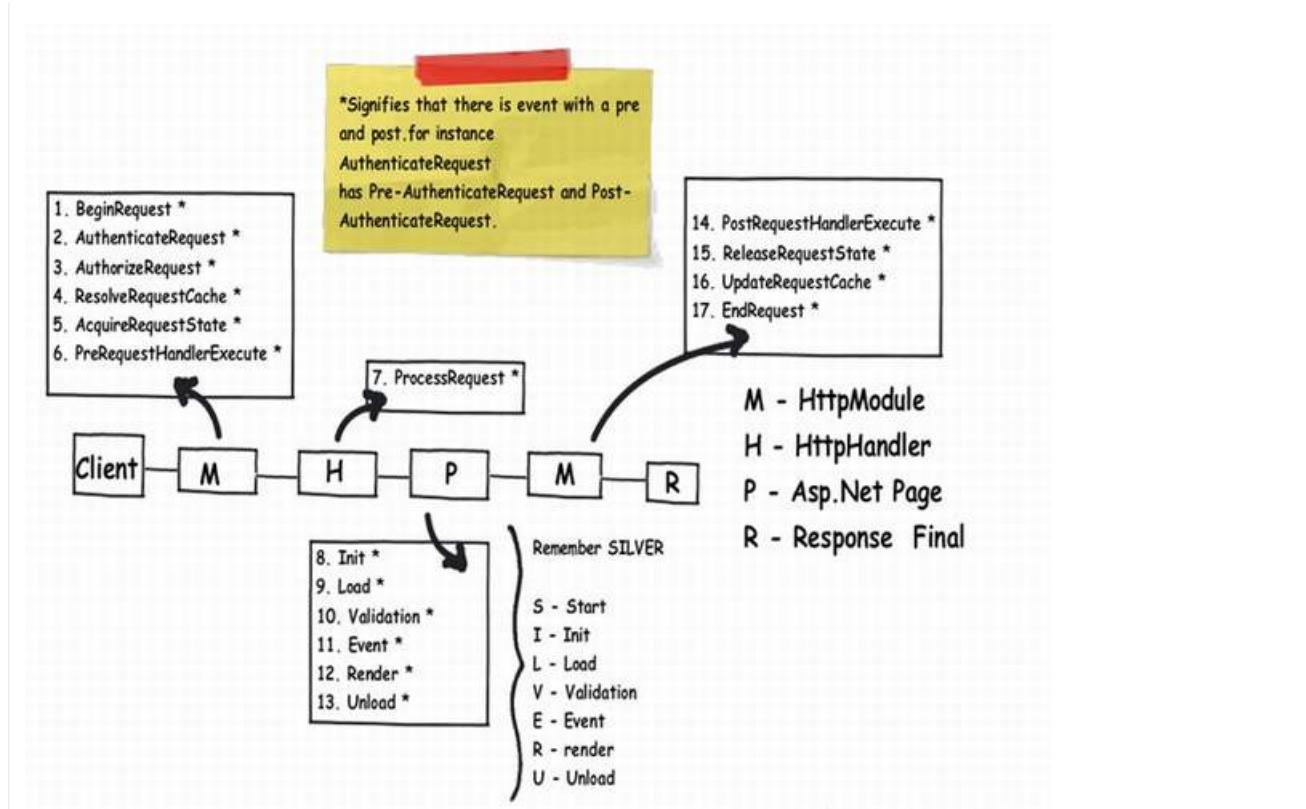
5.11 Performance

5.11.1 Website Optimized

css|head|js js|head| DOMjs

CDN CSS JavaScript cookie Cookie CookieHttp CookieContent Delivery Network CDN

favicon.ico favicon.ico 404



5.22: ASP.NET

HTML**CSS****5.11.2**

Web WordPress Node.js Java

Web I/O

Web

Web

NGINX NGINX NGINX Plus

```
http://blog.jobbole.com/94962/
```

5.11.3

Web

NGINX Plus

Web

```
HTTPHTTPSSPDYHTTP/2WebSocketFastCGISCGIuwsgimemcache TCP L4 Web
```

SSL HTTP/1/x HTTP/2

NGINX NGINX Plus NTLM NTLM NT LAN ManagerNTLM Windows NT

5.11.4

5.12 Electron

5.12.1

electron

```
1 # Install the electron command globally in your $PATH
2 npm install electron-prebuilt -g
```

Downloading electron-v1.2.1-win32-x64.zip Error: connect ETIMEDOUT 54.231.18.161:443ping IP54.231.18.161 ID

```
1 ELECTRON_MIRROR
2 http://npm.taobao.org/mirrors/electron/
```

electron-packager

```
1 npm install -g electron-packager
```

npm

```
1 npm ls
2 npm ls -g
```

NodeJSD:/Program Files/nodejs.

5.12.2

Error: Cannot find module 'app' :npm root -g

```
1 node
2 global.module.paths
```

5.12.3

5.13

IIS 6log4net

IIS 6Network Service Network Service

HTTP 500.23 - Internal Server Error ASP.NET

```
1 <system.webServer>
2   <validation validateIntegratedModeConfiguration="false" />
3 </system.webServer>
```

HTTP 403 -

aspnet_isapi.dll ??

HTTP 404.2 - Not Found Web ISAPI CGI

??

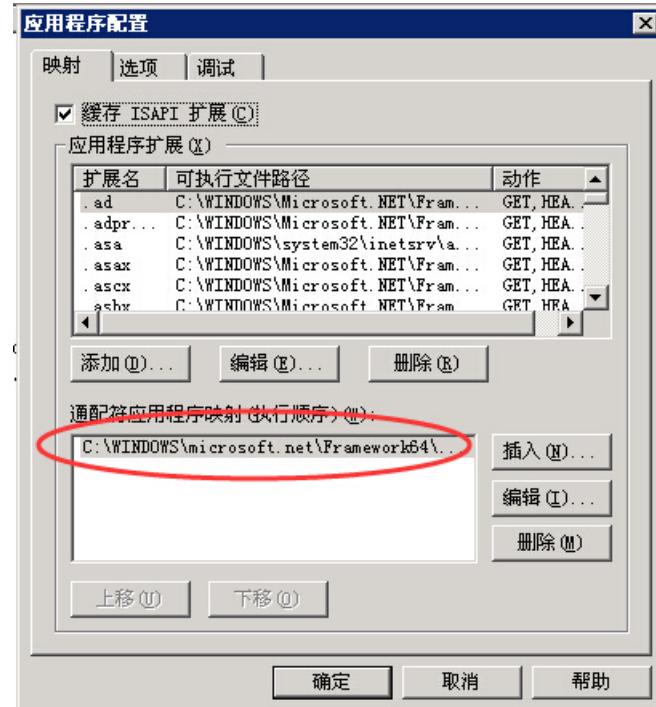
IIS7.5"ISAPICGI" .NET Framework

aJax500

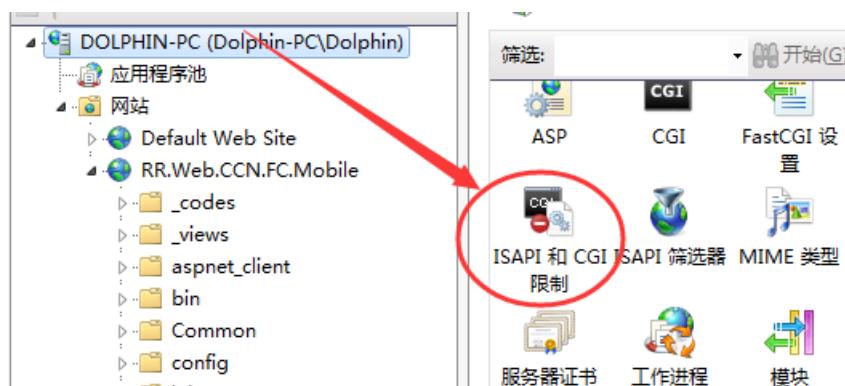
aJax500 URL Firebug ??

5.13.1 Bad Request (Invalid Hostname)

Bad Request (Invalid Hostname) 1.Bad Request (Invalid Hostname). 2.80



5.23: HTTP 403



5.24: HTTP 404.2

The screenshot shows a browser developer tools interface with the Network tab selected. It displays two requests:

- GET collect?v=1&_v=j39&a=107...tp 200 OK google-analytics.com
- GET b?c1=2&c2=17440561&ns_t... 204 No Content b.scorecardresearch.com

Below the requests, there are tabs for "参数" (Parameters), "头信息" (Headers), "缓存" (Cache), and "Cookies". The "头信息" tab is currently active, showing the response headers for the first request:

原始头信息
Cache-Control: private, no-cache, no-cache=Set-Cookie, no-store, proxy-revalidate
Connection: keep-alive
Content-Length: 0
Date: Mon, 12 Oct 2015 11:34:40 GMT
Expires: Mon, 01 Jan 1990 00:00:00 GMT
Pragma: no-cache

Below the response headers, there is another section for "请求头信息" (Request Headers) with the following entries:

原始头信息
Accept: image/png, image/*;q=0.8, */*;q=0.5
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN, zh;q=0.8, en-US;q=0.5, en;q=0.3
Connection: keep-alive
Cookie: UID=9323129-192.204.5.99-1432368895; UIDR=1432368895
Host: b.scorecardresearch.com
Referer: http://stackoverflow.com/questions/2235929/network-error-xmlhttprequest-exception-101
User-Agent: Mozilla/5.0 (Windows NT 6.1; WOW64; rv:41.0) Gecko/20100101 Firefox/41.0

5.25: aJax500

Chapter 6

Windows Form

6.1 (Resource)

6.1.1

```
byte[] object string ImageIcon object byte System.Resources
```

6.1.2

.resx.resources

1.resx resxXML resources

2.resources resx.CS winform .CS.

3.CSCresxresources RESGEN.EXE LitwareStrings.resx LitwareStrings.resources. framework1.1

6.1.3

VSIDEForm1.csresx Form1.csForm1.resxForm1.zh-CHS.resxForm1.zh-CHT.resx Form1.resx Form1.zh-CHS.resxForm1.zh-CHT.resx msdn

6.1.4 MouseDownMouseDoubleClick

.NET .NET : MouseDown Click MouseClick MouseUp MouseDown DoubleClick Mouse-DoubleClick MouseUp

6.1.5 DllImport

dll.dll dll Win32Native dll.dll

```

1 public static void AddEnvironmentPaths(IEnumerable<string> paths)
2 {
3     var path = new[] { Environment.GetEnvironmentVariable("PATH") ?? string.Empty };
4     var newPath = string.Join(Path.PathSeparator.ToString(), path.Concat(paths));
5     Environment.SetEnvironmentVariable("PATH", newPath);
6 }
```

6.1.6

WindowsDelphi 142 142 Windows APIGDI

6.1.7 Windows

```

1 frmBatchSendMessage.Show();
2 if (frmBatchSendMessage.WindowState == FormWindowState.Minimized)
3 {
4     frmBatchSendMessage.WindowState = FormWindowState.Normal;
5 }
6 frmBatchSendMessage.Activate();
```

MessageBox MessageBox MessageBoxButtons.YesNo MessageBoxIcon.OKCancel MessageBoxIcon
MessageBoxOptionsDefaultDesktopOnly

```

1 var result = MessageBox.Show(@"", ", \@"
2     MessageBoxButtons.OKCancel, MessageBoxIcon.Information,
3     MessageBoxDefaultButton.Button1, MessageBoxIcon.DefaultDesktopOnly); //
```

6.2

6.2.1 Embed Interop Types

dll,:

1	AxInterop	.videocx3Lib. dllInterop
		.videocx3Lib. dll

AxInterop.videocx3Lib.dll

1	AxInterop	.videocx3Lib. dllImportedFromTypeLibAttributePrimaryInteropAssemblyAttribute
---	-----------	---

ActiveX ActiveX COM COM """ c#usingcincludeJavaImport """Com """trueCom false
 COM COM .NET Framework (PIA) COM Excel Worksheet Worksheet .NET PIA .NET
 PIA PIA Office Office TLBIMP GUIDCOM .NET C# true Visual Studio C#COM Visual
 StudioC#True(dllFalse) Beginning with the .NET Framework 4, the common language runtime
 supports embedding type information for COM types directly into managed assemblies, instead
 of requiring the managed assemblies to obtain type information for COM types from interop
 assemblies. Because the embedded type information includes only the types and members that
 are actually used by a managed assembly, two managed assemblies might have very different
 views of the same COM type. Each managed assembly has a different Type object to represent
 its view of the COM type. The common language runtime supports type equivalence between
 these different views for interfaces, structures, enumerations, and delegates.

6.2.2 Class not registered

Class not registered (Exception from HRESULT: 0x80040154 (REGDB_E_CLASSNOTREG))

6.2.3

Manage CodeNative dll

1	System .	BadImageFormatException	MVSP.Common.dll
2	:)	(HRESULT:0x8007000B

64646432dll dll6432

6.2.4 Dictionary

Dictionary Directory lock

```
1 lock (DataManager.VehicleLatestAlarmInfoList)
2 {
3     if (!DataManager.VehicleLatestAlarmInfoList.ContainsKey(vehicleInfo.VehicleID))
4     {
5         DataManager.VehicleLatestAlarmInfoList.Add(vehicleInfo.VehicleID, DateTime.Now
6             );
7     }
8     else
9     {
10        DataManager.VehicleLatestAlarmInfoList[vehicleInfo.VehicleID] = DateTime.Now;
11    }
12 }
```



```
1 import string
```

6.2.5 System.ComponentModel.Design.ExceptionCollection

Visual Studio The real problem of the "ExceptionCollection" being thrown is that when there is a WSOD (White Screen of Darn) indicating a designer load issue, the designer gets unloaded. In your project, the RussTabStrip is throwing exceptions. These get caught by our unload method and get displayed in the dialog box you see. So, to fix this you should:

- 1) Start a second instance of visual studio
- 2) go to the Tools menu, "Attach to process", select the 'devenv.exe' process, and click the 'attach' button.
- 3) In the Debug/Exceptions menu
- 4) Open the designer with the debugger attached
- 5) The second visual studio will break on your error.

Chapter 7

ASP.NET MVC(Apache License 2.0)

MVCWebForm

7.1 MVC

7.1.1 MVC

Cookie ActionExecuteFilterActionFilterAttributeAction

```

1 public class ActionExecuteFilter : ActionFilterAttribute
2 {
3     public override void OnActionExecuting(ActionExecutingContext filterContext)
4     {
5         //OnActionExecuting:Action
6         var userId = filterContext.HttpContext.Request.Cookies["userId"];
7         if (userId != null) return;
8         var controllerName = (string)filterContext.RouteData.Values["controller"];
9         if (controllerName != "Login")
10        {
11            //
12            filterContext.Result = new RedirectResult("/Login/Index");
13        }
14    }
15 }
```

CookieCookieHTTP

```

1 public JsonResult SignIn(string input1, string input2)
2 {
3     var loginSuccess = false;
4     if (input1 == "doc" && input2 == "doc")
5     {
6         var cookie = new HttpCookie("userId", "1");
7         Response.Cookies.Add(cookie);
8         loginSuccess = true;
9     }
10    return new JsonResult { Data = loginSuccess, JsonRequestBehavior =
11        JsonRequestBehavior.AllowGet };
12 }
```

7.2 MVC

7.2.1 ASP.NET MVC

http://localhost:8080/Home/Index UrlRoutingModule RoutesURLRouteData RouteDataURLRequestContextRequestcontextRouteData Controller Controller action

1.—UrlRoutingModule.GetHttpHandler() ; MvcHandler.ProcessRequest()

2.UrlRoutingModule HttpContext RequestContext IRoutHandler IRoutHandler MvcRouteHandler RequestContext
MvcHandlerRequestContext

MvcHandler ControllerController MvcHandler(System.Web.Mvc.MvcHandler) BeginProcessRequest
ControllerIAsyncController Controller IAsyncController ControllerExecute ExecuteControllerCon-
trollerBase ControllerControllerControllerBaseRequest, ExecuteCore(System.Web.Mvc.Controller.ExecuteCore)
RequestContext RouteData HttpContext RouteData ControllerActionParameters action(System.Web.Mvc.ControllerAction

1 FilterInfo filters = **this**.GetFilters(controllerContext, action);

Request (AOP:Aspect Oriented Programming)

5.Controller.Execute() Action—> ActionResult(Abstract) ActionResult.ExecuteResult()

6.ActionResult.ExecuteResult()

IView—IviewPage—> IView.RenderView() IView (View Engine) ViewPage(System.Web.Mvc.ViewPage) IView

7

ViewPage.RenderPartialView().ascx ViewPage.RenderView().aspx MVC 3 Razor WebForm ViewEngine
Pro Asp.net MVC ??

7.1: MVCHTTP

7.2.2 ASP.NET ASP.NET MVC Request Life Cycle

RouteTable()

MVC Request

UrlRoutingModule

The request is first intercepted by the UrlRoutingModule which is a HTTP Module. It is this module that decides whether the request would be handled by our MVC application. UrlRoutingModule selects the first matching route.

3 Routing engine route

4 route handler IHttpHandler

5 IHttpHandlerController(

6 Controller

7

8)

7.2.3

MVC

```
1 routes.IgnoreRoute("{resource}.axd/{*pathInfo}");
```

*.axd axd files are typically implemented as HTTP Handlers. They don't exist as an ASP.NET web page, but rather as a class that implements the IHttpHandler interface. *.axd-dll The answer is WebResource.axd. WebResource. axd is an HTTP Handler that is part of the .NET Framework that does one thing and one thing only it is tasked with getting an embedded resource out of a DLL and returning its content. What DLL to go to and what embedded resource to take are specified through the querystring. For instance, a request to www.yoursite.com/WebResource.axd?d=EqSMS&t=63421 might return a particular snippet of JavaScript embedded in a particular assembly. The d querystring parameter contains encrypted information that specifies the assembly and resource to return; the t querystring parameter is a timestamp and is used to only allow requests to that resource using that URL for a certain window of time. <http://scottonwriting.net/sowblog/archive/2010/10/28/just-where-is-webresource-axd.aspx>

7.2.4 Controller(Process of Controller Activation)

```
RouteDataUrlController RouteGetRouteData MVCRouteData(C:/Windows/Microsoft.NET/Framework/v4.0.30319
System.Web.dll)Controller ControllerFactoryController ControllerController ??
```

Listing 7.1: Controller

```
1 private Type GetControllerTypeWithinNamespaces(RouteBase route, string
2     controllerName, HashSet<string> namespaces)
3 {
4     this.ControllerTypeCache.EnsureInitialized(this.BuildManager);
5     //Controller
6     ICollection<Type> controllerTypes = this.ControllerTypeCache.GetControllerTypes(
7         controllerName, namespaces);
8     switch (controllerTypes.Count)
9     {
10         case 0:
11             return (Type) null;
12         case 1:
13             return Enumerable.First<Type>((IEnumerable<Type>) controllerTypes);
14         default:
15             throw DefaultControllerFactory.CreateAmbiguousControllerException(route,
16                 controllerName, controllerTypes);
17     }
18 }
```

ControllerFactoryController ??

Listing 7.2:

```

1 // 
2 public class Demo
3 {
4     public string Name = "Dolphin";
5 }
6 
7 // 
8 Type demoTypeInstance = Type.GetType("MvcApplication1.Controllers.Demo,
9     MvcApplication1");
10 if (demoTypeInstance != null)
11 {
12     //Demo
13     Demo demoInstance = (Demo)Activator.CreateInstance(demoTypeInstance);
14     string name = demoInstance.Name;//name:Dolphin
15 }
```

GetType TypeSystem.Reflection Type (Property) MVCMVC??

Listing 7.3: MVC

```

1 public IController Create(RequestContext requestContext, Type controllerType)
2 {
3     try
4     {
5         return (IController) (this._resolverThunk().GetService(controllerType) ?? Activator.
6             CreateInstance(controllerType));
7     }
8     catch (Exception ex)
9     {
10         throw new InvalidOperationException(string.Format((IFormatProvider) CultureInfo.
11             CurrentCulture, MvcResources.DefaultControllerFactory_ErrorCreatingController,
12             new object[1]
13             {
14                 (object) controllerType
15             }), ex);
16     }
17 }
```

ActionInvokerAction

7.3 MVC

7.3.1 (View Controller)

MVCAjaxPOSTController

```

1 $(function () {
```

```

2  $("#debuggerSubmit").click(function () {
3      $.post(
4          "/User/ GetUserAwardTypeCountDebugger",
5          {
6              action: "post",
7              UserID: $("UserID").val(),
8              UserName: $("AwardType").val()
9          },
10         function (data) {
11             alert ("OK");
12         });
13     });
14 });

```

UserIDIDUserController ControllerpostRequest.Form POST GetRequest.QueryString

```

1 public ActionResult GetUserAwardTypeCountDebugger()
2 {
3     int userID = Convert.ToInt32(Request.Form["UserID"]);
4     return Content("OK");
5 }

```

ajaxSubmit ajaxSubmit(obj)jQueryjquery.form.js

```

1  $(".right").bind("click", function () {
2      $("form[method='post']").submit();
3  );
4
5 //bind() delegate () on ()
6 $(document).on("submit", "form[method='post']", function () {
7     $(this).ajaxSubmit(function (m) {
8         var json = m;
9         if (!json.status) {
10             alert (json.message);/
11         } else {
12             var arrData = json.data.split ("|");
13             var callbackUrl = "http://m.tour.zouwo.com/Order/Index?orderid=" + json.
14             data;
15             var url = "@(PayUrl)id=" + arrData[0] + "&url=" + callbackUrl + "";
16             window.location.href = url;
17         }
18     });
19     return false ;
20 });

```

Model on():

```

1 .on( events [, selector ] [, data ], handler(eventObject))

```

```
.on() $() document
```

POSTViewController)

MVCModel ViewData, ViewBag, PartialView, TempData, ViewModel, Tuple PartialView
ViewController

```

1 <script>
2     $(function () {
3         $("#debuggerSubmit").click(function () {
4             $.ajax({
5                 type: 'POST',
6                 async: false ,
7                 url: "/User/ GetUserAwardTypeCountDebugger",
8                 data:
9                 {
10                     action: "post",
11                     UserID: $("#UserID").val(),
12                     UserName: $("#AwardType").val()
13                 },
14                 success: function (data) {
15                     $("#ajax_msg").html(data);
16                 }
17             });
18         });
19     });
20 </script>
```

urlUserViewcshtml GetUserAwardTypeCountDebuggerController Controller

```

1 [HttpPost]
2 public JsonResult GetUserAwardTypeCountDebugger()
3 {
4     int userID = Convert.ToInt32(Request.Form["UserID"]);
5     string a = "      ";
6     return new JsonResult { Data=a, JsonRequestBehavior= JsonRequestBehavior.
7     AllowGet};
}
```

JsonResultData cshtmlajaxsucess HttpPostPOST ValidateAntiForgeryTokenCSRFCross-site Request Forgery @Html.AntiForgeryToken()

title form ControllerRequest.Form form

```

1 <form name="" action="/Product/PickAward" method="post" enctype="multipart/
2     form-data">
3     <p>
        <label> ID </label>
```

```

4     <input type="text" id="userId" name="userId" class="form-control"
5         placeholder="ID"/>
6 </p>
</form>
```

formpostactionController Controller

```
1 int userId = int.Parse(Request.Form["userId"].ToString());
```

ControllerViewreturn View(model) Model

```

1 @model DBCCN.Model.discount_sellerModel
2 @using RR.Web.CCN.FC.Common
3 @{
4     ViewBag.Title = "";
5     Layout = "~/Views/Shared/_Layout.cshtml";
6     string staticPath = PublicAttribute.staticPath;
7     string themeVersion = PublicAttribute.themeVersion;
8 }
```

MVC

SessionCookie

7.3.2 PageRouteHandler vs MvcRouteHandler

MVCASP.NETPageRouteHandler MVCMvcRouteHandler RouteCollectionGetRouteDataRoute-
 Data RouteHandlerRoute RouteCollectionMapPageRoute Route HandlerPageRouteHan-
 dler MapPageRoute aspxPage PageRouteHandlerGetHttpHandlerPage ASP.NET MVCRouteR-
 outeCollectionMapRoute RouteHandlerMvcRouteHandler MvcRouteHandlerHttpHandlerMvcHan-
 dler MvcHandlerControllerAction MVCMvcHandler

```

1 public class MvcRouteHandler : IRouteHandler
2 {
3     IHttpHandler IRouteHandler.GetHttpHandler(RequestContext requestContext)
4     {
5         return GetHttpHandler(requestContext);
6     }
7 }
```

url /home/index?id=3 Requestok controller/action/id url /home/index/3 Viewid

ActionViewdataView Controlersphonelist public ActionResult phonelist(int id) ViewData["id"] = id; return View();

view

```
1 <%=Html.ViewContext.RouteData.Values["id"]%>
```

id:

```
1 // 1
2 <%=Request.RequestContext.RouteData.Values["id"] %>
3 // 2
4 <%=Html.ViewContext.RouteData.Route.GetRouteData(Html.ViewContext.HttpContext)
    .Values["id"]%>
```

RouteDataRouteDataPage this.Page.RouteData this.Page.RouteData.Values["id"]]

7.4 MVC(MVC Error Handling)

MVC HandleError Views/Shared/Error HandleErrorAttribute ControllerAction MVCAc-tion ActionController ControllerController Application_Error

7.4.1 Application_Error

Web.configcustomError URL URL Global.asax??

Listing 7.4: MVC

```
1 void Application_Error(object sender, EventArgs e)
2 {
3     var exception = Server.GetLastError().GetBaseException();
4     var errorDetail = new StringBuilder();
5     errorDetail.Append("\r\n" + DateTime.Now.ToString("yyyy.MM.dd HH:mm:ss"));
6     errorDetail.Append("\r\n.");
7     var serverIp = Request.ServerVariables.Get("HTTP_X_FORWARDED_FOR");
8     var remoteAddr = Request.ServerVariables.Get("Remote_Addr").Trim();
9     var ipAddress = (serverIp != null) ? serverIp.Trim() : remoteAddr;
10    errorDetail.Append("\r\n\tIp:" + ipAddress);
11    errorDetail.Append("\r\n\t\t:t:" + Request.Browser.Browser);
12    errorDetail.Append("\r\n\t\t:t:" + Request.Browser.MajorVersion);
13    errorDetail.Append("\r\n\t\t:t:" + Request.Browser.Platform);
14    errorDetail.Append("\r\n.");
15    errorDetail.Append("\r\n\t\t:t:" + Request.Url);
16    errorDetail.Append("\r\n\t\t:t:" + exception.Message);
17    errorDetail.Append("\r\n\t\t:t:" + exception.Source);
18    errorDetail.Append("\r\n\t\t:t:" + exception.TargetSite);
19    errorDetail.Append("\r\n\t\t:t:" + exception.StackTrace);
20    errorDetail.Append("\r\n-----");
21    PublicAttribute.Logger.Error(errorDetail);
22    //
```

```

23     Server.ClearError();
24     //
25     Response.Redirect(@ "~ /error/index");
26 }
```

7.4.2 OnExceptionHandleErrorAttribute

MVCController ControllerOnException ControllerOnException ControllerAbout,http://host/About/Index
 OnExceptionhttp://host/Aboute/Index AbouteOnException Application_Error OnException Ap-
 plication_ErrorURL Web.config??

Listing 7.5: MVC

```

1 <System.Web>
2   <customErrors mode="On" defaultRedirect="/Error/Index" />
3 </System.Web>
```

ControllerOnException ControllerActionControllerOnException HandleErrorAttributeOnEx-
 ception Controller??

Listing 7.6: Handler

```

1 public class CustomExceptionFilter : HandleErrorAttribute
2 {
3   public override void OnException(ExceptionContext filterContext)
4   {
5     if (!filterContext.ExceptionHandled)
6     {
7       //,
8     }
9     base.OnException(filterContext);
10 }
11 }
```

7.5

(Bundling)(Minification)jscss JS/CSSJavaScript ASP.NET MVC 4BundleTablecssjs IE31CSS
 ASP.Netjavascript cssjavascript css css ASP.NETASP.NET 4.5System.Web.Optimization ASP.NETCSS/JS/,
 BundleTable Web.configcompilationdebug XMLdebugtrue

```

1 <system.web>
2   <compilation debug="true" />
3   <!-- Lines removed for clarity. -->
4 </system.web>
```

Bundle.

```

1 public static void RegisterBundles(BundleCollection bundles)
2 {
3     //JS
4     bundles.Add(new ScriptBundle("~/Script/common").Include("~/Script/jquery.js", "~/
5         Script/common.js"));
6     //CSS
7     bundles.Add(new StyleBundle("~/Style/common").Include("~/Style/common.css", "~/
8         Style/header.css"));
9     /**
10    BundleTable.EnableOptimizations = true;
11 }

```

```

1 <head>
2     <meta name="viewport" content="width=device-width" />
3     <title>View1</title>
4     <!-- CSS -->
5     @Styles.Render("~/Style/common")
6     <!-- JS -->
7     @Scripts.Render("~/Script/index")
8 </head>

```

7.6

MVC— Action ActionSplit ?/

```

1 window.location.href = "/FeatureExplorer/Param/?userId=1&groupId=1";

```

Action

```

1 public ActionResult Param(string userId, string groupId)
2 {
3     string str1 = userId;
4     string str2 = groupId;
5     return View();
6 }

```

7.6.1 ActionResult

```

1 System.Object
2 System.Web.Mvc.ActionResult
3 System.Web.Mvc.ContentResult
4 System.Web.Mvc.EmptyResult

```

```

5 System.Web.Mvc.FileResult
6 System.Web.Mvc.HttpStatusCodeResult
7 System.Web.Mvc.JavaScriptResult
8 System.Web.Mvc.JsonResult
9 System.Web.Mvc.RedirectResult
10 System.Web.Mvc.RedirectToRouteResult
11 System.Web.Mvc.ViewResultBase

```

ActionResult View ActionResult ViewResult

7.6.2 MVC Razor

HTML Html.Raw

Text output will generally be HTML encoded. Using Html.Raw allows you to output text containing html elements to the client, and have them still be rendered as such. Should be used with caution, as it exposes you to cross site scripting vulnerabilities.

```

1 <div class="info-content">
2   @Html.Raw(((Model as discount_sellerModel).sellerIntroduce)[text=white,font=,inner
3     sep=0.2mm,draw,circle,fill=black]1;
4 </div>

```

[text=white,font=,inner **sep=0.2mm,draw,circle,fill=black**]1; HTMLHTML

Section head

```

1 //      StyleCss
2 @RenderSection("StyleCss")
3
4 //    head
5 @RenderSection( head )

```

```

1 //                                         StyleCss
2
3 @section StyleCss{
4   <link href="@newStaticServer/tour/jiulongpo-tour.css" rel="stylesheet" type="
5     text/css" />
6 }

```

```

6 @section head{
7     //do
8 }

```

RenderSection()2

```

1 @RenderSection("SubMenu", false)

```

```

1 @if (IsSectionDefined("SubMenu"))
2 {
3     @RenderSection("SubMenu", false)
4 }
5 else
6 {
7     <p>SubMenu Section is not defined!</p>
8 }

```

7.6.3 ViewData ViewBag PartialView TempData ViewModel Tuple

- "", ViewBag, ViewData
- ViewModel View Model
- Partial View
- controlleraction TempData
- "" View Model Tuple

7.6.4 JsonRequestBehavior

```

1 public JsonResult QueryOrderStatus(string orderPayNumber)
2 {
3     return new JsonResult
4     {
5         Data = orderStatus,
6         JsonRequestBehavior = JsonRequestBehavior.AllowGet
7     };
8 }

```

JsonResult return Json(list, JsonRequestBehavior.AllowGet) JsonRequestBehavior.AllowGet
 JsonRequestBehavior.DenyGet HTTP GET ASP.NET MVCHTTP GET JSON AJAX POST GET

By default, the ASP.NET MVC framework does not allow you to respond to an HTTP GET request with a JSON payload. If you need to send JSON in response to a GET, you'll need to explicitly allow the behavior by using JsonRequestBehavior.AllowGet as the second parameter to the Json method. However, there is a chance a malicious user can gain access to the JSON payload through a process known as JSON Hijacking. You do not want to return sensitive information using JSON in a GET request.

7.6.5 Filter

MVCAuthorization(),Action,ResultException

```

1  public class ActionRecordFilter : ActionFilterAttribute
2  {
3      public override void OnActionExecuted(ActionExecutedContext filterContext)
4      {
5          var actionMethod = filterContext.Controller
6              .GetType()
7              .GetMethod(filterContext.ActionDescriptor.ActionName);
8          if (actionMethod.ReturnType == typeof(ViewResult))
9          {
10              //ViewResult
11          }
12      }
13 }
```

Action ActionResultJsonResult ActionResult

7.7

Ajax(Layout),Layout=null

```

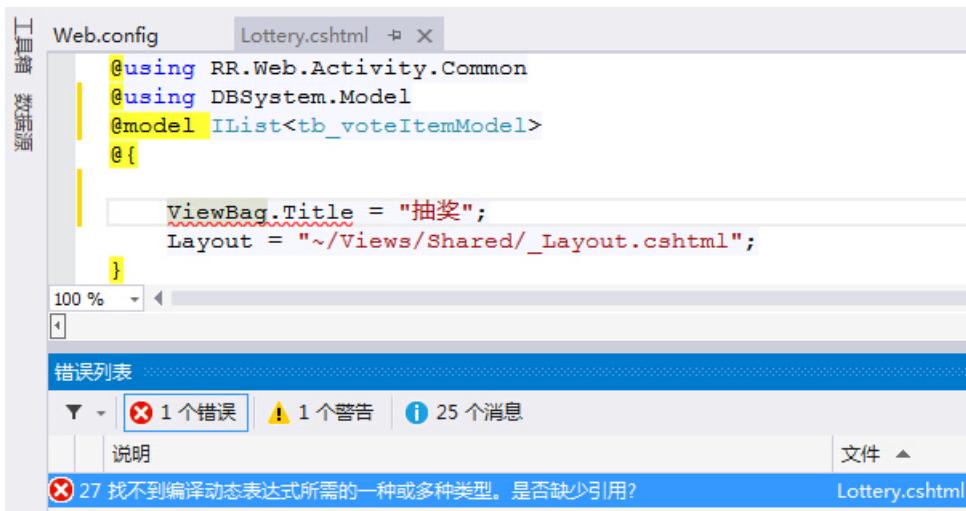
1  @{
2      Layout = Request.IsAjaxRequest() ? null : "~/Views/Shared/_Layout.cshtml";
3 }
```

7.8

7.8.1 ?

MVCcshtml ViewBag

Microsoft.CSharp.dll System.Web ?? ViewBag.NET Framework 4.0 System.Web.Mvc.dll
compilationtargetFramework 4.0



7.2: ViewBag

Listing 7.7: MVC

```

1 <system.web>
2     <compilation debug="true" targetFramework="4.0" />
3 </system.web>

```

compilation ASP.NET targetFramework.NET Framework Web.configIIS <https://msdn.microsoft.com/zh-cn/library/vstudio/s10awwz0%28v=VS.100%29.aspx>

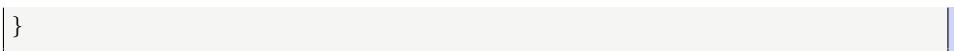
7.8.2

Object

```

1 /// jsummary{
2 /// j/summary{
3 /// jparam name="relativeUrl"j/jparam{
4 /// jparam name="param"j/jparam{
5 /// jreturnsj/returns{
6 public static T SaveObject<T>(string relativeUrl, string param)
7 {
8     var restUrl = PublicAttribute.WebApiPath + relativeUrl;
9     var restResult = (Message) PublicAttribute.ApiClient.POST(restUrl, param);
10    if (restResult == null)
11        throw new RestfulNullDataException("url:" + restUrl + param);
12    if (restResult.status)
13    {
14        //T
15        return JsonConvert.DeserializeObject<T>(restResult.data.ToString());
16    }
17    PublicAttribute.Logger.Error("SaveObjects failed,url:" + restUrl + param + ", message:" + restResult.message);
18    return default(T);

```

19 } 

restResult.dataObjectJsonConvert

7.8.3 RR.Web.CCN.Tour

Any CPU 64x86

Chapter 8

JavaScript

JavaScript JavaScript JavaScript DOM JavaScript DOM JavaScript CPU HTML5 Web Worker JavaScript DOM JavaScript

8.0.4 (Specification)

Javascript

- 1.
- 2.
- 3.
- 4.
5. with
6. ""==""==== JS6Undefined Null String Number Boolean Object Javascript""""==""====
""
- 7.
- 8.
9. newObject.create() newmyObject()this this
10. InitialCap
11. +-+--=
- 12.

8.0.5 JavaScript

HTML JavaScript

```

1 <script type="text/javascript">
2     /*      JavaScript      */
3     window.onload = function () {
4         //Run code when page load...
5     }
6
7     /*  jQuery  */
8     $(window).load = function () {
9         //Run code when page load...
10    }
11 </script>
```

window.onload JavaScript windowJavaScript window|body|frameset| window JavaScriptwindow
 document window.document alert() window.alert() windos JavaScript window window
 self parent top frame[] window window jQueryjQuery

```

1 <script type="text/javascript">
2   $(document).ready(function(){
3     //Run code when page load...
4   });
5 </script>
```

DOM HMTLDOM

8.0.6 Javascript

```

1 function Foo() {
2   getName = function () { alert (1); };
3   return this;
4 }
5 Foo.getName = function () { alert (2); };
6 Foo.prototype.getName = function () { alert (3); };
7 var getName = function () { alert (4); };
8 function getName() { alert (5);}

9
10 //
11 Foo.getName();//2
12 getName();//4
13 Foo().getName();//1
14 getName();//1
15 new Foo.getName();//2
16 new Foo().getName();//3
17 new new Foo().getName();//3
```

Foo.getNameFoo getName getName 1 2 35

var getNamefunction getName var getNamefunction getName

8.0.7 Javascript

JavascriptDate

```

1 var myDate=new Date();
```

Date

8.0.8 jQuery Rotate

```

1 var rotateFn = function (awards, angles, txt) {
2     $('#rotate').stopRotate();
3     $('#rotate').rotate(
4         angle: 0,// 
5         animateTo: angles + 1800,// 
6         duration: 8000,// 
7         callback: function () {
8             // 
9         }
10    );
11};

```

8.0.9 JavaScript

http://www.ruanyifeng.com/blog/2011/03/firebug_console_tutorial.html

8.0.10

```

1 if (!userphone.match(/^1[3|4|5|8][0-9]\d{4,8}$/)) {
2     tanc4.show("!");
3     return;

```

8.0.11 JavaScript

splice

```

1 var ary = [1,2,3,4];
2 ary.splice(0,ary.length);
3 console.log(ary); // []

```

splice()index Array

length0

```

1 var ary = [1,2,3,4];
2 ary.length = 0;
3 console.log(ary); // []

```

[]

```

1 var ary = [1,2,3,4];
2 ary = []; //
```

ary length0[] length0 length3 []

8.0.12

mutexArr checkedArr

```

1 function contains1(mutexArr, checkedArr) {
2     var i = mutexArr.length;
3     var k = 0;
4     while (i > 0) {
5         var existsValue = $.inArray(mutexArr[i - 1], checkedArr);
6         if (existsValue != -1) {
7             k++;
8         }
9         i--;
10    }
11    if ((k == mutexArr.length || k > mutexArr.length) && k > 1) {
12        return true;
13    }
14    return false ;
15 }
```

jQuery inArray 0(-1) Underscore.js¹ intersection

```

1 function contains2(mutexArr, checkedArr) {
2     var arr = _.intersection (mutexArr, checkedArr);
3     if (arr.length > 1) {
4         return true;
5     }
6     return false ;
7 }
```

_.intersection(*arrays) arrays arrays

¹<http://underscorejs.org/> Underscore provides over 100 functions that support both your favorite workaday functional helpers: map, filter, invoke as well as more specialized goodies: function binding, javascript templating, creating quick indexes, deep equality testing, and so on.

8.0.13 XMLHttpRequest

8.0.14

spanaaaa

```

1 <span id="testid">aaaa</span>
2
3 /*           1           ,      Html      */
4 var x1 = document.getElementById("testid").innerText;
5
6 /*           2           ,      Html      */
7 var x2 = document.getElementById("testid").innerHTML;
8
9 /*  jQuery  */
10 var x3 = $("#testid").text();
11 var x4 = $("#testid").val();

```

innerHTMLHTML

```

1 <div id="demo">
2 <div>

```

document.getElementById("demo").innerHTML1 In Javascript, new lines are represented by a single "\n" character. Textarea values might have the character combos "\n\r" in the text box, but once they are pulled into Javascript, "\n\r" becomes JUST "\n". When replacing out new line characters, treat them as you would any other character. They are not special, they just have special notation.

```

1 // 
2 function ReplaceSeparator(mobiles) {
3     var i;
4     var result = "";
5     var c;
6     for (i = 0; i < mobiles.length; i++) {
7         c = mobiles.substr(i, 1);
8         if (c == ";" || c == "," || c == " " || c == "\n")
9             result = result + " ";
10        else if (c != "\r")
11            result = result + c;
12    }
13    return result;
14 }

```

8.0.15 Serialize Deserialize

Json JSON (JavaScript Object Notation) is a lightweight data-interchange format. It is easy for humans to read and write. It is easy for machines to parse and generate. It is based on a subset of the JavaScript Programming Language, Standard ECMA-262 3rd Edition - December 1999. Douglas Crockford Web ECMA JavaScript 2.0 JavaScript Brendan Eich JavaScript Yoda JSON JSONLint JSMin ADSafe

Json JS JSON JSON JSON JsonJson

```

1 var str1 = ' "name": "cxh", "sex": "man" ';
2 var obj = eval('('+str1+')');
3 alert("eval:"+obj.name);

```

eval() js JavaScriptJson,. IE8(),IE7IE6 eval() JSON evaljson

```

1 var str1 = ' "name": "cxh", "sex": "man" ';

2 /*
3      JSONJSON           ,       jQuery
4 */
5 var objParseJson = jQuery.parseJSON(str1);
6 alert("objParseJson:" + objParseJson.name);

8 /*
9      JSONJSON
10 */
11 var objJsonParse = JSON.parse(str1);
12 alert("objJsonParse:" + objJsonParse.name);

14 /*
15      JsonIE7IE6JSON
16 */
17 var jsonParam = JSON.stringify(order);

```

8.1 Ajax

8.1.1 Ajax

Ajax XMLHttpRequest XMLHttpRequest Javascript HTTP(S)

```

1 function saveUserPhone(mobile) {
2     var xhr = new XMLHttpRequest();
3     xhr.onreadystatechange = function () {
4         if (xhr.readyState === 4) {
5             if (xhr.status === 200) {

```

```

6         var response=xhr.responseText;
7     } else {
8         xhr.abort();
9         alert("          ");
10    }
11 }
12 }
13 xhr.open("GET", "/Active/SaveUserPhone?phone=" + mobile, true);
14 xhr.send(null);
15 }

```

asynchtruefalse

8.1.2 Ajax

Ajax

```

1 $.post(url, { id: productId }, function (msg) {
2     if (msg!=="OK") {
3         alert("          ");
4     }
5 });

```

8.1.3 AjaxXmlHttpRequest

AjaxXmlHttpRequest javascriptDOM XMLHttpRequest

XMLHttpRequest ajaxIE5 javascript XMLHttpRequest XMLHttpRequest

onreadystatechange

responseText

responseXML DOM

status 404200

status Text

readyState

0 () open

1 () send

2 () sendhttp

3 () httpresponseBodyresponseText

4 () ,responseXmlresponseText

XMLHttpRequest IEXMLHttpRequest

```

1  function CreateXmlHttp()
2  {
3      //      IEXmlHttpRequest
4      if(window.XmlHttpRequest)
5      {
6          xmlhttp=new XMLHttpRequest();
7      }
8      //      IEXmlHttpRequest
9      if(window.ActiveXObject)
10     {
11         try
12         {
13             xmlhttp=new ActiveXObject("Microsoft.XMLHTTP");
14         }
15         catch(e)
16         {
17             try{
18                 xmlhttp=new ActiveXObject("msxml2.XMLHTTP");
19             }
20             catch(ex){
21             }
22         }
23     }
24 }
```

8.2 jQuery

jQuery Javascript jQuery()² jQuery

- 1.
- 2.
3. DOM
- 4.
5. Ajax
- 6.
- 7.
- 8.
- 9.

²http://www.ruanyifeng.com/blog/2011/07/jquery_fundamentals.html

10.

11. jQqueryHTML

12.

13.

8.2.1 jQuery

jQuery3:

```

1 $("#apply").click(function(){});
2 $("#apply").bind("click",function(){});
3 $("body").on("click","#apply",function(){});
```

bind bind(on) function bind

```
1 $("a").bind("click mouseover",function(){});
```

click/bind/delegate) jQqueryon on .bind(), .live(), .delegate().on() .unbind(), .die(), .undelegate(),.off() on

```

1 // jQuery 1.7+
2 $("ancestor").on( "click", "selector" [, data ], handler );
```

jQuery 1.7on() bind() delegate() live()

8.2.2 \$(function () {})

\$(function () {})\$document.ready(){} \$document.ready(){}DOM jQquery\$=jQquery;\$("#id")jQquery("#id")
\$js

```
1 var Hello = jQuery.noConflict();
```

Hello

```
1 Hello("txt1");
```

```

1 $(document).ready(function() {
2     'Handler for .ready() called'
3 });
```

function ready(handler), : Specify a function to execute when the DOM is fully loaded.
 DOM,. documentready,page. \$(document).ready()DOM. ,load, (). \$(window).load(function())³,
 DOM,iframes,. ready()DOM, DOM.ready().

```
1 $(function() {
2     'Handler for .ready() called'
3 });


```

```
1 $().ready(handler)
```

8.2.3 CheckBox

CheckBoxID

```
1 var str = "";
2 $("input[name='wjdc']:checked").each(function () {
3     str += $(this).attr("id") + ",";
4 });
5 alert(str);
```

thisJavaScript inputwjdcCheckBoxID checkbox

```
1 $("#item_2-3").attr("checked", false);
```

#item_2-3id jQuery jQuery

```
1 !#$%&'()*+,.:/;=>?@[\]^—
```

8.2.4 jQuerypropattr

jQuery 1.6attr() attribute property jQuery 1.6attr()tagNameclassNamenodeNamenodeTypeDOMproperty

jQuery 1.6prop()property attr()attribute

"checked""selected""disabled" jQuery 1.6attr()Boolean()truefalse

1.6attr()String ()"checked""selected""disabled" ()undefined ()

jQueryattribute"checked""selected""disabled" propertycheckedselecteddisabled(truefalse)

jQuery 1.6 prop()checkedselecteddisabledprop() prop()

³jQuery JavaScriptwindow.onload=function(){code goes on here...} http://www.30t.com/index-hmt-LangType-cn-BasePage-702-article_id-6480.htm

8.2.5 NETWORK_ERR: XMLHttpRequest Exception 101

Request aborted because it was cached or previously requested aJax

```
1 $.ajax({
2     type: "get",
3     data: { "userId": userId, "wxmediaId": res.serverId, "activityId": activityId },
4     dataType: "json",
5     cache: false ,
6     async: true,
7     url: "/QiuJiFangJiaoHui/UpLoadImg?sjm=" + timestamp,
8     success: function (data) {
9         alert("          ");
10        //
11
12        $("#IsUploaded").val("1");
13        //
14        var webpath = $("#webpath").val();
15        var url = webpath + "QiuJiFangJiaoHui/lotterySpecial?activityId=" +
16            activityId;;
17        window.location = url;
18    },
19    error: function (XMLHttpRequest, textStatus, errorThrown) {
20        alert("errorThrown:" + errorThrown);
21    }
22});
```

8.2.6 Ajax

ajax ajax ajaxpost ajax ajax Ajax

By default, all requests are sent asynchronous (e.g. this is set to true by default). If you need synchronous requests, set this option to false. Note that synchronous requests may temporarily lock the browser, disabling any actions while the request is active.

Chapter 9

HTML

9.0.7

- tab –
-
-
- self-closing – HTML5
- closing tag; /li; /body;
- html lang

```
1 <html lang="zh-CN">
2   <!-- ... -->
3 </html>
```

- HTML5 CSS JavaScript type text/css text/javascript
- <http://codeguide.bootcss.com/>
- /WebSite /ASP.NET Application...

9.0.8 HTML5

!DOCTYPE HTML5 ;html; HTML doctypeHTMLtag; HTMLdoctype HTML 4.01doctypeDTD HTML 4.01SGMLHTML 5SGML DTDdoctype doctypeQuirks Mode;!doctype html;dtd Strict ModeStandards Mode IE 6 for Windows/mac, Mozilla, Safari, Opera IE 6

- doctype doctype
- web doctype doctype

- doctype http://hsivonen.iki.fi/doctype/

9.1 a

9.1.1 href="#"

href="#" You should (almost) never have href="#" . It is a link to an undefined anchor (which will be the top of the page). People who use it normally do so because they want to dangle JavaScript off it. ##top

```

1 <a href="javascript:void(0);" target="_blank"></a>
2 <a href="#"></a>
3 <a href="javascript:void(null)"></a>
```

void void0(void(0)) targetblank

9.1.2 Meta

METAMetadata Web

```

1 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
2 <meta charset="utf-8" />
```

charsetHTML5 jmeta http-equiv="Content-Type" content="text/html; charset=UTF-8" ;
http-equiv http-equivHTTPHttp Response Header

```

1 <meta name=" " content=" " />
2 <meta http-equiv=" " content=" " />
```

Chapter 10

CSS

10.1

1 CSS CSSCSS

- /css/core
- UI /css/lib
- JS /css/ui

CSS

- /css/book/
- /css/movie/
- /css/music/
- /css/sns/
- /css/site/
- /css/location/
- /css/radio/

CSS CSSCSS CSS

- util-01 reset /css/core/reset.css
- util-02 /css/core/mod.css

- ui-01. /css/core/fav_btn.css
- ui-02. /css/core/media_item.css
- ui-03. /css/core/rating.css
- ui-04. /css/core/common_button.css
- ui-05. /css/core/pagination.css
- ui-06. /css/core/rec_btn.css
- ui-07. /css/core/old_dialog.css
- ui-08. Tab /css/core/old_tab.css
- ui-09. /css/core/old_userlist.css
- ui-10. /css/core/notify.css
- ui-11. /css/core/profile_nav.css
- ui-12. /css/core/site_nav.css
- ui-13. /css/lib/loading.css

2 type=text/css type=text/css linkstylehead htmlCSS@import

3 UTF-8UTF-8BOM HTMLUTF-8CSSUTF-8 CSS300

- -

- idid

banner logo button menu pic title banner_sohu.gif banner_sina.gif menu_aboutus.gif
menu_job.gif title_news.gif logo_police.gif logo_national.gif pic_people.jpg +-on/off menu1_on.gif
menu1_off.gif

10.1.1

1 10100ID 1000 DIV+CSS HTML HTML CSSHTML table

10.1.2

Listing 10.1: CSS

```

1 .content{
2     line-height: 35px;
3     font-size: 25px;
4     text-align: center;
5     font-family: Georgia,Serif[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1;;
6     display: block[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2;;
7     width: 600px;
8     height: 400px;
9     overflow: scroll [text=white,font=,inner sep=0.2mm,draw,circle,fill=black]3;;
10    text-decoration: underline;
11    border: 5px solid #e2d218[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]4;;
12    clear: both[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]5;;
13 }

```

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1; font-family font-family /

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2; HTML display HTML XML
XML display block

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]3; overflowscroll

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]4; border-width border-style border-color

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]5; clear both

max-width width Responsive Design

10.1.3

marginauto margin-leftmargin-rightauto

```

1 margin:0 auto;
```

text-align center leftright marginsauto

text-align:center (display:inlineinline-block) IE67

line-height line-height

10.1.4

IE7+chromefirefox toprightbottomleft IE6IE6 IE6htmlpadding,html

```

1 <style>
2   .headbanner {
3     position: absolute;
4     bottom: 0px;
5     top: 0px;[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1;
6     left :0;
7     right:0;[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2;
8     text-align: center;
9     max-width: 720px;
10   }
11
12   .headbanner img{
13     width: 100%;
14     height: 100%;[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]3;
15   }
16 </style>
17
18 <body>
19   <div class="headbanner">
20     
21   </div>
22 </body>

```

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1; bottomtop

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2; leftright

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]3; ()

10.1.5

divhtmlbody100%0 marginpadding0()CSS

```

1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <title>index</title>
6   <style>
7     html,body {
8       width: 100%;
9       height: 100%;
10      margin: 0;
11      padding: 0;
12    }

```

```

13   .content {
14     width: 300px;
15     height: 300px;
16     background: orange;
17     margin: 0 auto; /* */
18     position: relative; /* */
19     top: 50%; /* */
20     margin-top: -150px;
21   }
22 </style>
23 </head>
24 <body>
25   <div class="content"></div>
26 </body>
27 </html>

```

10.1.6 CSS3 Media Queries

10.1.7

display

display none display script display:none JavaScript visibility display none visibility: hidden;

z-index

Z z-index position relative(absolute fixed) z-index z-index htmlcss

box stacking context, z root stacking context stacking context z-index auto #div1 position: relative; z-index: 0; id = div1 stacking context stacking context containing block stacking context box stack level stack level stacking context box z stacking context stack level stack level back-to-front stacking context stacking context stack level stack level stack level z-index

rel

rel relationship prela, link css rel rel" stylesheet"

10.1.8 title

W3C (box) (content)(padding)(border)(margin) margin background-color background-image padding content border 3D

10.1.9 css !important

```
css !importantCSS
```

10.2 AngularJS

AngularJS 1.0 2012 AngularJS Google Miko Hevery 2009 Google AngularJS JavaScript
JavaScript AngularJS is an MVC framework for building web applications. The core features include HTML enhanced with custom component and data-binding capabilities, dependency injection and strong focus on simplicity, testability, maintainability and boiler-plate reduction.
<http://apps.bdimg.com/libs/angular.js/1.2.16/angular.min.js>

10.3

10.3.1

10.4

Chapter 11

11.1 SQLite

11.1.1 SQLite

The System.Data.Common namespace provides classes for creating DbProviderFactory instances to work with specific data sources. When you create a DbProviderFactory instance and pass it information about the data provider, the DbProviderFactory can determine the correct, strongly typed connection object to return based on the information it has been provided.

```
1 public SqliteOperateHelper(DbProviderFactory factory, string connectionString)
2 {
3     _dbConnection = factory.CreateConnection();
4     if (_dbConnection == null) return;
5     _dbConnection.ConnectionString = connectionString;
6     var cnnstring = factory.CreateConnectionStringBuilder();
7     if (cnnstring == null) return;
8     cnnstring.ConnectionString = connectionString;
9     _dbConnection.Open();
10 }
```

11.2

```
1 SELECT database_name,recovery_model,name,backup_start_date
2 FROM msdb.dbo.backupset
3 order by backup_start_date desc
```

Step 1 Pull

```
1  /*          tb_wxUserOpenID      */
2  delete from tb_wxUser
3  where openid in
4  (
5      select openid
6      from tb_wxUser
7      group by openid
8      having count(openid) > 1
9  )
10 and wxUserId not in
11 (
12     select top 1 wxUserId
13     from tb_wxUser
14     where openid =
15     (
16         select top 1 openid
17         from tb_wxUser
18         group by openid
19         having count(openid)>1
20     )
21     order by wxUserId desc
22 )
```

11.3

11.3.1

```
1  --
2  alter database [zouwo-weixin] set single_user;
3
4  --
5  alter database [zouwo-weixin] set single_user;
```

11.3.2

SQL Server

11.3.3 (Data Pump)

SQL Server

A linked server configuration enables SQL Server to execute commands against OLE DB data sources on remote servers. Linked servers offer the following advantages:

- Remote server access.
- The ability to issue distributed queries, updates, commands, and transactions on heterogeneous data sources across the enterprise.
- The ability to address diverse data sources similarly.

2 IP

```

1  --
2  exec sp_addlinkedserver
3      @server='LinkServer', --
4          @srvproduct='',
5          @provider='SQLOLEDB',
6          @datasrc='139.28.81.128,5002'
7  go
8
9  --
10 exec sp_addlinkedsrvlogin 'LinkServer','false',null,'           ,'
11          ,
12  go
13 --
14 exec sp_dropserver 'LinkServer','droplogins'
15
16 --
17 exec sp_helpserver

```

sp_dropserver

```

1  --12
2  select *
3  into [renren-weixin].[dbo].[tb_wxUser1]
4  from [renren-weixin].[dbo].[tb_wxUser]
5  where 1=0
6
7  --
8  insert openquery ([129.21.80.128,5002], ' SELECT * FROM [renren-weixin].[dbo].[tb_wxUser1] ')
9  select * from [zouwo-weixin].[dbo].tb_wxUser
10
11 --

```

```

12  select * into tb_awardsCopy from openrowset('SQLOLEDB ','129.21.80.128,5002'; '
13    renren-admin'; 'renren-admin!@#','select * from [renren-system].[dbo].['
14    tb_awards]')
15
16  --21openidopenid
17  update tb_wxUser
18  set tb_wxUser.subscribe_time=tb_wxUser1.subscribe_time
19  from tb_wxUser1
20  where tb_wxUser.openid=tb_wxUser1.openid
21  and tb_wxUser.accountId=1
22
23  --
24  update tb_wxUser
25  set addDate =dateadd(s,cast(tb_wxUser.subscribe_time as bigint),'1970-01-01
26    00:00:00:000')
27  where addDate >'2015-09-17 15:09:09.000'

```

tb_wxUser to tb_wxUser1 ??

11.1: Link Servers

Subscribe Time 1970

11.3.4 SQL

```

1  --
2  alter table tb_question alter column "question" nvarchar(50) null
3
4  --
5  exec sp_rename 'tb_question.[questionnaireType]', 'questionType', 'column'
6
7  --
8
9  --
10 if exists (
11   select *
12   from sysobjects
13   where id =object_id(N'[tb_surveyAnalysisDetail]'))
14 begin
15   drop table dbo.tb_surveyAnalysisDetail
16 end
17
18 --
19 if not exists
20 (
21   select *
22   from syscolumns
23   where id=object_id('tb_surveyAnalysisDetail')

```

```

24     and name=''''+Convert(nvarchar(256),@questionId)+''''
25 )
26
27 --
28 select @updateSql='update tb_surveyAnalysisDetail set '+@columnName+'='''+
    @answerContent+''' where userId=@userId'
29 exec sp_executesql @updateSql
30     ,N'@columnName nvarchar(256),@userId int'
31     ,@columnName=@columnName
32     ,@userId=@userid
33
34 --
35 exec sys.sp_readerrorlog 0, 1, 'listening'
36
37 --+IP
38 select * into [renren-tour].[dbo]. tour_seller
39 from [RR-CCN].[dbo].discount_seller
40
41 --PVUV
42 select count(distinct userId) as 'UV'[text=white,font=,inner
    sep=0.2mm,draw,circle,fill=black]1,
43 count(*) as PV
44 from discount_visitorLog
45 where siteType=3
46 and visitTime between '2015-11-10 00:00:00.000' and '2015-11-10 23:59:59.000'
47
48 --zouwo-system
49 select *
50 from [master].[dbo].[sysprocesses] where [dbid] in
51 (
52     select [dbid]
53     from [master].[dbo].[sysdatabases]
54     where name='zouwo-system'
55 )
56
57 --
58 alter database [database] set offline with rollback immediate

```

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1; count(distinct)

Value of error log file you want to read: 0 = current, 1 = Archive #1, 2 = Archive #2, etc...
 Log file type: 1 or NULL = error log, 2 = SQL Agent log Search string 1: String one you want to search for Search string 2: String two you want to search for to further refine the results

11.3.5 Function

```

1  ALTER FUNCTION [dbo].[SplitString]
2  (
3      @Input NVARCHAR(MAX), --input string to be separated
4      @Separator NVARCHAR(MAX)=',' , --a string that delimit the substrings in the
5          input string
6      @RemoveEmptyEntries BIT=1 --the return value does not include array elements that
        contain an empty string
7  )
8  RETURNS @TABLE TABLE
9  (
10     [Id] INT IDENTITY(1,1),
11     [VALUE] NVARCHAR(MAX)
12 )
13 AS
14 BEGIN
15     DECLARE @Index INT, @Entry NVARCHAR(MAX)
16     SET @Index = CHARINDEX(@Separator,@Input)
17     WHILE (@Index>0)
18         BEGIN
19             SET @Entry=LTRIM(RTRIM(SUBSTRING(@Input, 1, @Index-1)))
20             IF (@RemoveEmptyEntries=0) OR (@RemoveEmptyEntries=1 AND @Entry<>'')
21                 )
22             BEGIN
23                 INSERT INTO @TABLE([VALUE]) VALUES(@Entry)
24             END
25             SET @Input = SUBSTRING(@Input, @Index+DATALENGTH(@Separator)/2,
26             LEN(@Input))
27             SET @Index = CHARINDEX(@Separator, @Input)
28             END
29             SET @Entry=LTRIM(RTRIM(@Input))
30             IF (@RemoveEmptyEntries=0) OR (@RemoveEmptyEntries=1 AND @Entry<>'')
31                 )
32             BEGIN
33                 INSERT INTO @TABLE([VALUE]) VALUES(@Entry)
34             END
35         RETURN
36     END

```

11.3.6 Procedure

11.4 mysql

11.4.1

```

1  mysql --host=localhost --user=readmine_admin --password=123
2  SET PASSWORD FOR 'root'@'localhost' = PASSWORD('newpass');

```

```

3
4 #To see which user you are, and whose permissions you have
5 select user(), current_user();

```

11.5

Windowsat 6 atID IDID

```

1 #
2 at id /delete
3
4 #
5 at /delete

```

at scctasks scctasks

```

1 #800
2 at 20:00 /every:M,T,W,Th,F,S,Su shutdown -f -s -t 60
3
4 #23:44:00
5 scctasks /create /tn "Code Commit" /tr G:\CommitCode.bat /sc daily /st 23:44:00 /ed
   2100/12/31
6
7 #
8 scctasks /create /sc minute /mo 1 /tn "Sync log" /tr "D:\AutoSync.bat"
9
10 #
11 scctasks /create /tn CodeCommit /sc daily /st 09:12:00 /tr "mshta vbscript:msgbox(\""
   \",64,\"") (window.close)"
12
13 #scctaskscmdchcp 437,
14           scctasks          /
15           querychcp          936
16
17 scctasks /Query
18
19 chcp 437 [text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1;
20 scctasks /query /TN "auto update SVN" [text=white,font=,inner
   sep=0.2mm,draw,circle,fill=black]2;
21 scctasks /delete /TN "auto update SVN" [text=white,font=,inner
   sep=0.2mm,draw,circle,fill=black]3;

```

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1; (change code page)

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2; auto update SVNTNTTask Name

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]3; auto update SVN

23:44CommitCode.bat 21001231Code Commit

11.6

```
1 history.go(0)
2 location.reload()
3 location=location
4 location.assign(location)
5 document.execCommand(Refresh)
6 window.navigate(location)
7 location.replace(location)
8 document.URL=location.href
```

Chapter 12

Security

CGISQL



12.1: Web

12.1 Encrypt Algorithms

Hash pre-image

HASH128, HASHhash HashMD4MD5SHA-1HAVAL HAVAL is a cryptographic hash function. Unlike MD5, but like most modern cryptographic hash functions, HAVAL can produce hashes of different lengths. HAVAL can produce hashes in lengths of 128 bits, 160 bits, 192 bits, 224 bits, and 256 bits. HAVAL also allows users to specify the number of rounds (3, 4, or 5) to be used to generate the hash. HAVALC#

12.1.1 (Website Login Security)

JSEncryptRSA OpenSSL JSEncrypt OpenSSL

```
1 openssl genrsa -out rsa_1024_priv.pem 1024
```

```
1 openssl rsa -pubout -in rsa_1024_priv.pem -out rsa_1024_pub.pem
```

OpenSSLXML Javascript() HTTPSSSL

12.2 RESTful API

REST APICAHTTPS SSL SSLREST

REST APIAPI API RESTREST / RESTAPI API

REST URL

1 GET /object?timestamp=1261496500&apiKey=Qwertystyle="background-color: #f0f8ff; border: 1px solid #ccc; padding: 2px 10px; border-radius: 5px;">y=2010&signature=abcdef0123456789

1 /object?apikey=Qwertystyle="background-color: #f0f8ff; border: 1px solid #ccc; padding: 2px 10px; border-radius: 5px;">y=2010×tamp=1261496500

APIHMAC-SHA256

12.2.1 Basic Authentication

Basic AuthenticationHTTPS Http Basic Http headerAuthorization: Basic xxx xxx user-name:passowrd base64 Base64HTTPS

12.2.2 Api Key + Security Key + Sign

1. api_keysecurity_keykeykey (key)
2. security_key
3. function2sign
4. security_keysign
5. 5
6. api_keysecurity_key
7. sign

12.2.3 AmazonAPI

1. []REST API,combine a bunch of unique data together (Web Service)
2. [](HMAC¹-SHA²1 or SHA256)()

¹HMACHash-based Message Authentication Code,HMAC

²(Secure Hash Algorithm),

3. [] HMAC.

mode=start&number=4&order=desc.

()(Replay Attacks) HMAC(Hash-based Message Authentication Code) .

,IDIDAPI()(HMAC).

4. []

5. [] ()5-15(Replay Attacks).

: Daylight Savings Time

: UTC/DST use UTC time.

6. [].API.

7. []HMAC.

() man-in-the-middle attack.

8. []HMAC.

9. []!

HMACHASH HMAC

12.3 (Digital Signature)

12.3.1

12.3.2

(1)

(2)

(3)

(4)

(5)

(6)()

(7)

(8)""

(9).,
(10) (), (),
,(1)(6),(7)(10)??

12.3.3 SHA1

Secure Hash Algorithm Digital Signature Standard,DSS Digital Signature Algorithm,DSA
2^64SHA1160 SHA1

12.3.4

??SHA1 SHA1

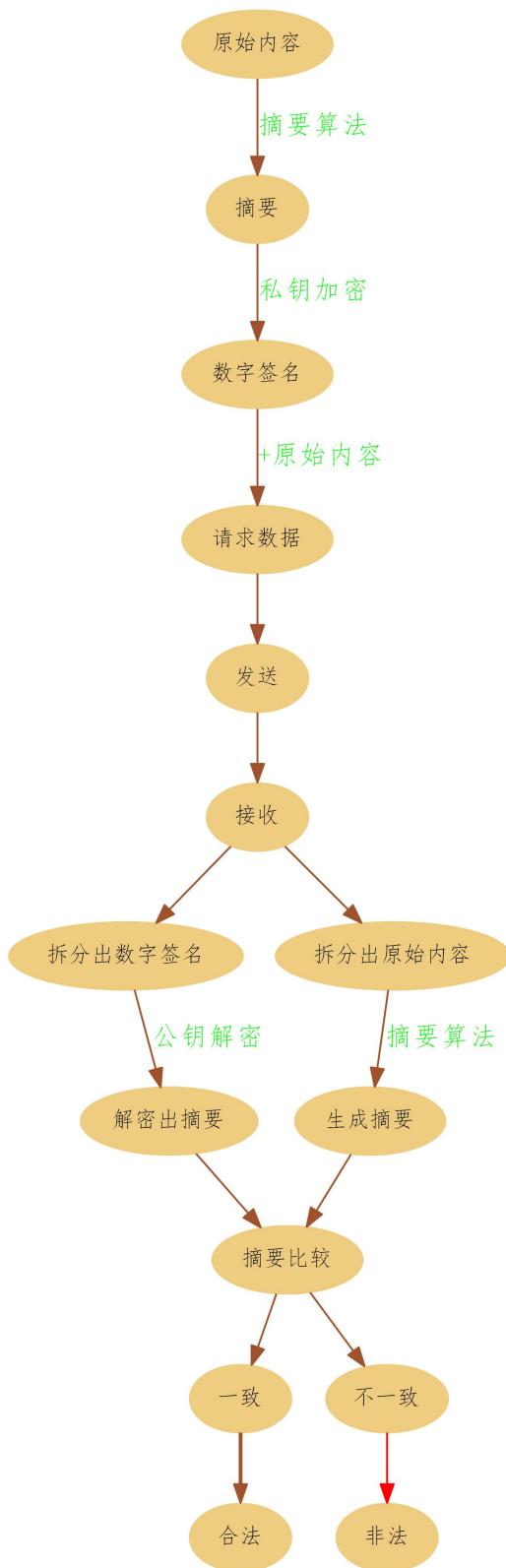
Listing 12.1: SHA1

```

1  /// jsummary;
2  ///
3  /// j/summary;
4  /// jparam name="plaintext" ;j/param;
5  /// jparam name="privateKey" ;j/param;
6  /// jreturns; j/returns;
7  public static string HashAndSignString(string plaintext, string privateKey)
8  {
9      UnicodeEncoding ByteConverter = new UnicodeEncoding();
10     byte[] dataToEncrypt = ByteConverter.GetBytes(plaintext);
11     using (RSACryptoServiceProvider RSAalg = new RSACryptoServiceProvider())
12     {
13         RSAalg.FromXmlString(privateKey);
14         //SHA1
15         byte[] encryptedData = RSAalg.SignData(dataToEncrypt, new
16         SHA1CryptoServiceProvider());
17         return Convert.ToBase64String(encryptedData);
18     }
}

```

ToBase64String. ToBase64String 4 4 0 9+/ 212,36,25,23,45,65, ToBase64String2 212,36,25
23,45,65 212,36,251CQZ23,45,65 Fy1B 212,36,25,23 212,36,2523212,36,25 2323Fw== 212,36,2523,45,65
212,36,251CQZFy1B 212,36,25,231CQZFw==



12.3.5

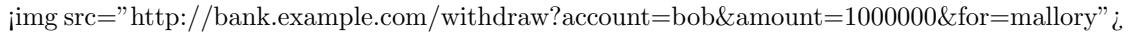
12.4 Cookie(Cookie Hijacking)

12.4.1 XSS

XSSCSSCross SiteScript WebXSS XSS()HTML HTML Cookie
 : javascript;javascript;

- cookiehttp only,Javascriptdocument.cookiecookie
- textbox
- Html EncodeHtml : javascript;, iframe; < for ; > for ;, " forJavaScript " onclick="",
 "onfocus"

12.4.2 CSRF

src="http://bank.example.com/withdraw?account=bob&amount=1000000&for=mallory";
 CSRFURL Qzonehttp://qzone.qq.com/cgi-bin/modify?nick=123

12.4.3 Google Chrome Cookie

Chrome33Cookies SQLite DeveloperChromeCookies valueencrypted_value Chromesqlite3 CookiesC#UnprotectData

Listing 12.2: Cookie

```

1 byte[] sAdditionalEntropy = { };
2 var passwordValueArray = (byte[])reader[i];
3 //var decryptArray = DataProtection.UnprotectData(passwordValueArray);
4 var decryptArray = ProtectedData.Unprotect(passwordValueArray, sAdditionalEntropy,
5     DataProtectionScope.LocalMachine);
6 var decryptResult = Encoding.Default.GetString(decryptArray);
7 row[i] = decryptResult;
  
```

ProtectedDataWindows ProtectedDataSystem.Security.dllSystem.Security.Cryptography This method can be used to encrypt data such as passwords, keys, or connection strings. The optionalEntropy parameter enables you to add data to increase the complexity of the encryption; specify null for no additional complexity. Google Chrome Google ChromeCookie Windows Cookie

```

1 chrome://settings/passwords
  
```

12.5 Session(Session Hijacking)

WiFi

1. WiFi
2. WiFiNATSession

12.6 HTTPS

12.6.1 TLS

1994NetScapeSSLSecure Sockets Layer1.0 1995NetScapeSSL 2.0 1996SSL 3.0 1999ISOC-NetScapeSSLTLS 1.0 20062008TLSTLS 1.1TLS 1.22011TLS 1.2
 TLS 1.0SSL 3.0TLS 1.2 TLS 1.0SSL 3.1TLS 1.1SSL 3.2TLS 1.2SSL 3.3 SSL/TLS

12.7 Salted Password Hashing

- () hash(cryptographic hash functions)hash SHA256, SHA512, RipeMD, WHIRLPOOL
- ??

Listing 12.3:

```

1  /// ¡summary¿
2  /// Creates a salted PBKDF2 hash of the password.
3  /// ¡/summary¿
4  /// ¡param name="password"¿The password to hash.¡/param¿
5  /// ¡returns¿The hash of the password.¡/returns¿
6  public static string CreateHash(string password)
7  {
8      // Generate a random salt
9      RNGCryptoServiceProvider csprng = new RNGCryptoServiceProvider();
10     [text=white,font=inner
11      sep=0.2mm,draw,circle,fill=black]1;
12     byte[] salt = new byte[SALT_BYTES];
13     csprng.GetBytes(salt);[text=white,font=inner sep=0.2mm,draw,circle,fill=black]2;
14
15     // Hash the password and encode the parameters
16     byte[] hash = PBKDF2(password, salt, PBKDF2_ITERATIONS, HASH_BYTES);
17     return "sha1:" + PBKDF2_ITERATIONS + ":" +
18         Convert.ToBase64String(salt) + ":" +
19         Convert.ToBase64String(hash);
20 }
```

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1; RNGRandom Number GeneratorRadomPseudo-random numbers are chosen with equal probability from a finite set of numbers. The chosen numbers are not completely random because a definite mathematical algorithm is used to select them, but they are sufficiently random for practical purposes. The current implementation of the Random class is based on a modified version of Donald E. Knuth's subtractive random number generator algorithm. For more information, see D. E. Knuth. " The Art of Computer Programming, volume 2: Seminumerical Algorithms". Addison-Wesley, Reading, MA, second edition, 1981.

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2; SALT_BYTEx

Rainbow Tableshash hash (GPU)hash hash key(key stretching) hash GPU hashhash ??PBKD2Hash

Listing 12.4: Hash

```

1  /// jsummary;
2  /// Computes the PBKDF2-SHA1 hash of a password.
3  /// j/summary;
4  /// jparam name="password" ;The password to hash.j/param;
5  /// jparam name="salt" ;The salt.j/param;
6  /// jparam name="iterations" ;The PBKDF2 iteration count.j/param;
7  /// jparam name="outputBytes" ;The length of the hash to generate, in bytes.j/param;
8  /// jreturns;A hash of the password.j/returns;
9  private static byte[] PBKDF2(string password, byte[] salt, int iterations , int
                               outputBytes)
10 {
11     Rfc2898DeriveBytes pbkdf2 = new Rfc2898DeriveBytes(password, salt);
12     pbkdf2.IterationCount = iterations;[text=white,font=,inner
13         sep=0.2mm,draw,circle,fill=black]1;
14     return pbkdf2.GetBytes(outputBytes);[text=white,font=,inner
15         sep=0.2mm,draw,circle,fill=black]2;
16 }
```

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1; hashhashGPU

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2; PBKDF2Password-Based Key Derivation Function 2Rainbow Table1Rainbow Table115

12.7.1 Base64

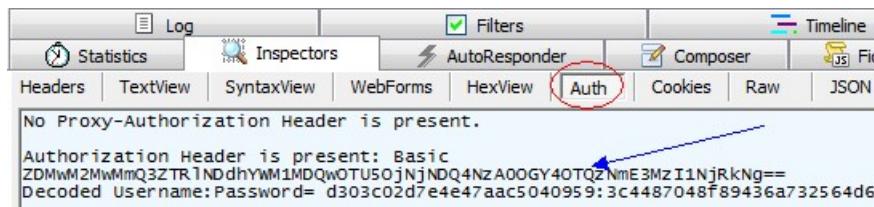
Base64Bit RFC2045RFC2049MIME Base64HTTP Java PersistenceHibernate Base64128-bitUUID HTTPHTTP GET URL URL Base64 Base64C#

```

1  //
2  byte[] bytes = Encoding.Default.GetBytes("          ");
3  string str = Convert.ToBase64String(bytes);
4  //
5  byte[] outputByte = Convert.FromBase64String(str);
```

```
6 string originalStr = Encoding.Default.GetString(outputByte);
```

RESTfulBase64 Base64Http Fiddler??



12.3: HttpBase64

12.8 SQL(SQL Injection)

SQL Injection SQL

12.8.1 SQL

SQL

12.8.2 Sqlmap

12.9 Nmap(GNU General Public License)

Nmap(Network Mapper) NmapIP ()() /Nmap Nmap(Nmap Script Engine)Nmap LuaN-map

12.9.1 Host Discovery

```
1 nmap -F -sT -v nmap.org
2 #
3 nmap -sn -T4 -oG Discovery.gnmap 192.168.24.0/24
4 grep "Status: Up" Discovery.gnmap | cut -f 2 -d ' ' > LiveHosts.txt
```

- -F100,F(Fast Model) Scan fewer ports than the default scan p

```
1 nmap -p 0-10000 -A -v <Host>
```

0-655350-10000 10001-20000

- -v
- -sT(Scan using TCP)TCP
- -snping
- -oGGrepable

Nmap open()filtered() closed()unfiltered() Open()/ filtered() Nmap open() closed()
closed() NmapNmap unfiltered() Nmap open—filtered closed—filteredNmap IP (-sO)NmapIP

```
1 nmap -sS -P0 -sV -O <target>
```

12.9.2 Port Scanning

NmapTCP/UDP

```
1 #IP
2 nmap -p 0-1000 -v 218.201.46.124
3 nmap -T4 -A -v 218.201.46.124
```

GlobalSign 2048sha256WithRSAEncryption Linux3.X2.6.X

```
1 443/tcp open  ssl/http Tengine httpd
2 | _http-server-header: Tengine
3 | _http-title: 501 Not Implemented
4 | ssl-cert: Subject: commonName=*.tmall.com/organizationName=Alibaba (China)
   Technology Co., Ltd./stateOrProvinceName=ZheJiang/countryName=CN
5 | Issuer: commonName=GlobalSign Organization Validation CA – SHA256 – G2/
   organizationName=GlobalSign nv-sa/countryName=BE
6 | Public Key type: rsa
7 | Public Key bits: 2048
8 | Signature Algorithm: sha256WithRSAEncryption
9 | Not valid before: 2015-12-14T10:38:38
10 | Not valid after: 2016-12-14T10:38:38
11 | MD5: 5d67 3ca3 7f0e 2ab7 7b4f 59d5 0700 7223
12 | _SHA-1: d048 e9cf 5487 5030 9f26 e638 7d3f 94ad a2b3 e6fa
```

Nmap1000TCP

1(01023) 80HTTP 2(102449151), 3/4915265535) TCPUDP 1TCP Telnet23 2UDP DNS53
ssh2250000 Nmap

```
1 nmap -sS -sU -T4 -A -v -PE -PP -PS80,443 -PA3389 -PU40125 -PY -g 53 --
      script "default or (discovery and safe)" 12.26.32.14
```

- -sS(TCP SYN Scan)SYN
- -sUUDP Scan
- -Tj0-5; Set timing template (higher is faster)
- -A: Enable OS detection, version detection, script scanning, and traceroute
- -v: Increase verbosity level (use -vv or more for greater effect)
- -PE/PP/PM: ICMP echo, timestamp, and netmask request discovery probes
- -PS/PA/PU/PY[portlist]: TCP SYN/ACK, UDP or SCTP discovery to given ports
- -g/-source-port jportnum; Use given port number

"ppp0" is not an ethernet device nmap

```
1 Only ethernet devices can be used for raw scans on Windows, and "ppp0" is not an ethernet
   device. Use the --unprivileged option for this scan. QUITTING!
```

Nmapppoe -unprivileged,-A root

12.9.3 Version Detection

sV(Service/Version)

```
1 -sV: Probe open ports to determine service/version info
```

12.10 AppScan

IBM AppScan Web Watchfire AppScan Rational AppScan Web Web SQL SQL-injection cross-site scripting buffer overflow Flash/Flex Web 2.0

12.10.1 Operating System Detection

12.11 OpenVPN

12.11.1 OpenVPN(OpenVPN Configuration)

OpenVPNOpenVPN bible³ Step by StepCodePlayer⁴.

TLS key negotiation failed to occur within 60 seconds (check your network connectivity) One of the most common problems in setting up OpenVPN is that the two OpenVPN daemons on either side of the connection are unable to establish a TCP or UDP connection with each other. This is almost a result of:

- A perimeter firewall on the server's network is filtering out incoming OpenVPN packets (by default OpenVPN uses UDP or TCP port number 1194).
- A software firewall running on the OpenVPN server machine itself is filtering incoming connections on port 1194. Be aware that many OSes will block incoming connections by default, unless configured otherwise.
- A NAT gateway on the server's network does not have a port forward rule for TCP/UDP 1194 to the internal address of the OpenVPN server machine.
- The OpenVPN client config does not have the correct server address in its config file. The remote directive in the client config file must point to either the server itself or the public IP address of the server network's gateway.
- Another possible cause is that the windows firewall is blocking access for the openvpn.exe binary. You may need to whitelist (add it to the "Exceptions" list) it for OpenVPN to work.
- TCPUDPUDPNAT forward UDP port 1194 from my public IP address to 192.168.X.X

OpenVPN

```

1 #netstat
2 netstat -an |find /i "listening"
3
4 netstat -an |find /i "1194"
5
6 #
7 netstat -an |find /i "established"
```

³<https://openvpn.net/index.php/open-source/documentation/howto.html>

⁴<http://www.365mini.com/page/14.htm>

OpenVPN

File Name	Needed By	Purpose	Secret
ca.crt	server + all clients	Root CA certificate	NO
ca.key	key signing machine only	Root CA key	YES
dhn.pem	Server Only	Diffie Hellman parameters	NO

12.11.2 (Add New Client)

OpenVPN IP OpenVPNeasy-rsa

```

1 #vars.bat.sample
2 vars
3
4 #
5 build-key client-aoxianghua

```

config

```

1 # SSL/TLS parms.
2 # See the server config file for more
3 # description. It's best to use
4 # a separate .crt/.key file pair
5 # for each client. A single ca
6 # file can be used for all clients.
7 ca ca.crt
8 cert client -aoxianghua.crt
9 key client -aoxianghua.key

```

12.12 WindowsVPN

WindowsVPN

12.12.1 VPN**PPTP Point to Point Tunneling Protocol**

1723PPTFPPP VPNPAPPEAP ISPInternet PPTP Microsoft Windows NTWindows xp Windows 2000windows2003windows7 ISPInternet PPTPTCP PPTPTCP

L2TPLayer 2 Tunneling Protocol

1701L2TPIInternetPPTP PPTPIP L2TPPPTPL2TP L2TPPPTP

L2TPUDP PPP L2TPL2TP L2TP
 L2TPPPTPL2F PPPATMSONET L2TPIPSec
 L2TPUDP
 PPTPL2TPPPTPL2TP

OpenVPN

1194OpenVpnSSL IE OpenVpn
 OpenVPNOpenSSLOpenSSL OpenSSLHMAC OpenSSL
 OpenVPNIPUDPTCP
 2 TCPUDP
 OpenVPNSSLVPNSSL VPN UDPTCPUDPTCP2UDP UDPUDPTCP
 PPTPL2TPNAT OpenVPN
 OpenVPNIPVPN IP
 PPTP ↳ L2TP ↳ OpenVPN
 PPTP ↳ OpenVPN UDP ↳ L2TP ↳ OpenVPN TCP
 OpenVPN ↳ L2TP ↳ PPTP
 OpenVPN ↳ L2TP ↳ PPTP
 OpenVPN ↳ PPTP ↳ L2TP
 PPTPL2TPOpenVPNL2TP
 PPTP L2TP PPTPL2TP/IPSec PSKPSK OpenVPN

SSTP:

SSTPHTTPSVPNPPTPL2TP2VPN WebNAT SSTPVPN IPSec VPN SSTPIPSec VPNSSTP
 VPN VPNSSTPVPN

IKEv2(Internet Key Exchange v2)

IKEv2(Internet Key Exchange v2) PPTP/L2TP IKEv2PPTPL2TP IKEV2 Quote: IKEv2
 IKEv2PPTP/L2TPIKEv2IKEv1 v1PPTP/L2TP IKEv2 IKEV2 Quote: IKEv2VPN Windows
 7RTIKEv2 AndroidiOSIKEv1 Windows PhoneIKEv2VPN
 IKE(v1)PPTPL2TP IKEv2IKE(v1) ()(IP) IKEv2 MOBIKE Mobility and Multihoming
 VPNVPN

12.12.2

Error 800VPNVPNL2TP/IPSecIPSec Windows2000/XP/2003 IPSec,VPNIPSec, cmdregedit,

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\RasMan\Parameters]
```

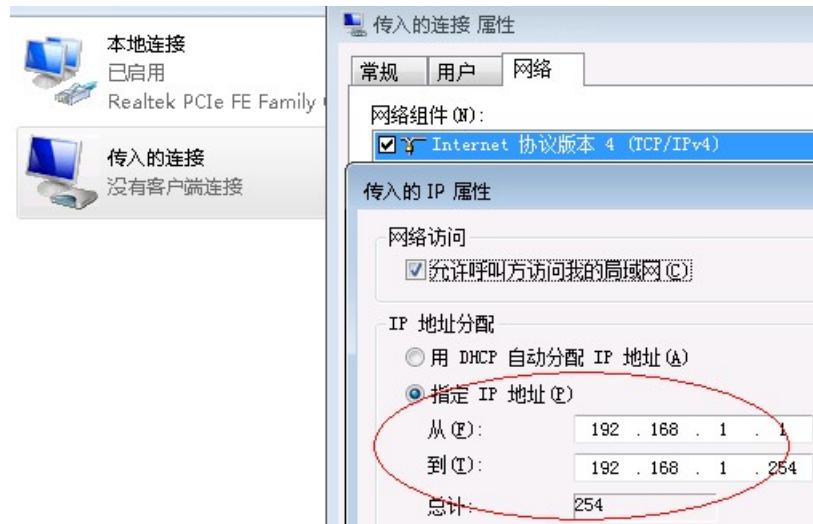
ProhibitIPSecdword1

```
1 Windows Registry Editor Version 5.00
2 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\services\RasMan\Parameters]
3 "ProhibitIpSec"=dword:00000001
```

VPN

Error 809 VPN

Error 720: Unable to establish a connection to the remote computer. Might need to change the network settings for this connection VPNIP Open Network and Sharing Center and click Change Adapter Settings. Find Incoming Connection and right-click on it and click Properties. ??



12.4: VPNIP

VPNIP192.168.1.2IP 192.168.1.1192.168.1.1VPNIP

12.13 DIRB

DIRB is a Web Content Scanner. It looks for existing (and/or hidden) Web Objects. It basically works by launching a dictionary based attack against a web server and analyzing the

response.

DIRB comes with a set of preconfigured attack wordlists for easy usage but you can use your custom wordlists. Also DIRB sometimes can be used as a classic CGI scanner, but remember is a content scanner not a vulnerability scanner.

DIRB main purpose is to help in professional web application auditing. Specially in security related testing. It covers some holes not covered by classic web vulnerability scanners. DIRB looks for specific web objects that other generic CGI scanners can't look for. It doesn't search vulnerabilities nor does it look for web contents that can be vulnerables.

12.14 Network

12.14.1 Ubuntu aircrackWiFi

AircrackWEP/WPA/WPA2Aircrack-ng Ubuntu 14.02aircrack-ng

```
1 apt-get install aircrack-ng
```

Aircrack-ng Aireplay-ng Airodump-ng Airbase-ng

```
1 sudo airmon-ng start wlan0
```

AP sudo airodump-ng mon0 mon0 wepAP ctrl+c

Chapter 13

Node.js

13.0.2 Introduce

Node.js Google V8 Node.js web Express web PHP

Node.js is a JavaScript runtime built on Chrome's V8 JavaScript engine. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient. Node.js' package ecosystem, npm, is the largest ecosystem of open source libraries in the world.

13.0.3 Install

Step 1 nodejs <http://nodejs.org/download/> node-v4.1.1-x64.msi Node.js npm (Node.js Package Management)

13.0.4 HTTP

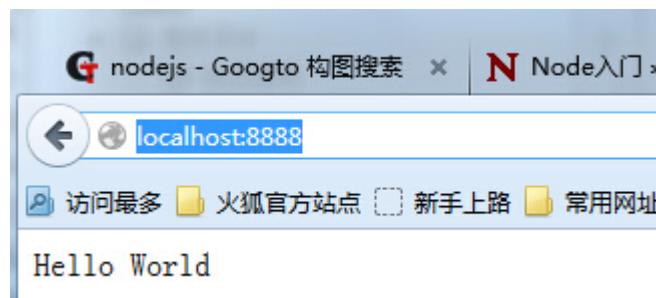
server.js¹

```

1 var http = require("http");
2
3 http.createServer(function(request, response) {
4   response.writeHead(200, {"Content-Type": "text/plain"});
5   response.write("Hello World");
6   response.end();
7 }).listen(8888);

```

Node <http://localhost:8888> Hello World



13.1: NodeJS Hello World

requireNode.js http http http.createServer listen HTTP

13.0.5

server.js HTTP index.js server.js HTTP server.js Node.js index.js

¹<http://www.nodebeginner.org/index-zh-cn.html>

```

1 var http = require("http");
2
3 function start() {
4     function onRequest(request, response) {
5         console.log("Request received.");
6         response.writeHead(200, {"Content-Type": "text/plain"});
7         response.write("Hello World");
8         response.end();
9     }
10
11     http.createServer(onRequest).listen(8888);
12     console.log("Server has started.");
13 }
14
15 exports.start = start;

```

index.jsHTTP server.js index.js

```

1 var server = require("./server");
2 server.start();

```

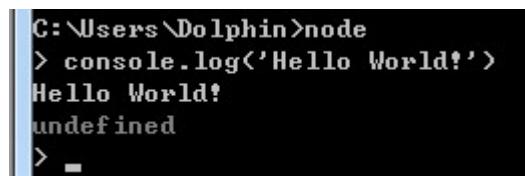
Step 2

```

1 npm install -g express
2 npm install -g jade
3 npm install -g mysql

```

g node node_modules NodeNodenode_modules ExpressNodeJSWeb Jade,Haml, JavaScript,Node
CoffeeScriptJavaScript Jeremy AshkenasJavaScript CoffeeScript Ruby JavaScript CoffeeScript



13.2: Node JS Install Complete

13.0.6

server.js

```

1 var http = require("http");
2 var url=require("url");
3 function start(route){
4     function onRequest(request,response){

```

```

5   var pathname=url.parse(request.url).pathname;
6   console.log("Request for " + pathname + " received.");
7   route(pathname);
8   console.log("Request received.");
9   response.writeHead(200, {"Content-Type": "text/plain"});
10  response.write("Hello World");
11  response.end();
12 }
13 http.createServer(onRequest).listen(8888);
14 console.log("Server has started.");
15 }
16 exports.start=start;

```

13.0.7 NodeJS RESTful Service

NodeJSRESTful

```

1 var express = require("express") //
2 var app = express() //
3 var map = {"list1":{id:1,name:"Pen"}, "list2":{id:2,name:"Pencil"}} //

4 app.get("/devices",function(request, response){ //Restful Get ,
5
5.   response.set({"Content-Type":"text/json","Encodeing":"utf8"});
6   response.send(map)
7 })
8
9 app.get("/devices/:id",function(request, response){ //Restful Get ,
10
10.  response.set({"Content-Type":"text/json","Encodeing":"utf8"});
11  response.send(map[request.param("id")])
12  //console.log(request.param("id"))
13 })
14 app.listen(8888); // 8888

```

restfulServer.js node http://localhost:8888/devices IDhttp://localhost:8888/devices/ID

13.0.8 NodeJS connect SQL Server

NodeJSSQL Servernode-sqlserver node-sqlserverSQL ServerNode.js WindowsNode.jsSQL ServerWindows Azure SQL

```

1 #
2 npm list
3
4 #
5 npm list -g

```

```

6
7 #node-gyp
8 npm install -g node-gyp
9
10 #sqlserver
11 npm find sqlserver
12
13 #node-sqlserver
14 npm install node-sqlserver -g

```

node-sqlservergypPython Python Python; i=2.5.0&j3.0.0

```

1 var sql = require("node-sqlserver");
2
3 var connectionString = "Driver={SQL Server Native Client 11.0};Server={.};Database
4           ={rr-ccn};Trusted_Connection={Yes};uid=sa;PWD=123456;";
5
6 sql.open(connectionString, function(err, conn) {
7   if (err) {
8     // error handler code
9   }
10  else {
11    // do what you want to do to this database
12    sql.queryRaw(connectionString, "select * from users", function (err, results) {
13      if (err) {
14        console.log(err);
15      }
16      else {
17        for (var i = 0; i < results.rows.length; i++) {
18          console.log( results .rows[i ][0] + results .rows[i ][1] );
19        }
20      }
21    })
22  });

```

<http://geekswithblogs.net/shaunxu/archive/2012/09/17/node.js-adventure—node.js-with-sql-server.aspx>

mssql

Listing 13.1: npm

```

1 #mssql
2 npm install mssql -g
3
4 #mssqlmssqlmssql
5 npm install mssql --local
6
7 #,mssql
8 npm link mssql

```

```

9
10 #  

11 npm link mssql --local

```

index.js

```

1 var server=require("./server");
2 server.start();

```

server.jsmssql server

```

1 var http = require("http");
2 var sql = require("mssql");

3
4 var config = {
5     user: "renren",
6     password: "renren!@#321",
7     server: "129.29.81.129", // You can use "localhost\\instance" to connect to named
8         instance
9     port:"5001",
10    database: "renren-weixin",
11    options: {
12        encrypt: false /* Use this if you're on Windows Azure*/
13    }
14}
15
16 function start(){
17     var connection = new sql.Connection(config, function(err) {
18         var request = new sql.Request(connection); \\ or: var request = connection
19             .request();
20         request.query("select top 1 * from tb_printMac", function(err, recordset) {
21             console.log(err);
22             console.dir(recordset);
23         });
24     });
25     console.log("Server has started.");
26 }
27 exports.start=start;

```

13.0.9

NodeJSJavaScriptJson Jsonpackage.json ??

Listing 13.2: NodeJS json

```

1 {
2     "name": "rrmallrestapi",
3     "version": "0.0.1",
4     "dbconnstring":

```

```

5   {
6     "renrenweixin":
7     {
8       "user": "renren-admin",
9       "password": "renren-admin!@#321",
10      "server": "129.20.84.118",
11      "port": "5002",
12      "database": "renren-weixin"
13    }
14  }
15 }
```

JavaScript

```

1 var sysconfig=require("../config/package.json");
2
3 var config = {
4   user: sysconfig.dbconnstring.renrenweixin.user,
5   password: sysconfig.dbconnstring.renrenweixin.password,
6   server: sysconfig.dbconnstring.renrenweixin.server,
7   port:sysconfig.dbconnstring.renrenweixin.port,
8   database: sysconfig.dbconnstring.renrenweixin.database,
9   options: {
10     encrypt: false
11   }
12 }
```

13.0.10 Debug

supervisor

```

1 #
2 npm find packageName
3
4 npm install supervisor -g
```

13.0.11 exports

Module.exports exports

13.0.12 POST

13.0.13 Express

Express² Node.js web Web

```

1 #express
2 npm install express -g
3
4 #express-generatorexpress 4.x
5 #express
6 npm install express-generator -g

```

,express³

```

1
2 D:\workspace\project>express -e nodejs-demo
3
4 cd nodejs-demo && npm install
5
6
7 D:\workspace\project\nodejs-demo>node app.js
8
9 D:\workspace\project\nodejs-demo>supervisor app.js

```

```

G:\Workspace\project\nodejs-demo>supervisor ./bin/www

Running node-supervisor with
program './bin/www'
--watch '.'
--extensions 'node,js,/bin/www'
--exec 'node'

Starting child process with 'node ./bin/www'
Watching directory 'G:\Workspace\project\nodejs-demo' for changes.
Press rs for restarting the process.
rs
GET / 200 33.580 ms - 207
GET /stylesheets/style.css 200 10.480 ms - 111
GET /favicon.ico 404 8.913 ms - 1016
GET /favicon.ico 404 5.548 ms - 1016

```

13.3: Node JS Install Complete

node_modules, (Maven,Gradle) package.json app.js public(css,js,img) routes(MVCC,controller)
Views(Ejs)

²<http://expressjs.com/>

³<http://blog.fens.me/nodejs-express3/>



Express

Welcome to Express

13.4: NodeJS Express Install Complete

13.0.14 MEAN

MongoDB

MongoDB MongoDB

```
1 cd C:\Program Files\MongoDB\Server\3.0\bin  
2 mongod --dbpath "d:\DB"
```

dbpathMongoDBd:\DB MongoDB

```
1 cd C:\Program Files\MongoDB\Server\3.0\bin  
2 mongo
```

show dbs

use dbname dbname

show collections

13.1

13.1.1 BAT

```
1 #,txt  
2 dir *.bak /s>a.txt
```

Chapter 14

Exception

Win32 APItrue/false COMHRESULT .NET Framework CLRSEHStructured Exception Handling SEH

14.1 Windows SEH

SEH(Structured Exception Handling)Windows VCSEHtry catch finally cc__try{}__except(){} __try{}__finally{}. C++ trySEH__try SEHCC++ SEH__try{}__except(){} SEHVC++SEH C++ catchSEH catchSEH__except C++ throwWindowsRaise Exception throwRaise Exception

SEH: VEH: TopLevelEH

1. ()
2. **VEH(Vectored Exception Handling)** (VEH)Windows XPAddVectoredExceptionHandler()VEHWinXPAddVectoredExceptionHandler()
3. **SEH(Structured Exception Handling)** SEHRaiseException()SEH__try{}__except(Expression){}SEHmain()SEH
4. TopLevelEH()
5. ()
6. csrss.exe

14.1.1 Don't ever swallow exceptions

The worst thing you can do is catch (Exception) and put an empty code block on it. Never do this.

<http://www.codeproject.com/Articles/9538/Exception-Handling-Best-Practices-in-NET>

14.1.2 Log `Exception.ToString()`; never log only `Exception.Message`

As we're talking about logging, don't forget that you should always log `Exception.ToString()`, and never `Exception.Message`. `Exception.ToString()` will give you a stack trace, the inner exception and the message. Often, this information is priceless and if you only log `Exception.Message`, you'll only have something like "Object reference not set to an instance of an object".

14.1.3 (Exception List)

ArgumentException

IOException

DivideByZeroException

14.1.4 Windows Form

try try...catch WinFromApplicationThreadException

```

1 static void Main()
2 {
3     //ThreadException
4     Application.SetUnhandledExceptionMode(UnhandledExceptionMode.CatchException);
5     //UI
6     Application.ThreadException += new System.Threading.ThreadExceptionEventHandler
7         (Application_ThreadException);
8     //UI
9     AppDomain.CurrentDomain.UnhandledException += new
10        UnhandledExceptionEventHandler(CurrentDomain_UnhandledException);
11        Application.EnableVisualStyles();
12        Application.SetCompatibleTextRenderingDefault(false);
13        Application.Run(new Form1());
14    }
15
16    static void Application_ThreadException(object sender, System.Threading.
17        ThreadExceptionEventArgs e)
18    {
19        var exceptionMessage = GetExceptionMsg(e.Exception, e.ToString());
20        Log.Logger.Error(exceptionMessage);
21    }
22
23    static void CurrentDomain_UnhandledException(object sender,
24        UnhandledExceptionEventArgs e)
25    {
26        var exceptionMessage = GetExceptionMsg(e.ExceptionObject as Exception, e.ToString()
27            );
28        Log.Logger.Error(exceptionMessage);
29    }
30
31    /// [summary]
32    ///
33    /// [/summary]
34    /// [param name="ex"]
35    /// [param name="backStr"] [exnull] [param]
36    /// [returns]
37    static string GetExceptionMsg(Exception ex, string backStr)
38    {
39        var exceptionContent = new StringBuilder();
40        exceptionContent.AppendLine("*****");
41        exceptionContent.AppendLine(" " + DateTime.Now.ToString(
42            CultureInfo.InvariantCulture));
43        if (ex != null)
44        {
45            exceptionContent.AppendLine(" " + ex.GetType().Name);
46            exceptionContent.AppendLine(" " + ex.Message);
47            exceptionContent.AppendLine(" " + ex.StackTrace);
48        }
49    }

```

```

41     }
42     else
43     {
44         exceptionContent.AppendLine("           " + backStr);
45     }
46     exceptionContent.AppendLine("*****");
47     return exceptionContent.ToString();
48 }
```

14.1.5 Windows Service Error Handling

This will fire for unhandled exceptions in the given domain no matter what thread they occur on. If your windows service uses multiple AppDomains you'll need to use this value for every domain but most don't.

```

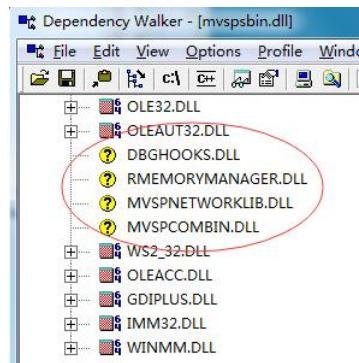
1 //Register error handling event,both are right
2 AppDomain.CurrentDomain.UnhandledException += CurrentDomain_UnhandledException;
3 AppDomain.CurrentDomain.UnhandledException +=new
        UnhandledExceptionEventHandler(CurrentDomain_UnhandledException);
4
5 static void CurrentDomain_UnhandledException(object sender,
        UnhandledExceptionEventArgs e)
6 {
7     HandleException((Exception)e.ExceptionObject);
8 }
9
10 static void HandleException(Exception e)
11 {
12     //Handle your Exception here
13 }
```

BUG UnhandledException CurrentDomain_UnhandledException UnhandledException CurrentDomain_UnhandledException

14.1.6 DllNotFoundException

.NETDLLImportC++dll DllNotFoundException.dll, dll Dependency Walker¹dll??

¹Dependency Walker is a free utility that scans any 32-bit or 64-bit Windows module (exe, dll, ocx, sys, etc.) and builds a hierarchical tree diagram of all dependent modules. For each module found, it lists all the functions that are exported by that module, and which of those functions are actually being called by other modules. Another view displays the minimum set of required files, along with detailed information about each file including a full path to the file, base address, version numbers, machine type, debug information, and more. Website: <http://dependencywalker.com/>



14.1: Dll Dependency

14.2

Chapter 15

Network

IPC4

- FIFO
-
-
- SolarisSun RPC

15.0.1 RAML

RESTful API Modeling Language (RAML) makes it easy to manage the whole API lifecycle from design to sharing. It's concise - you only write what you need to define - and reusable. It is machine readable API design that is actually human friendly.

15.0.2 RestSharp

RestfulSOAPService .NET/MonoRestful Service Visual Studio HttpWebRequest Restful Service Restful ServiceXMLJson RestSharpRestful Service RestSharp.NET REST HTTP API .NET 3.5/4MonoMono for AndroidMonoTouchWindows Phone 7.1 Mango Restful <https://github.com/johnsheehan/RestSharp/archives/master> NuGet RestSharpJson.NetJsonPoco

```
1 var client = new RestClient { BaseUrl = new Uri(PublicAttribute.WebApiPath) };
2 var request = new RestRequest { Resource = "/tour/RoadLine/GetRoadLineByPage?tagId
3 =0pageIndex=1&pageSize=5" };
4 request.AddHeader("auth", "value");
5 IRestResponse response = client.Execute(request);
```

15.1 TCP

15.1.1 Ethernet v2

FrameHeadData 18461500 641518 ??

15.1: Ethernet 2

PID TCP/IPip + ip

15.1.2 (Transport Layer)

MACIP port ""0655351601023 1023 """""" Unix+ ""socket

15.1.3 Socket

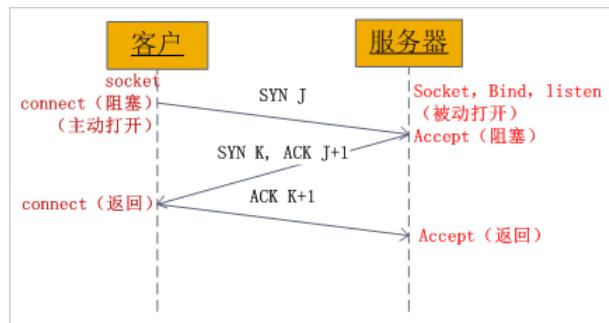
socketsocket socketUnixUnix/Linux open ; write/read ; close Socketsocketsocket/IO socket1970212IETF
RFC33 Stephen CarrSteve CrockerVint Cerf Croker BSD12

15.1.4

tcp

- SYN J
- SYN KSYN JACK J+1
- ACK K+1

??connectSYN J connectSYN J acceptSYN K ACK J+1accept SYN K ACK J+1connectSYN
K ACK K+1accept



15.2: 3

<http://www.cnblogs.com/skynet/archive/2010/12/12/1903949.html>

15.1.5

(subnet mask)TCP/IP IP1A 255.0.0.0B255.255.0.0 C255.255.255.0

15.1.6 TCP

TCP 0

TCP(persistence timer) TCP TCP

15.1.7

WORDC#short,short0 to 65,535 .NET FrameworkSystem.UInt162byte[2]

```

1 7e( , )|0100( ID )|002d( )|014846362281( )|
2 0002( )|002c( ID )|012c( ID )|3730313131( ID )|
3 42534a2d413642440000-10-00000000000000000000000000( )|
4 30313436363336( ID )|02( )|c2b3464c353536( )|31ca( )|7e(
)

```

15.1.8

Netstat tcp, udp unix Web 80 netstat

```

1 #Windows20
2 netstat -ano|find "20"

```

a(all) n(number) oID

15.2 X11

X11X Window System core protocolMIT1984 X11R7.5X Window System X Window System
X11 NoMachineNXNXX11

X11create Mechanism, not PolicyX window managersGUI desktop environments-GUI POS LinuxGnomeKDEX X11X Window System Protocol, Version 11RFC1013 X serverX clientX serverxfree86/xorg X clientX11xfree86/xorgX server(x,y) whxfree86 X clientsXlibXlibqt-gtk widgetsgnomekde linuxgnomegtkkkdeqt

X11ServerClientRequests, Replies, Events, Errors

1. Request: ClientServer
2. Reply: ServerRequestRequest

3. Event: ServerClientResize
4. Error: RequestServerCilent

15.3

15.3.1 title

15.4 RPC

15.4.1 RPC()

RPC RPC SocketHttp RPC Http RPC

15.4.2

ONC RPC OSF RPC CORBA Common Object Request Broker Architecture DCOM COM+ Java RMI .NET Remoting XML-RPC SOAP Web Service PHP RPC Hessian JSON-RPC Microsoft WCF WebAPI ZeroC Ice Thrift GRPC Hprose

RPC RPC CONC RPC OSF RPC CORBA DCOM COM+ Windows RMI Java .NET Remoting .NET

XML-RPC SOAP WebService RPC Web Service Document Web Service Web Service Web Service .NET Java Web Service

PHP RPC PHP HTTP XML RPC

Hessian Java ActionScript Python Web JavaScript RPC XML RPC

JSON-RPC JSON XML JSON JavaScript JSON JSON-RPC

Microsoft WCF WebAPI .NET .NET Remoting Web Service JSON XML REST .NET .NET

ZeroC Ice Thrift GRPC RPC stub

Hprose HTTPTCPWebsocket GolangHprose 2.0

Chapter 16

.NET



16.1: Net

16.1 (Delegate)

BeginInvoke

16.2 GenericCollection

16.2.1 List

ListList List List List

Listing 16.1: List

```

1 var productModel = new ProductModel();
2 foreach (var current in originProduct)
3 {
4     productModel = HttpPost.MapModel(productModel, current);
5     distnateProduct.Add(productModel);
6 }
```

List ICloneableClone

16.3 Microsoft Build Engine(MIT License)

The Microsoft Build Engine is a platform for building applications. This engine, which is also known as MSBuild, provides an XML schema for a project file that controls how the

build platform processes and builds software. Visual Studio uses MSBuild, but MSBuild does not depend on Visual Studio. By invoking msbuild.exe on your project or solution file, you can orchestrate(vt.) and build products in environments where Visual Studio isn't installed.

MSBuildVisual StudioMSBuild VSMSBuildBuild VSMSBuildRebuildMSBuildClean MSBuild-PublishOnlyMSBuildAnt VSVS MSBuild Script

*.sln	VS
*.suo	VS
*.csproj.user	VS
*.csproj	XML

```
1 msbuild.exe /p:VisualStudioVersion=12.0 D:\    \192.168.1.222\Tour\trunk\RR.Web.CCN.
   Tour\RR.Web.CCN.Tour.csproj
```

HintPath HintPath is an optional attribute of the item. It gives the clue to the build process on where to find the assembly. The SearchPaths property defined in Microsoft.Common.targets define the search order of the assemblies. The user can change the order by editing the property value. Please note that modifying standard targets file is not recommended. The default search order is

- Files from the current project indicated by CandidateAssemblyFiles.
- \$(ReferencePath) property that comes from .user/targets file.
- \$(HintPath) indicated by reference item.
- Target framework directory.
- Directories found in registry that uses AssemblyFoldersEx Registration.
- Registered assembly folders, indicated by AssemblyFolders.
- \$(OutputPath) or \$(OutDir)
- GAC

The reference item include attribute as if it were a complete file name. Please note that in resolving file references components in HKCU are always preferred over HKLM current framework target version is preferred over older target version

16.4 Windows dll

WindowsDLL(Dynamic Linkable Library) EXEDLL EXE DLL Microsoft WindowsDLL
IEDLL DLLDLLwin32PE DLL DLL WindowsDLLDLL

Win32/ DLL DLLPE.edata DLLDLL DLL DLL DLLDLLDLL

DLL¹(DLLMain)DLLMain dll1.DLL 2.DLL3.DLL4. DLL DLL

load-time dynamic linkingDLL DLL DLLLIB DLL LIBDLL LIB EXELIBDLL EXEDLL
WindowsDLLDLL DllDllDll

run-time dynamic linkingDll Win32 LoadLibrary()Dll DllLoadLibrary()Dll GetProcAddress()Dll
Win32 LoadLibrary()DLL Known DllsLoadLibrary()Dll windows/system32/Dll

DllWindowsDll HKLM/System/CurrentControlSet/SessionManager/SafeDllSearchMode Vista,Server
2003,XP sp21xp,2000 sp401

1.

2. windows/system32/

3. 16

4. Windows

5.

6. PATH

0

1.

2.

3. windows/system32/

4. 16

5. Windows

6. PATH

CLR

codebasecodebasecodebase

CLR

codebasecodebasecodebase

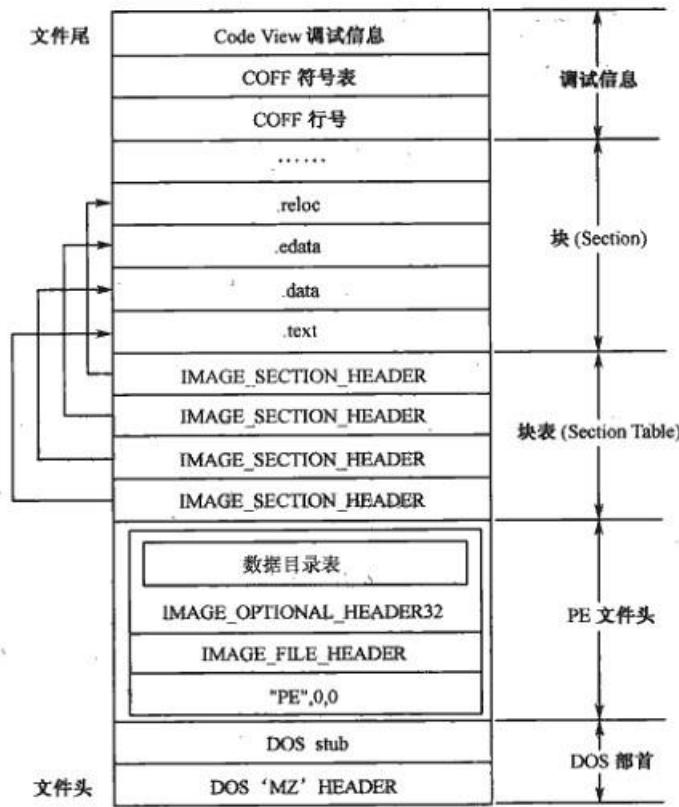
¹main(PE)PEDLL(.NET)PEmscoree.dll.NETDLL_ CorExeMain()CorExeMain()PE

16.5 PE

PESection, NTPE9Section .text, .bss, .rdata, .data, .rsrc, .edata, .idata, .pdata, .debug
PESection.

1. Section , .text (MS) or CODE (Borland)
2. Section, .data, .rdata, .bss(MS) DATA(Borland)
3. Section, .edata
4. Section, .idata
5. Section.debug

PE Windows PEPE PE??



16.2: PE

DOSDOS DOSMZDOS stub(DOS) DOSDOS PEPEIMAGE_OPTIONALHEADER32 PE

16.5.1 .reloc

callVA

Windows

- 1.VA push
- 2.PE DataDirectory IMAGE_DIRECTORY_ENTRY_BASERELLOC
- 3.PEPE

16.5.2 Dos stub

DOSWindows SDK :

```
1 C:\Program Files\Microsoft SDKs\Windows\v7.1\Include
```

WinNT.hPEDOS

```
1 typedef struct _IMAGE_DOS_HEADER { // DOS .EXE header
2     WORD    e_magic;           // Magic number
3     WORD    e_cblp;          // Bytes on last page of file
4     WORD    e_cp;            // Pages in file
5     WORD    e_crlc;          // Relocations
6     WORD    e_cparhdr;        // Size of header in paragraphs
7     WORD    e_minalloc;       // Minimum extra paragraphs needed
8     WORD    e_maxalloc;       // Maximum extra paragraphs needed
9     WORD    e_ss;             // Initial (relative) SS value
10    WORD   e_sp;              // Initial SP value
11    WORD   e_csum;            // Checksum
12    WORD   e_ip;              // Initial IP value
13    WORD   e_cs;              // Initial (relative) CS value
14    WORD   e_lfarlc;          // File address of relocation table
15    WORD   e_ovno;            // Overlay number
16    WORD   e_res[4];          // Reserved words
17    WORD   e_oemid;           // OEM identifier (for e_oeminfo)
18    WORD   e_oeminfo;          // OEM information; e_oemid specific
19    WORD   e_res2[10];         // Reserved words
20    LONG   e_lfanew;           // File address of new exe header
21 } IMAGE_DOS_HEADER, *PIMAGE_DOS_HEADER;
```

100DOS DOSMS-DOS32PE DOS32Windows MS-DOC MZ HeaderMS-DOS StubDOS exe-DOS”This program cannot be run in DOS mode”

16.5.3 NT Header

DOSe_lfanewNT32PE:

```
1 typedef struct _IMAGE_NT_HEADERS {
2     DWORD Signature;
3     IMAGE_FILE_HEADER FileHeader;
4     IMAGE_OPTIONAL_HEADER32 OptionalHeader;
```

```
5 } IMAGE_NT_HEADERS32, *PIMAGE_NT_HEADERS32;
```

NTFile HeaderSignatureOptional Header??



16.3: PE(NT Header)

PE Signature DWORDPEPEASCII

File Header PE SectionOptional HeaderWinnt.h_IMAGE_FILE_HEADER dumpbin Visual Studio

```
1 dumpbin -all "E:\OneDrive\Source Code\GitHubFosc\Fosc\Fosc.Dolphin.UI\Fosc.Dolphin.UI\bin\x64\Debug\Fosc.Dolphin.UI.exe" >>C:\dump.txt
```

??CPU14c Intel I386I486I586section2 COFF0COFF0Optional Header

COFF (Common Object File Format) (*.o/*.obj) VC (*.obj) GCCGNU Compiler Collection
ICLIntel C/C++ CompilerVectorC C/C++

3PE loaderEntry Point??

```
PE00407FAE.text section 6 0040251E6FF 25 00 20 40 00 PE.text section FFx86Jmp 00402000
3image base 004000002000import address tableRVA 700402000mscoree.dll_CorExeMain(_CorExeMainmscoree.dll)
_CorExeMain
```

```
Microsoft (R) COFF/PE Dumper Version 12.00.21005.1
Copyright (C) Microsoft Corporation. All rights reserved.

Dump of file E:\OneDrive\Source Code\Dolphin\GitHubFosc\Fos
PE signature found

File Type: EXECUTABLE IMAGE

FILE HEADER VALUES
    14C machine (x86)
        3 number of sections
    56D1B66D time date stamp Sat Feb 27 22:45:01 2016
        0 file pointer to symbol table
        0 number of symbols
        E0 size of optional header
        102 characteristics
            Executable
            32 bit word machine
```

16.4: PEFile Header

```
OPTIONAL HEADER VALUES
    10B magic # (PE32)
    11.00 linker version
    6000 size of code
    800 size of initialized data
    0 size of uninitialized data
    7FAE entry point (00407FAE)
    2000 base of code
    8000 base of data
    400000 image base (00400000 to 0040BFFF)
    2000 section alignment
    200 file alignment
```

16.5: PEEntry Point

Optional Header PE Optional Header AddressOfEntryPointRVA-Relative Virtual Address
 exe C#.NETMsCorEE.dll_CorExeMain() XPXP OS LoaderPECLRMscorEE.dll_CorExeMain()

16.5.4 Section

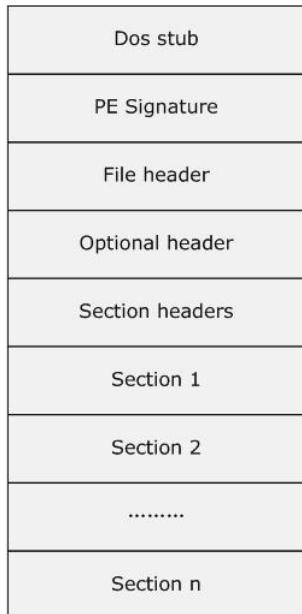
Section C#CLRIL

16.6 CLR

CLRWindowsPE WindowsCLR DLL mscoree.dll mscoree.dll _CorExeMainwin32 AssemblyCLR MetaData(), . Assembly mscoree.dll mscoree.dll system32, Microsoft Core Execution Engine. CLR Execution Engine. (Type Checker) Garbage Collector (Exception Manager)(COM Marshaler)C#CLR

16.6.1 PE LoaderPE

.exe WindowsPE Loaderexe.exe PEPE (Portable Execute) Windows EXEDLLOCXSYS COMPE PE loader CLR mscoree.dll mscoree.dll system32 C:/WINDOWS/system32.net 2.0 mscoree.dll 256k dllshim PE CLR PE??



16.6: PE

mscoree.dll, MetaDataapp.config, . mscoreeGC Flavor. GC FlavorWorkstation GCServer GC. CLR1, Workstation GCmscorwks.dll, Server GCmscorsvr.dll. CLR2mscorsvr.dll, mscorwks.dll GC Flavor, mscorwks.

CLR, CLR, , (ClassLoader, assembly Loader, JitEngine, Copntext), Finalizer threadGC thread, System AppDomainShared AppDomain, RCDebugger Thread, CLR(mscorlib.dll, system.dll)

CLR, CLRexe, Main, Main, Main.

16.6.2 CLR

_CorExeMainCLR .net 2.0CLRmscorlib.dllmscorwks.dllmscorwks.dll

1 C:\Windows\Microsoft.NET\Framework64\v2.0.50727

mscorwks.dlldotNet2.0 dll NET 1.1mscorwks.dllmscorwks.dll Windows Servicedesktop
NET 2.0mscorwks.dll NET 2.0mscorwks.dll DotNet DotNet(Execute Engine),dll

reflectordotnet.dll native

5CLR:

- GC
-
- (AppDomain)

sos.dllCLRAppDomain ??CLRSys tem DomainShared DomainDomain1 Domain1Appdomain

```
0:000> .load sos
0:000> !dumpdomain
-----
System Domain: 000007fef105210
LowFrequencyHeap: 000007fef105790
HighFrequencyHeap: 000007fef105818
StubHeap: 000007fef1058a0
Stage: OPEN
Name: None

-----
Shared Domain: 000007fef104c30
LowFrequencyHeap: 000007fef105790
HighFrequencyHeap: 000007fef105818
StubHeap: 000007fef1058a0
Stage: OPEN
Name: None
Assembly: 0000000000084cbb0 [C:\win
ClassLoader: 00000000000875340
Module Name: 000007fef7bd1000 C:\windows\Micro
-----
```

```
Domain 1: 0000000000217da0
LowFrequencyHeap: 0000000000218558
HighFrequencyHeap: 00000000002185e0
StubHeap: 0000000000218668
Stage: OPEN
Name: Fosc.Dolphin.UI.exe
Assembly: 0000000000084cbb0 [C:\win
ClassLoader: 00000000000875340
SecurityDescriptor: 0000000000084d2b0
```

16.7: Dump CLR AppDomain

6AppDomainmscorlib.dll ??

CLRAppDomain mscorlib.dll Microsoft Core Library System.ObjectSystem.Int32 ??

sos.dll(SOS Debugging Extension) Domain 1Module WinDbg!dumpmodule -mt 000007fef7111000
000007fef7111000Module !dumpdomainAssembly

```

Command - "C:\Users\Dolphin\OneDrive\Source Code\GitHubFosc\F...
Shared Domain: 000007fef90a4c30
LowFrequencyHeap: 000007fef90a5790
HighFrequencyHeap: 000007fef90a5818
StubHeap: 000007fef90a58a0
Stage: OPEN
Name: None
Assembly: 00000000009a1590 [C:\Windows\Microsoft.Net
  \assembly\GAC_64\mscorlib\v4.0_4.0.0.0_b77a5c561934e089
  \mscorlib.dll]
ClassLoader: 00000000009a16d0
Module Name
000007fef7111000 C:\Windows\Microsoft.Net\assembly
  \GAC_64\mscorlib\v4.0_4.0.0.0_b77a5c561934e089\mscorlib.dll

Domain 1: 00000000001074e0
LowFrequencyHeap: 0000000000107c98
HighFrequencyHeap: 0000000000107d20
StubHeap: 0000000000107da8
Stage: OPEN
Name: Fosc.Dolphin.UI.exe
Assembly: 00000000009a1590 [C:\Windows\Microsoft.Net
  \assembly\GAC_64\mscorlib\v4.0_4.0.0.0_b77a5c561934e089
  \mscorlib.dll]
ClassLoader: 00000000009a16d0
SecurityDescriptor: 000000000099c270
Module Name
000007fef7111000 C:\Windows\Microsoft.Net\assembly
  \GAC_64\mscorlib\v4.0_4.0.0.0_b77a5c561934e089\mscorlib.dll
Assembly: 0000000009b3710 [C:\Users\Dolphin\OneDrive
  \Source Code\GitHubFosc\Fosc.Fosc.Dolphin.UI
  \Fosc.Dolphin.UI\bin\x64\Debug\Fosc.Dolphin.UI.exe]
ClassLoader: 00000000009b38b0
SecurityDescriptor: 00000000009b3590

```

16.8: Load Compenet mscorelib

```

0:000> !dumpmodule -mt 000007fef7111000
Name: C:\Windows\Microsoft.Net\assembly\GAC_64\mscorlib\v4.0_4.0.1
Attributes: PEFile
Assembly: 00000000009a1590
LoaderHeap: 00000000000000000000
TypeDefToMethodTableMap: 000007fef851c83c
TypeRefToMethodTableMap: 000007fef740e4e8
MethodDefToDescMap: 000007fef851ea54
FieldDefToDescMap: 000007fef740e548
MemberRefToDescMap: 0000000000000000
FileReferencesMap: 000007fef71288e0
AssemblyReferencesMap: 000007fef7128910
MetaData start address: 000007fef798192c (2755936 bytes)

Types defined in this module

```

MT	TypeDef	Name
000007fef77f13e8	0x02000002	System.Object
000007fef7803340	0x02000003	System.Runtime.Serialization.ISerializable
000007fef77fff10	0x02000004	System.Runtime.InteropServices._Exception
000007fef77f1038	0x02000005	System.Exception
000007fef77c7cb8	0x02000006	System.Exception+__RestrictedErrorObject
000007fef77f3390	0x02000007	System.ValueType
000007fef7800a68	0x02000008	System.IComparable
000007fef77f61b8	0x02000009	System.IFormattable
000007fef77fd48	0x0200000a	System.IConvertible
000007fef77f33d8	0x0200000b	System.Enum

16.9: CLR Dump Module

7mscorlib.dll PEhello.exeAppdomainPE 8

8mscorwks.dll_CorExeMain2_CorExeMain2 GetEntryPointMetaData.entrypoint (C#Main)MethodDesc
MethodDescCLR EECLASS(EECLASS) Method Table(Method Descriptor MethodDesc) EEClass::FindMethodMethodD
ClassLoader::RumMain

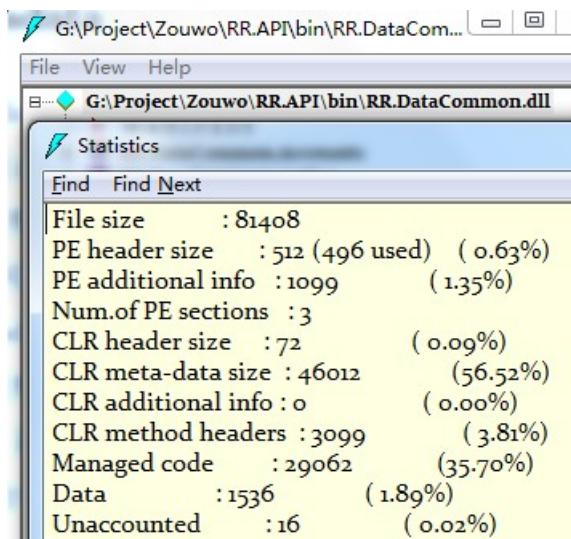
16.6.3 Main

9Main .NET mscoree.dll -i mscorewks.dll(mscorsvr.dll) -i mscorelib.dll -i mscorejit.dll .NETVS2005
sos.dllWindbg²VS2005 Team Versionsos.dll

CLRShared Source Common Language Infrastructure(SSCLI)³ CLR CLRhttp://www.microsoft.com/taiwan/msdn/

16.7 Metadata

ILMetadata.NET PEPortable Execute MetadataIL [?] Metadatatable table(reference)Foreign
Key .NET PEMetadatatable44 .NETMetadata MetadataEXE/DLL50%70% ildasm.exeMetadata
dllView;-Statistics ??



16.10: ildasmMetadata

.NETMetadata Metadata Metadata.NET .NET.NET⁴

.NETWindowsDDEOLEActiveX/COM

. PDFAdobePDF AdobePDF . C++EmailVB

²Windbghttp://www.microsoft.com/whdc/devtools/debugging/default.mspx

³http://www.microsoft.com/downloads/details.aspx?FamilyId=8C09FD61-3F26-4555-AE17-

3121B4F51D4D&displaylang=en

⁴http://m.blog.csdn.net/blog/u013885963/24008399

DDEOLEActiveX/COM COMCOM Don BoxEssential .NETThe CLR as a Better COM-COM

COMIDLTLB

. IDL/TLBv-table C++ . IDL/TLB . IDL/TLB

16.8 JIT(MIT Licence)

MSIL.NET Intel .NETMicrosoft (MSIL), CPU JITCPU Just In-Time compile.NET IL JITIL JIT(Just In-Time compile) JIT MetadataMetadataJit MeataadataJIT

1JITMetadata

2JITMetadataRVA(Relative Virtual Address)PEIL

3JITILCPUILMetadata JIT

16.8.1 (Class Constructor)

, JIT JITAppDomain CLRAppDomain CLR .cctor() count50100 IL.cctor() .ctor()

16.9 FCL(MIT Licence)

.net Framework Class Library(FCL),the .NET Framework class library is a library of classes, interfaces, and value types that provides access to system functionality and is designed to be the foundation on which .NET Framework applications, components, and controls are built.

16.10 GC(Garbage Collection)

16.10.1 GC

Microsoft.Net clr GC .Net .Net

.NetGC

1. 2. 3. 4. 5.

bug System Monitor AcitvieX Control, RationalPurify

GC .Net FrameworkCloseDisposeFinalize Finalize

Rectangleleft rightwidthheight

16.10.2

16.10.3 GC

.NetGC(Garbage Collection) GC3 012 CLRN011 N12 GC 0 .NET012256K2MB10MB null
 .Net .Net .Net StreamGDI+Com .Net GC-Garbage Collector

.Net GCGC GCGarbage Collector, GC GC .Net.Net

GC GC GC GC GC GC StreamGDI+ Com

.Net 1. 2IDisposableDispose 3Close

GC GCCloseDispose CloseDispose SqlConnectionCloseOpen DisposeGC

GC Generation Generation 0Generation Generation 0Generation 1 Generation 0 GCGeneration 0 Generation 0GC

C#reference tracking rootsreference type root

16.10.4 GC

1. 0

2. GC.CollectGC.CollectGC.MaxGeneration

3.

4.

5. 0 1212

16.10.5 LOH

CLR —— .Net 1.02.0 85000byte=10625Byte≈10KB http://www.cnblogs.com/yukaizhao/archive/2011/11/21/dot_net_gc_large_object_heap.html

16.11 IL(Intermediate Language)

MSIL.NET Intel ILIL Disassembler(IL DASM) ??

MSIL CPUJITCPU MSILJITMSIL MSIL JITCPU MSILMSILPE MSIL CIL(<http://www.cnblogs.com/zery/p/330>)

符号	含义
▶	更多信息
_namespace	命名空间
类	类
接口	接口
值类	值类
枚举	枚举
方法	方法
静态方法	静态方法
字段	字段
静态字段	静态字段
事件	事件
属性	属性
▶	清单或类信息项

16.11: IL DASMIL

add, sub, mul, div, rem	
add, or, not, xor	
ceq, cgt, clt	ceq:cgt:clt:
box, unbox	
ret	
beq, bgt, ble, blt, switch	beg:bgt:ble:blt:CIL
br.s	()
call	
nearer, newobj	

CIL (ld)

ldarg ()	ldarg(eg. ldargldarg (ldarg_i4, int32)(ldarg_i4_5 5int32)
ldc ((load const)
ldfld ()	
ldloc ()	
ldobj	
ldstr	
(st)	

pop

starg

stloc ()

stobj

```
stfld
```

16.11.1 IL

```

1 .class private auto ansi beforefieldinit ConsoleApplication1.Program
2 extends [mscorlib]System.Object
3 {
4     // Methods
5     .method private hidebysig static
6         void Main (
7             string [] args
8         ) cil managed
9     {
10         // Method begins at RVA 0x2050
11         // Code size 4 (0x4)
12         .maxstack 1
13         .entrypoint
14         .locals init (
15             [0] int32 i
16         )
17
18         IL_0000: nop
19         IL_0001: ldc.i4.1
20         IL_0002: stloc.0
21         IL_0003: ret
22     } // end of method Program::Main
23
24     .method public hidebysig specialname rtspecialname
25         instance void .ctor () cil managed
26     {
27         // Method begins at RVA 0x2060
28         // Code size 7 (0x7)
29         .maxstack 8
30
31         IL_0000: ldarg.0
32         IL_0001: call instance void [mscorlib]System.Object::ctor()
33         IL_0006: ret
34     } // end of method Program::ctor
35
36 } // end of class ConsoleApplication1.Program

```

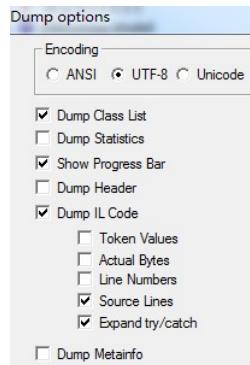
ILJITCPUx86/IA64 .entrypoint //CLR.entrypoint .maxstack 2 // //hidebysig

16.11.2 (Attribute)

Get/Set C#GetXXXSetXXX privateprotected

16.11.3 DLL(Edit Dynamic Linkable Library)

ILDasm.exe(IL Disassembler)DLLDLL??



16.12: Dump dll

(il) ilasm.exedll ilasm.exe C:/Windows/Microsoft.NET/Framework64/v4.0.30319 ILAsm (IL Assembler) generates a portable executable (PE) file from Common Intermediate Language (CIL) code. dlldll ILSpydll ??

```

s Class 23      Props: 20;
Class 24      Props: 9;
Class 25      Props: 9;
Class 26      Props: 6;
Class 27      Props: 29;
Resolving local member refs: 0 -> 0 defs, 0 refs, 0 unresolved
Writing PE file
Operation completed successfully

C:\Windows\Microsoft.NET\Framework64\v4.0.30319>ilasm.exe /dll /output=G:\a.dll
/Resource=G:\DBSystem.Model.res G:\DBSystem.Model.il

```

16.13: ilasm(MSIL Assembler)IL

1 ilasm.exe /dll /output=E:\dll\ a.dll /Resource=E:\dll\b.res E:\dll\b.il

dlldllexe dumpbinIL dnSpy⁵dll. dnSpydllEdit IL Instruction(IL)IL OKdll

16.12 (Debug)

Visual Studio 2013 Visual Studio Windows SOS.dll Visual Studio SOS.dll Visual Studio

Visual Studio F5

(attach) Service ASP.NETbug

⁵<https://github.com/0xd4d/dnSpy>

(post-mortem) bug

16.12.1

Windows Windows Windows .NET .NET Windows
.NET .NET Windows Windows .NET SOS.DLLSOSEX.DLL.NET Windows .NET .NET
Windows .NET

16.12.2 (Symbol File)

Visual Studio.pdb Visual Studio

C# csc Csc/debug

/debug:pdbonly

/debug:full

Visual Studio

16.12.3

16.12.4

(Edit and Continue) bug Visual studio 64 x86 resleasedebug Any CPU lambda -i Web -i

(Run to Cursor–Ctrl+F10) F10/F11 Ctrl+F10

(Breakpoint Label) VS2010(feature) enabledisablefilter

(Set Next Statement) (break) Ctrl + Shift + F10

(Show Next Statement[Ctrl+*]) F10

Pinned DataTips Visual Studio 2010 also includes some nice new DataTip pinning features that enable you to better see and track variable and expression values when in the debugger.

Simply hover over a variable or expression within the debugger to expose its DataTip (which is a tooltip that displays its value) and then click the new pin button on it to make the DataTip always visible:

```

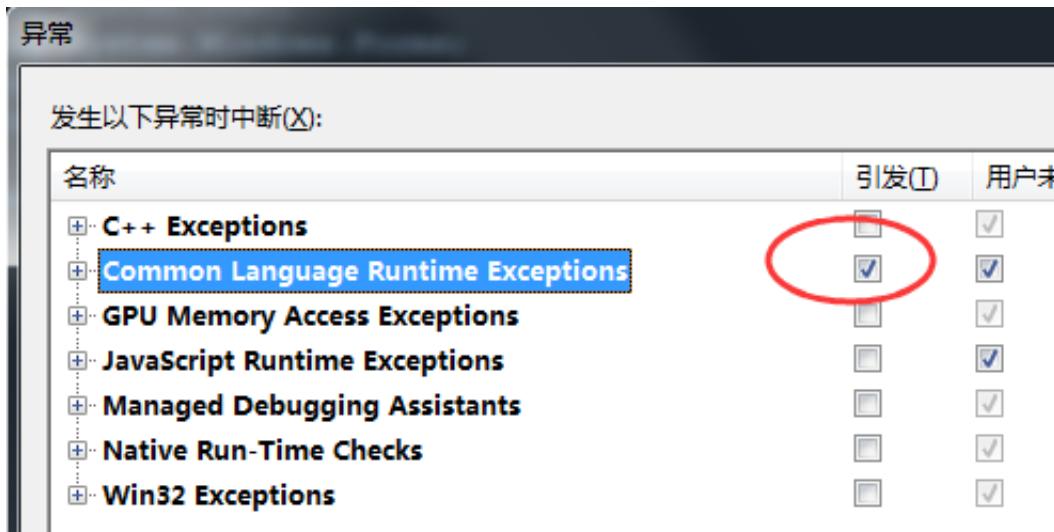
var controllerName = string.Empty;
var actionName = string.Empty;
try
{
    var requestUrlObj = filterContext.HttpContext.Request.
        if (requestUrlObj != null &amp; requestUrlObj.Url.StartsWith("http://localhost:4961/"))
    var userId = LoginService.GetUserId();
    controllerName = (string) filterContext.RouteData.Values["controller"];
    actionName = (string) filterContext.RouteData.Values["action"];
}

```

16.14: DataTips Pin

Visual Studio .NET CLR/JIT SOS.dll MicrosoftSon of Strike SOS.dll Cracker SOS.dll.NET CLR/JIT Visual Studio

Try-Catch Visual Studio Visual Studio catch Try-Catch StackTrace



16.15:

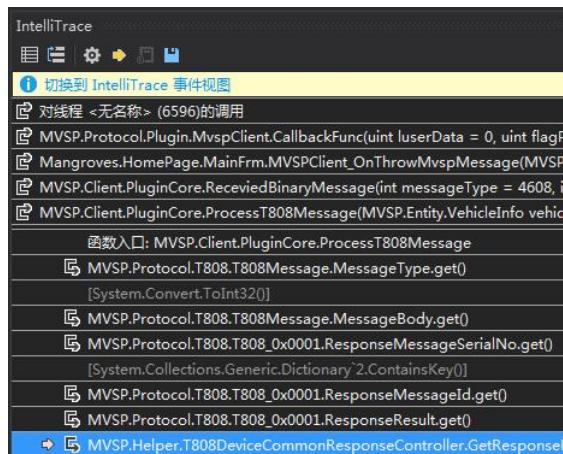
CLRThrownCLR Bug

??

名称	值	类型
(int)DriverTaskState.DriverTaskComplete	当前上下文中不存在名称'Dri	
EnumMessageType.RequestVehicleLindRelation	RequestVehicleLindRelation	MVSP.Enum.EnumMessageType
(int)EnumMessageType.RequestVehicleLindRelation	53249	int
EnumMessageType.RequestVehicleLindRelation	RequestVehicleLindRelation	MVSP.Enum.EnumMessageType

16.16:

(Usage) IntelliTrace -;IntelliTrace-;IntelliTrace ??



16.17: Stack

16.12.5

Visual Studio – i– DLL Visual Studio DLL dll dll IISdll

C:\Windows\Microsoft.NET\Framework\v4.0.30319\Temporary ASP.NET Files\root\
fa41332c\c10b2499\assembly\dl3\5e331c01\f4a72a2a_807ad101\DBTour.Model.dll

bin??

模块					
名称	路径	已优化	用户代码	符号状态	
mscorlib.dll	C:\windows\Microsoft.Ne...	是	N/A	已加载符号。	
iisexpress.exe	C:\Program Files (x86)\IIS...	N/A	N/A	已加载符号。	
System.Web.dll	C:\windows\Microsoft.Ne...	是	N/A	已加载符号。	
ntdll.dll	C:\Windows\SysWOW64\...	N/A	N/A	已加载符号。	
System.dll	C:\windows\Microsoft.Ne...	是	N/A	已加载符号。	
kernel32.dll	C:\Windows\SysWOW64\...	N/A	N/A	已加载符号。	
System.Core.dll	C:\windows\Microsoft.Ne...	是	N/A	已加载符号。	
KernelBase.dll	C:\Windows\SysWOW64\...	N/A	N/A	已加载符号。	

16.18:

16.12.6 Memory Leak

.NET Finalize dump GC GC.NET CLR .NET CLR

!dumpheap -stat

16.12.7 (CPU)

CPUCPU !ClrStack -a

```
0:000> !runaway
User Mode Time
 Thread      Time
 0:136c      0 days 0:00:00.000
```

16.19:

16.12.8 PDB

PDB PDB debuggerbinayPDB debuggerbinay

2private build buildpublic build buildbuildprivate build PDBbinaypublic build

PDB PDBdebuggingpublic build symbol serverPDB debuggerbinayPDB visual studioWinD-bgsymbol server PDBbinaysymbol serverPDBsource indexing source indexingPDBsource

symbol serversource server indexing TFS2010buildsource indexing symbol server copying

PDB debugger2PDB zzz.dll,debuggerzzz.pdb debuggerPDBbinayGUIDPDBbinay binayPDB dumpbin.exebinaryGUIDPDB

```
1 dumpbin.exe /headers "C:\Fosc.Dolphin.UI.exe"
```

Debug DirectoryDebug GUIDPDB Visual Studio modulelessymbol filePDBload binarybinary
binaryhardcodebuild obj\debug*.pdb, PDBsymbol server symbol servercache symbol server-
cachePDB symbol server public buildprivate buildPDB

16.12.9 Dll

ResharperView In Assembly Explorer PDB

16.13 Visual Studio

16.13.1 Shared Source Common Language Infrastructure 2.0

The Shared Source CLI is a compressed archive of the source code to a working implementation of the ECMA CLI and the ECMA C# language specification. This implementation builds and runs on Windows XP.

16.13.2 Visual Studio

Ctrl+Alt+L	Solution
Ctrl+Shift+B	
Shift + Alt+ C	
Alt + Shift +(,,,)	
Ctrl + H	
Ctrl + I	
Ctrl + F3	

16.13.3 Visual Studio

VS

```
1pdbguidpdbagepdb
2pdb1Browse to find sourcepdbpublic pdb 1Browse to find source .NET PDB2: * * *
.NET Metadata
```

16.13.4 Visual Studio

-i- Visual Studio 2012 -i Visual Studio Tools -i Developer Command Prompt for VS2012

DOS: CD Common7/IDE

devenv.exe /resetsettings Visual Studio

16.13.5 Visual Studio

16.13.6

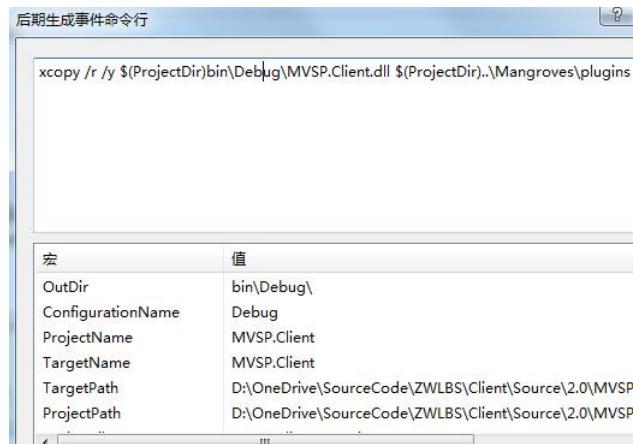
Visual StudioVisual Studio

16.13.7

dll dllPlugin

```
1 #$(ProjectDir)
2 #D:/OneDrive/SourceCode/ZWLBS/Client/Source/2.0/MVSP.Client
3 xcopy /r /y $(ProjectDir)bin\Debug\MVSP.Client.dll $(ProjectDir)..\\Mangroves\\plugins
```

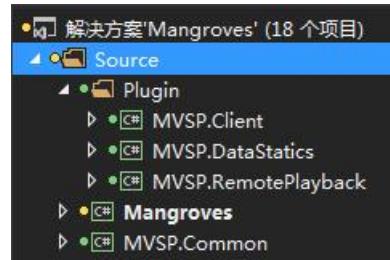
ry -i- ??



16.20: Visual Studio

16.13.8

(.sln) Windows ??



16.21:

16.13.9

- Indent Guides

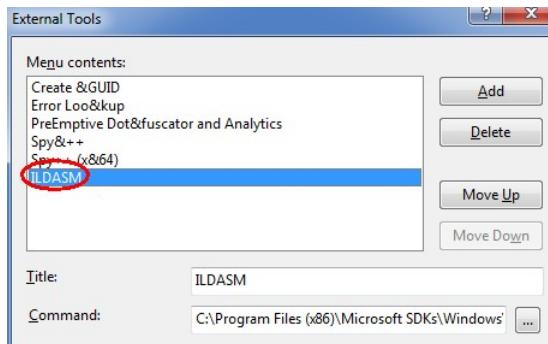
16.13.10 Visual Studio

Visual Studio ?? Visual Studio Tools

16.13.11 Configure Visual Studio 2013 for debugging .NET framework

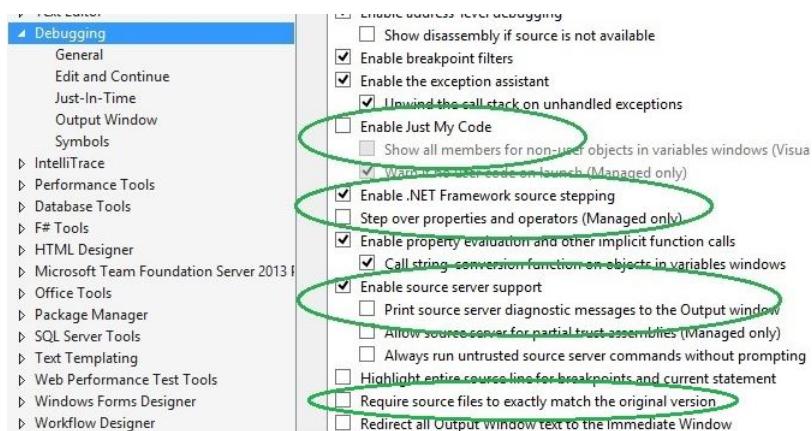
dll dll Microsoft dll

- Disable just my code
- Disable step over properties and operators
- Disable require source files to exactly match the original version



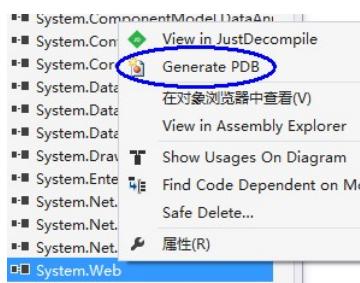
16.22:

- Enable .NET framework source stepping
- Enable source server support



16.23: Enable .NET Framework Source Code Debugging

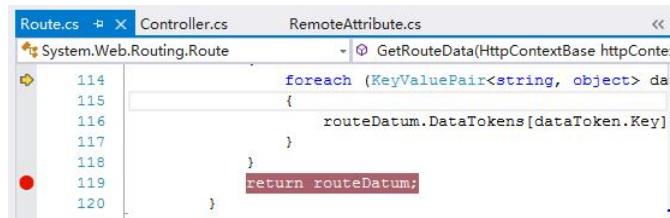
<http://referencesource.microsoft.com/setup.html> Resharper.dll PDB Program Database??



16.24: Generate Program Debugging File

System.Web.dll??

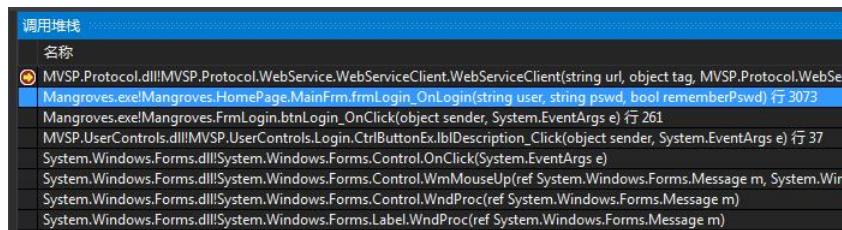
.NET Framework 4.5 <http://referencesource.microsoft.com/> Visual Studio



16.25: Debugging System.Web.dll

16.13.12 Visual Studio Call Stack

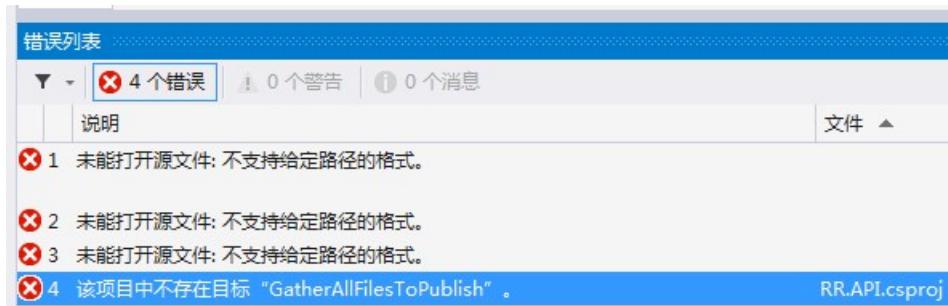
(Call Stack)Visual Studio(Debug)–>(Window)–>(Call Stack) ??



16.26:

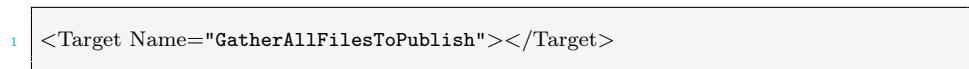
16.14 (Publish)

IIS ASP.NET MVC Visual Studio ??



16.27:

"GatherAllFilesToPublish"(The target "GatherAllFilesToPublish" does not exist in the project)
*.csproj Target Project Extensions ⁶ Visual Studio 2013



(Could not open Source file: The given path's format is not supported) dll - obj/Release/-
Package/PackageTmp RR.Web.ActivityRR.DataCommon RR.DataCommon.dll Debugdll RR.Web.ActivitylibRR.Data

⁶<http://stackoverflow.com/questions/10989051/why-do-i-get-the-error-the-target-gatherallfilestopublish-does-not-exist>

.pdb.csproj csproj

csproj(ItemGroupContent)binobj binbinCopy svnbinbin MSBuildcsprojItemGroup-Content binobj When you deploy, it doesn't care what files are in your BIN folder. It cares about what files your CSPROJ project file specifies as part of the project deployment.

16.14.1 Visual StudioFTP

FTP?? FTP



16.28:

Visual Studio csprojItemGroup bin Visual Studio ItemGroup

16.14.2 Browser Link

data-* html5

16.14.3 Shadow Copy

DBSystem.BLL.dlltb_abc

```

1 AppDomain domain = AppDomain.CurrentDomain;
2 Assembly[] assemblyArr = domain.GetAssemblies();
3 foreach (Assembly assembly in assemblyArr)

```

```

4 {
5   logger.Info(assembly.FullName);//
6   logger.Info(assembly.Location);//
7 }
```

DBSystem.BLL.dll

```

1 DBSystem.BLL, Version=0.0.0.0, Culture=neutral, PublicKeyToken=null
2 C:\ProgramData\Red Gate\.NET Reflector\DevPath\DBSystem.BLL.dll
```

dllbindll dlltb_abc.dll .NETShadow Copy Shadow Copy⁷

Shadow copying enables assemblies that are used in an application domain to be updated without unloading the application domain. This is particularly useful for applications that must be available continuously, such as ASP.NET sites.

The common language runtime locks an assembly file when the assembly is loaded, so the file cannot be updated until the assembly is unloaded. The only way to unload an assembly from an application domain is by unloading the application domain, so under normal circumstances, an assembly cannot be updated on disk until all the application domains that are using it have been unloaded.

When an application domain is configured to shadow copy files, assemblies from the application path are copied to another location and loaded from that location. The copy is locked, but the original assembly file is unlocked and can be updated.

16.14.4 (Little Tricks)

Visual Studio ??

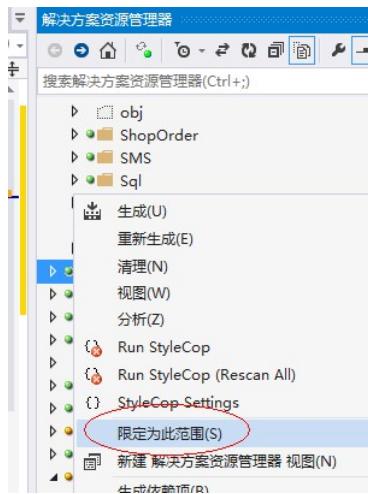
Visual Studio ??

*.csproj SVN

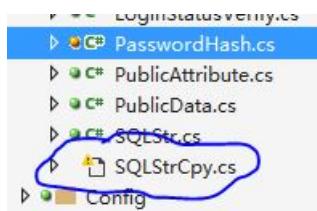
16.14.5 Visual Studio

(Content) - (Content) (Compile) - (Embedded Resource) - DLL (Linked Resources)
 (.resx) .resx (.resx) .resx

⁷NUnit normally uses .Net shadow-copying in order to allow you to edit and recompile assemblies while it is running. Uncheck this box to disable shadow-copy only if you have a particular problem that requires it.
 NUnit <http://www.nunit.org/index.php?p=optionsDialog&r=2.4.8>



16.29:



16.30:

16.14.6 (String Compare)

The .NET Framework provides extensive support for developing localized and globalized applications, and makes it easy to apply the conventions of either the current culture or a specific culture when performing common operations such as sorting and displaying strings. But sorting or comparing strings is not always a culture-sensitive operation. For example, strings that are used internally by an application typically should be handled identically across all cultures. When culturally independent string data, such as XML tags, HTML tags, user names, file paths, and the names of system objects, are interpreted as if they were culture-sensitive, application code can be subject to subtle bugs, poor performance, and, in some cases, security issues.

- Use comparisons with `StringComparison.Ordinal` or `StringComparison.OrdinalIgnoreCase` for better performance. `String.Compare(string1, string2, StringComparison.Ordinal)` (non-linguistic), `APIbyte,,,String`
- Use overloads that explicitly specify the string comparison rules for string operations. Typically, this involves calling a method overload that has a parameter of type `StringComparison`.
- Use `StringComparison.Ordinal` or `StringComparison.OrdinalIgnoreCase` for comparisons as your safe default for culture-agnostic string matching.

16.14.7 .NET

16.15 Regular Expression

16.15.1 (Metacharacter)

\d

[^]

16.15.2

Javascript09:00-10:00

```

1 if (!obj.goDuringTime.match(/^(([0-1]\d)|(2[0-4])):[0-5]\d-(([0-1]\d)|(2[0-4])):[0-5]\d$/)) {
2   alert("");
3   return;
4 }
```

, ^\$, ^ ^

\$ \$

[]

[0-9] 0-9

1,20120[0-9]120 /[^] \$/

16.16 (Configuration Management)

16.16.1

Web

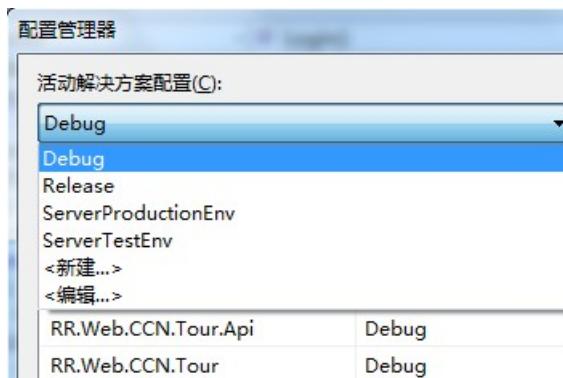
```

1 public class PublicAttribute
2 {
3   /// jsummary
4   ///
5   /// j/summary
6   public static string staticPath = ConfigurationManager.AppSettings["staticPath"];
7 }
```

C# ASP.NETApplication ApplicationApplication ASPApplication ASP.NETApplication
 Application_Start ASP.NET 2.0Application ApplicationSession Application Application CacheApplicationCache

16.16.2 (Self-adaption Configuration)

Visual Studio??



16.31: Visual Studio

2(Server Production Environment) (Server Test Environment) 2Web.config Web.config ??



16.32: Visual Studio

Web.Production.config??

Listing 16.2:

```

1<configuration xmlns:xdt="http://schemas.microsoft.com/XML-Document-Transform">
2  <appSettings>
3    <!-- WCF -->
4    <add key="WCFPath" value="http://129.21.11.122:88" xdt:Transform=""
      SetAttributes" xdt:Locator="Match(key)" />[text=white,font=,inner
      sep=0.2mm,draw,circle,fill=black]1;
5    <!-- -->
6    <add key="newStaticServer" value="http://192.168.35.17:8083" xdt:Transform=""
      SetAttributes" xdt:Locator="Match(key)" />
7  </appSettings>
8  <connectionstring>
9    <add name="MyDB"

```

```

10      connectionString="Data Source=TestSQLServer;Initial Catalog=MyTestDB;
11          Integrated Security=True"
12      xdt:Transform="Replace" xdt:Locator="Match(name)"/>
13  </connectionstring>
14  <system.web>
15      <compilation xdt:Transform="RemoveAttributes(debug)" />
16      <customErrors mode="RemoteOnly" defaultRedirect="/error/index" xdt:Transform="
17          Replace"/>[text=white,font=,inner
sep=0.2mm,draw,circle,fill=black]2;
18  </system.web>
19 </configuration>

```

[text=white,font=,inner **sep=0.2mm,draw,circle,fill=black**]1; SetAttributeskeyMatch(key)

[text=white,font=,inner **sep=0.2mm,draw,circle,fill=black**]2; customErrorsmodelRemoteOnly

XMLWeb.config XML-Document-TransformxdtXML XML-Document-Transform Locator
TransformLocatorWeb.config TransformLocator

16.17 Inversion of Control

IoC (Inversion of Control,IoC),, , IoC, . AB, BA,

- new
-
-
-
-

16.17.1 Spring.NET

Spring.NET is an open source application framework that makes building enterprise .NET applications easier. Providing components based on proven design patterns that can be integrated into all tiers of your application architecture, Spring helps increase development productivity and improve application quality and performance.

Spring SpringIoC Spring.NET<http://www.springframework.net/index.html> 1.3.1.NET Framework 4.0 Spring.Core.dllCommon.Logging.dllSpring.Data.dll IPersonDaoSave

```

1  namespace RR.DataCommon.Dao.Interface
2  {
3      public interface IPersonDao

```

```

4   {
5     void Save();
6   }
7 }
```

PersonDaoIPersonDao

```

1 namespace RR.DataCommon.Dao_Impl
2 {
3   public class PersonDao:IPersonDao
4   {
5     public void Save()
6     {
7       logger.Info("I am saving...");
8     }
9   }
10 }
```

```

1 <?xml version="1.0" encoding="utf-8" ?>
2 <configuration>
3   <configSections>
4     <sectionGroup name="spring">
5       <section name="context" type="Spring.Context.Support.ContextHandler, Spring.
6         Core" />
7       <section name="objects" type="Spring.Context.Support.DefaultSectionHandler,
8         Spring.Core" />
9     </sectionGroup>
10    </configSections>
11    <spring>
12      <context>
13        <resource uri="config://spring/objects" />[text=white,font=,inner
14          sep=0.2mm,draw,circle,fill=black]1;
15      </context>
16      <objects xmlns="http://www.springframework.net">
17        <description>                               </description>
18        <object id="PersonDao" type="Dao.PersonDao, Dao" />[text=white,font=,inner
19          sep=0.2mm,draw,circle,fill=black]2;
20      </objects>
21    </spring>
22  </configuration>
```

[text=white,font=,inner **sep=0.2mm,draw,circle,fill=black**]1; springobjects[text=white,font=,inner **sep=0.2mm,draw,circle,fill=black**]2; typedll.dll

1 IApplicationContext ctx = ContextRegistry.GetContext();

```

2 IPersonDao dao = ctx.GetObject("PersonDao") as IPersonDao;
3 if (dao != null)
4 {
5     dao.Save();
6     logger.Info("      IoC      ");
7 }
8 else
9 {
10    logger.Error("Object is null");
11 }

```

IoC ClassA a=new ClassA() ClassA IoCXML XML dynamic Spring.NET

```

1 IApplicationContext ctx = ContextRegistry.GetContext();
2 dynamic dao = ctx.GetObject("PersonDao");
3 if (dao != null)
4 {
5     dao.Save();
6     logger.Info("      IoC      ");
7 }
8 else
9 {
10    logger.Error("Object is null");
11 }

```

8

16.17.2 Spring.NETObject.xml

Spring.NETObject.xml

```

1 string[] xmlFiles = new string[] {@file:///G:/Objects.xml"};
2 IApplicationContext ctx = new XmlApplicationContext(xmlFiles);
3 dynamic dao = ctx.GetObject("PersonDao");
4 if (dao != null)
5 {
6     dao.Save();
7     logger.Info("      IoC      ");
8 }
9 else
10 {
11    logger.Error("Object is null");
12 }

```

Web.configXML

```

1 <spring>
```

⁸http://www.cnblogs.com/GoodHelper/archive/2009/10/25/Spring_.NET_IoC.html

```

2 | <context>
3 |   <resource uri="file:///D:\\\\Tour\\\\trunk\\\\Config\\\\Objects.xml" />
4 |     [text=white,font=,inner
5 |       sep=0.2mm,draw,circle,fill=black]1;
6 |     <resource uri="file://~/Config\\Objects.xml" />[text=white,font=,inner
7 |       sep=0.2mm,draw,circle,fill=black]2;
8 |   </context>
9 | </spring>

```

[text=white,font=,inner **sep=0.2mm,draw,circle,fill=black**]1; Objects.xml

[text=white,font=,inner **sep=0.2mm,draw,circle,fill=black**]2; Objects.xml NUnit NUnit

Visual Studio Spring.NET\doc\schemaspring-objects-1.3.xsd Visual StudioXml\Schemas

16.17.3 Castle Windsor(Apache License Version 2.0)

Castle Windsor⁹ is a best of breed, mature Inversion of Control container available for .NET and Silverlight.

We are a bunch of programmers who share a collective frustration with the status quo of the development tools and frameworks for .net. We have jobs, lives and hobbies, and we value being productive. We also value delivering software that is maintainable and long lasting.

That was the motivation for this open source project.

Castle Project is an umbrella for a handful of open source projects for .net. We aspire to simplify the development of enterprise and/or web applications.

Castle helps you get more done with less code and in less time (but not in the traditional code generator mess that some preach). Castle Windsor

1 Install –Package Castle.Windsor

16.17.4 Autofac

Autofac is an addictive Inversion of Control container for .NET 4.5, Silverlight 5, Windows Store apps, and Windows Phone 8 apps.

16.17.5 .NET

.NET

VS

5KB 5GB IDE

⁹<http://www.castleproject.org/>

```

1  using System;
2  using System.Collections.Generic;
3
4  namespace HelloWorld
5  {
6      public class Program
7      {
8          static void Main (string[] args)
9          {
10             List<string> list = new List<string>();
11             list .Add("J");
12             list .Add("X");
13             list .Add("Q");
14             string str = string.Join(", ", list );
15             Console.WriteLine(str);
16         }
17     }
18 }
```

:

```
1 csc.exe /out:a.exe a.cs
```

Visual Studio

16.18 AOP(Aspect-Oriented Programming)

AOP(Aspect-Oriented Programming)OOP OOP AOP AOP AOP AOP AOP AOP AOP

16.18.1 AOP

16.18.2 AOP

16.18.3 AOP

16.18.4 AOP

16.18.5 iMicros

IIS IISIIS iMicros iMacros is an extension for the Mozilla Firefox web browsers which adds record and replay functionality similar to that found in web testing and form filler software. The macros can be combined and controlled via Javascript. The extension was developed by iOpus. The current stable release of iMacros is version 0.9.0.2, released on July 7, 2007. As of July

14, 2007 iMacros is one of the TOP 10 most popular Firefox extensions in the Bookmark, Web Data, Alerts, and Widgets and Social and Sharing categories.

16.19 (Async)

16.19.1 IAsyncResult

Invoke InvokeBeginInvokeEndInvokeBeginInvoke (CLR) BeginInvoke EndInvoke/Begin-
Invoke BeginInvokeEndInvoke

Invoke() BeginInvoke()EndInvoke().Net BeginEndStreamBeginRead()EndRead() BeginIn-
voke()

16.19.2 Task

.NET 4.0 Taskasync/await Task async/await TaskDemoTask Thread

16.19.3 async/await

16.20

16.20.1 lock

lock Critical Section

16.20.2

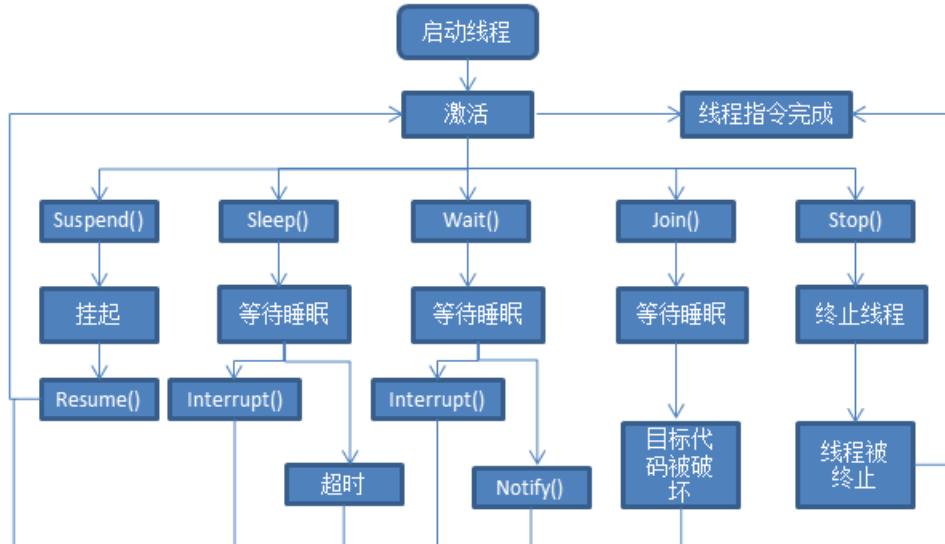
()

CPU CPU

CPU Bug

16.20.3 Timer

System.Threading.Timer System.Windows.Forms.Timer windows(UI) UIWM_TIMERcallbackUI
System.Windows.Threading.DispatcherTimer WPFSilverlight System.Windows.Forms.Timer Sys-
tem.Windows.Forms.Timer



16.33:

```

1 private readonly System.Windows.Forms.Timer _aTimer = new System.Windows.Forms.Timer();
2
3 private void SetTimer()
4 {
5     _aTimer.Interval = 5000;
6     _aTimer.Enabled = true;
7     _aTimer.Tick += delegate(object o, EventArgs args)
8     {
9         Log.Logger.Info("The Elapsed event was raised at {0:HH:mm:ss.ffff}" + args);
10        GetFrontEndData();
11    };
12    _aTimer.Start();
13 }

```

Windows.UI.Xaml.DispatcherTimer windows store appSystem.Windows.Forms.Timer System.Timers.Timer System.Threading.Timer System.Windows.Forms.Timer visual studiotoolbox designervisual studiodesigner visual studiocontroltimerSynchronizingObjectcallbackUI Jeffrey RichterSystem.Threading.Timer

16.20.4 :

.NET Framework 2.0 C#UIUIUI InvokeRequired TrueUIInvokeBeginInvokeUI Winform

```

1 var instanceForm=Application.OpenForms["FormName"];

```

Application.OpenForms gets a collection of open forms owned by the application. The OpenForms property represents a read-only collection of forms owned by the application. This

collection can be searched by index position or by the Name of the Form. HandleInvokeRequired-False This means that InvokeRequired can return false if Invoke is not required (the call occurs on the same thread), or if the control was created on a different thread but the controls handle has not yet been created. You can protect against this case by also checking the value of IsHandleCreated when InvokeRequired returns false on a background thread. Invoke BeginInvoke

delegateInvoke CC++

```

1  private void button2_Click(object sender, EventArgs e)
2  {
3      Thread thread1 = new Thread(new ParameterizedThreadStart(UpdateLabel2));
4      thread1.Start(" Label ");
5  }
6
7  private void UpdateLabel2(object str)
8  {
9      if (label2.InvokeRequired)
10     {
11         // InvokeRequired
12         Action<string> actionDelegate = (x) => { this.label2.Text = x.ToString(); };
13         //
14         // Action<string> actionDelegate = delegate(string txt) this.label2.Text = txt; ;
15         this.label2.Invoke(actionDelegate, str);
16     }
17     else
18     {
19         this.label2.Text = str.ToString();
20     }
21 }
```

```

1  /// isummary;
2  ///
3  /// i/summary;
4  /// iparam name="action" i;iparam;
5  private void OpeMainFormControl(Action action)
6  {
7      if (InvokeRequired)
8      {
9          this.Invoke(action); //
10     }
11     else
12     {
13         action();
14     }
15 }
```

```

1 var t = new Thread(delegate()
2 {
3     //invoker
4     OpeMainFormControl(delegate
5     {
6         LoadLineIcon("dddd,0");
7     });
8 });
9 t.Start(); //
```

```

1 public void LoadData(object taskList)
2 {
3     OpeMainFormControl(delegate()
4     {
5         var driverActionInfos = taskList as List<DriverActionInfo>;
6         if (driverActionInfos == null) return;
7         foreach (var singleTask in driverActionInfos)
8         {
9             var taskIndex = driverActionInfos.IndexOf(singleTask);
10            //Create the new row first and get the index of the new row
11            var rowIndex = this.dataGridViewEx1.Rows.Add();
12            //Obtain a reference to the newly created DataGridViewRow
13            var dataGridRow = this.dataGridViewEx1.Rows[rowIndex];
14            //Now this won't fail since the row and columns exist
15            dataGridRow.Cells["vehicleLicense"].Value = singleTask.Carlicense;
16        }
17    });
18 }
```

16.20.5 Lambda(delegate)

λ 0-n Lambda.NET 3.5 FrameworkLambdadelegate delegate C# 2.0C# 1.xdelegate C# 2.0delegate LamdbaC#delegate LamdbaIL

```

1 public delegate bool Filter(int num);//
2 Filter filter = i => { return (i & 1) == 0; };
3 Filter filter = delegate(int i) { return ((i & 1) == 0); };
```

(Anonymous Delegate)

```

1 void StartThread()
2 {
```

```

3 System.Threading.Thread t = new System.Threading.Thread (delegate()
4 {
5     System.Console.WriteLine("new Thread is running.");
6 });
7 t.Start();
8 }
```

16.20.6 System.ObjectDisposedException

Invoke Panel

```

1 AccessibilityObject = (dotNetBarTabControl2.Controls.Owner).
2                         AccessibilityObjectSystem . . . ObjectDisposedException
3 :
```

PanelPanel

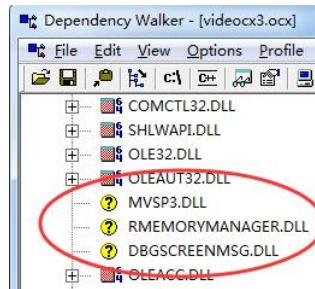
16.20.7 (Exit Code)

Use a non-zero number to indicate an error. In your application, you can define your own error codes in an enumeration, and return the appropriate error code based on the scenario. For example, return a value of 1 to indicate that the required file is not present and a value of 2 to indicate that the file is in the wrong format. For a list of exit codes used by the Windows operating system, see System Error Codes in the Windows documentation. This function returns immediately. If the specified thread has not terminated and the function succeeds, the status returned is STILL_ACTIVE. If the thread has terminated and the function succeeds, the status returned is one of the following values: The exit value specified in the ExitThread or TerminateThread function. The return value from the thread function. The exit value of the thread's process. Important The GetExitCodeThread function returns a valid error code defined by the application only after the thread terminates. Therefore, an application should not use STILL_ACTIVE (259) as an error code. If a thread returns STILL_ACTIVE (259) as an error code, applications that test for this value could interpret it to mean that the thread is still running and continue to test for the completion of the thread after the thread has terminated, which could put the application into an infinite loop.

16.21 Windows 32

16.21.1 COM

ocx DllImport1exe 2System32 3DLL DLLImport DLL../Library/videocx3.ocx: videocx3.ocx
Dependency Walkerocx ocx ocx ??



16.34: ocx

OCX

```

1 [DllImport("videocx3.ocx")]
2 private static extern int DllRegisterServer();
3
4 // 
5 public static void IsDllRegisteredSuccess(string[] classId)
6 {
7     foreach (var currentClassId in classId)
8     {
9         var registerKey = Registry.ClassesRoot.OpenSubKey("CLSID\\" + currentClassId);
10        if (registerKey != null) continue;
11        var i = DllRegisterServer();
12        if (i < 0)
13        {
14            Log.Logger.Error("Control registered failed");
15        }
16    }
17}

```

16.22 (Plug-In)

16.22.1

, plug-in plugin in Microsoft ActiveX COM Component Object Model ActiveX COM Photoshop Filter

ActiveX COM Microsoft .Net Framework 2003 ActiveX COM VC++ ? COM IUnknown Query Interface Microsoft MCSD ? COM ActiveX ActiveX COM ActiveX COM, ActiveX COM

? COM? NO? COM PhotoShop

16.22.2

(run-time)" (run-time)(assembly-time) (DLL) assembly-time 1 2 1 2 1BUGBUG 2

16.22.3

(reflection)

16.23 .NET Core**16.24****Win32 x86x64****(HRESULT:0x80040154 (REGDB_E_CLASSNOTREG)) x86**

Chapter 17

(Fundation Engine)

Web

17.1 HTTP

```
1 import socket
2 HOST, PORT = '', 8888
3
4 listen_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
5 listen_socket.setsockopt(socket.SOL_SOCKET, socket.SO_REUSEADDR, 1)
6 listen_socket.bind((HOST, PORT))
7 listen_socket.listen(1)
8 print 'Serving HTTP on port %s ...' % PORT
9 while True:
10     client_connection, client_address = listen_socket.accept()
11     request = client_connection.recv(1024)
12     print request
13
14     http_response = """\
15         HTTP/1.1 200 OK
16
17         Hello, World!
18
19
20     client_connection.sendall(http_response)
21     client_connection.close()
```

17.2 (Compiler)

obj EXE

17.3 (Database)

nn
B Oracle8EBSQL Server524,272TB MySQL4GBMySQLISAM MyISAMMySQL 3.23 MySQL64PB
MySQLMyISAMMySQL OS

17.4 (Operation System)

Chapter 18

Android

18.0.1

18.1

18.1.1 The import android.support cannot be resolved

jar

1EclipseProperties

2Java Build Path

3Libraries tabAdd External JARs

4android-support-v4.jarandriodsdk:

1 \android–sdks\extras\android\support\v4\android–support–v4.jar

18.2 Android SDK

18.2.1

Android SDK360Android SDK 360Google

18.3 PhoneGap

Forrester2014 31%; 27%Web;22%(Apache CordovaAdobePhoneGap(Cordova)); 12%Xamarin HTML 5Facemire Web Web

18.3.1 PhoneGap

JDK XuYYJDKX JDK7JDK8 uupdateYY bug

```

1 #PhoneGap
2 npm install -g phonegap
3
4 #PhoneGap
5 npm install -g phonegap

```

AndroidANDROID_SDK_HOMEandroid-SDK-windows.

18.3.2 Cordova

PhoneGapCordova Cordova CLIcordova command-line interface :

```

1 #Cordova
2 npm install -g cordova
3
4 #Cordova
5 cordova create hello com.example.hello Helloworld
6
7 #Android
8 cordova platform add android
9
10 #Cordova
11 cordova run android
12 #
13 cordova run --target=name_of_your_emulator android
14
15 #build
16 cordova build
17
18 #Android
19 emulator.exe avd Dolphin
20
21 #Cordova
22 npm install -g ripple-emulator

```

cordova create (com.example.hello)ID(Helloworld) buildapk apk

18.4 React Native for Android

18.4.1

```
1 npm install -g react-native-cli  
2  
3 #  
4 react-native init MyProject  
5  
6 #To run your app on Android  
7 react-native run-android
```


Chapter 19

Windows SDK

windows 1.windwos cSDK 2.c++: SDKVCMFC,BCBOWL SDK

SDKwindowsAPI API(win95API) MFCAPI 20windows20windows”” MFCVVC MFCMFC
VC, VCMFC VB

MFCSDK WindowsMFC MFCwindows Windows SDK MFC

WindowsDLLKernel32.dllUser32.dllGDI32.dll APIDLLAPIAPI.H.LIB DLLAPI APIAPI.H.LIB
SDKWindows””SDK SDKAPIAPIWindows”SDK” APISDKWindows VCLMFC”SDK”API

Chapter 20

SOA

20.1 SOA

SOA(Service-Oriented Architecture) SOA Web Services SOA Web Service SOA SOA

SOA

-
-
- Web Web Services Description Language WSDL WSDL
-
- SOA Web W3C Web SOAP WSDL UDDI Web WS-* SOA

20.2 (Microservices)

20.2.1

Single Responsibility bounded context Robert C. Martin A class should have only one reason to change

Separation of Concerns bounded context

Modularity Divide & Conquer

Conways Law Melvin Conway 1968 Any organization that designs a system (defined broadly) will produce a design whose structure is a copy of the organization's communication structure Dan North Those systems then constrain the options for organization change

20.2.2 Backend For Frontend

WebAPI(Mobile First) (omni-channel experience oriented)

Chapter 21

Java

21.1 JAX-WS(Java API for XML Web Services)

Java API for XML Web Services (JAX-WS) Web Web Web

21.1.1 GoogleWebSocket

GoogleSocket

chrome://net-internals/#sockets

localhost:8080,root root

Usage: java javassist.tools.web.Webserver [port number];

21.2 MyEclipse

21.2.1

21.3 Maven

Maven is a software tool that helps you manage Java projects, and automate application builds. IntelliJ IDEA fully integrates with Maven version 2.2 and later versions, allowing you to create or import Maven modules, download artifacts and perform the goals of the build lifecycle and plugins.

Maven 1.2. Maven IDE Maven Maven IDE Maven Eclipse Maven m2eclipse IntelliJ Maven

21.4 Apache MINA(Multipurpose Infrastructure for Network Applications)

mina 2.010005076.81rps(Requests Per Second) Apache MINA(Multipurpose Infrastructure for Network Applications) Apache MINA Java NIO TCP/UDP () MINA web service-tomcat200 Apache MINA is a network application framework which helps users develop high performance and high scalability network applications easily. It provides an abstract event-driven asynchronous API over various transports such as TCP/IP and UDP/IP via Java NIO.

Nginx	Web	Tomcat/Resin	App	Memcached	Cache	MySQL	Linux	MINA2
-------	-----	--------------	-----	-----------	-------	-------	-------	-------

21.5 Apache Kafka

kafka 1.kafka JVM 2. LinkedIn storm hadoop 3.open source (open source) 4.scala JVM scala spark scala scala

21.5.1 Apache Kafka

1SELINUX

```

1 vi /etc/selinux/config
2
3 #SELINUX=enforcing #
4
5 #SELINUXTYPE=targeted #
6
7 SELINUX=disabled #
8
9 :wq! #
10
11 setenforce 0 #

```

21.5.2 JDK

kafkaJDK

JDK <http://www.oracle.com/technetwork/java/javase/downloads/jdk7-downloads-1880260.html>

```

1 #MySQL
2 service start mysqld
3
4
5 #MySQL

```

```
mysql.servermysqld_safe startstop mysql.serverMySQLshare/mysqlMySQL support-files
```

```
1 find <           ><           ><           >
2
3 #homea
4 find /home -type f -mmin -10
5
6 #support-files
7 find / -type d -name support-files
8
9 #my
10 find . -name 'my'
11 #lan.conf
12 find / -name "lam.conf"
```

21.6 Apache Tomcat

21.6.1 (Common Sense)

Apache Tomcatwebapps DeviceGPSIndex.jsp URL

```
1 http://192.168.24.79:8081/DeviceGPS/index.jsp
```


Chapter 22

Python

Python??



22.1: Python

Python

Scheme Ruby Perl Tcl Python Python py2exe PyPy PyInstaller Python Python
Python CPython CPython
Python Python Python Python Python Python

22.1

22.1.1 Django

pip is a package manager for Python. It makes installing and uninstalling Python packages (such as Django!) very easy. For the rest of the installation, we'll use pip to install Python packages from the command line.

```
ImportError: No module named setuptools
WindowsPythonsetuptools http://pypi.python.org/pypi/setuptools
Windowsexe setuptoolspython setup.py install
```

22.1.2 paramiko

```
paramikopythonSSH2 pythonpython Linux, Solaris, BSD, MacOS X, Windowsparamiko
SSHparamiko ssh
```

22.1.3 paramiko

paramikopythonPyCrypto pycryptoPythonThis is a collection of both secure hash functions (such as SHA256 and RIPEMD160), and various encryption algorithms (AES, DES, RSA, ElGamal, etc.).

```
easy_install C:/Python27/Scripts
```

```
PyCrypto python.exeImport Crypto
```

```
paramiko paramiko
```

```
1 #easy_install
2 easy_install paramiko
3
4 #pip
5 pip install paramiko
```

Microsoft Visual C++ 9.0 is required (Unable to find vcvarsall.bat). C++(Microsoft Visual C++ Compiler for Python 2.7) paramikoImportError: No module named cryptography.hazmat.backends pyOpenSSL

```
1 easy_install pyOpenSSL==0.13
2
3 pip install pyOpenSSL==0.13
```

pyOpenSSLpip(python -m pip install --upgrade pip)

22.2

22.2.1

, .

22.2.2 Python Tools for Visual Studio

22.2.3 PyCharm

:File->Settings->Editor->General->Appearance->Show line numbers

22.3

22.3.1 Python

```
1  #
2  >>> bin(10)
3  '0b1010'
4
5  #
6  >>> hex(10)
7  '0xa'
8
9  #
10 >>> int('1010',2)
11 10
12
13 #
14 >>> int('0xa',16)
15 10
16
17 #
18 >>> bin(0xa)
19 '0b1010'
20
21 #
22 >>> hex(0b1010)
23 '0xa'
```

22.3.2 Python

Pythonparamiko

```

1 #!/usr/bin/python
2
3 import sys
4 import paramiko
5 import ssh
6
7 def download():
8     print("scan")
9     sshClient=ssh.SSHClient()
10    sshClient.set_missing_host_key_policy(ssh.AutoAddPolicy())
11    sshClient.connect("10.6.12.14",port = 21,username = "root",password = "123456")
12    stdin,stdout,stderr = sshClient.exec_command("ls -alh")
13    stdout.read()
14    sftp = sshClient.open_sftp()
15    sftp.get('/root/package/scripts/log/log.log','G:\\a.log')
16
17 if __name__=="__main__":
18     print("main")
19     download()

```

22.3.3 Python

`__init__.py`

```

1 #!/usr/bin/python
2
3 import Ssh.SshDown
4
5 def sshdownload():
6     Ssh.SshDown.download()

```

22.3.4 python xml

22.3.5 Python

`python python`

```

1 #coding=utf-8
2 import logging
3
4 logging.basicConfig(level=logging.INFO)
5 logger = logging.getLogger(__name__)
6
7 #Create a file handler
8 handler = logging.FileHandler('output.log')
9 handler.setLevel(logging.INFO)

```

```
10  
11 #Create a logging format  
12 formatter = logging.Formatter('%(asctime)s - %(name)s - %(levelname)s - %(message)s',  
13     )  
14 handler.setFormatter(formatter)  
15  
16 # add the handlers to the logger  
17 logger.addHandler(handler)  
18  
19 def loginfo ():  
20     logger.info ('info')  
21     return
```

```
1 #coding=utf-8  
2  
3 import commonlogger  
4  
5 commonlogger.loginfo()
```

22.3.6

python Python2.7 loggingJSONYAML .ini logsetup_logginglogging.json logging.yamlLOG_CFG

22.4

22.4.1 TabError: inconsistent use of tabs and spaces in indentation

Python PythonPython

Chapter 23

Linux

23.1 shell

23.1.1

Shell¹

```
; do , ; then while , for , if
```

STDERR

```
1 err() {
2     echo "[$(date +'%Y-%m-%dT%H:%M:%S%z')]: $@"
3 }
4
5 if ! do_something; then
6     err "Unable to do_something"
7     exit "${E_DID_NOTHING}"
8 fi
```

23.1.2 Shell

```
1 #!/bin/sh
2 if [ ! -d "/root/package/my" ] ;then
```

¹<http://zh-google-styleguide.readthedocs.io/en/latest/google-shell-styleguide/formatting/>

```

3 mkdir /root/package/my
4 fi

```

tcpdump tcpdump

```

1 #!/bin/bash
2 currentDate=`date '+%Y-%m-%d'`
3 currentTime=`date +'Y%m%d%H%M%S'`
4 packageStoreDir=/root/package/location/$currentDate
5 if [ ! -d "$packageStoreDir" ] ;then
6 mkdir "$packageStoreDir"
7 fi
8 #tcpdump -i eth1 port 6973 and host 12.26.32.14 -w packageStoreDir/currentTime.cap
9 tcpdump -i eth1 port 6973 and host 12.26.32.14 -w $packageStoreDir/$currentTime.cap

```

& shell hanguphangup shellnohangup setsidinit(1)

```

1 nohup ./capture.sh &

```

jobs

```

1 #!/bin/bash
2 for processId in $(ps -ef|grep "tcpdump"|grep -v grep|cut -c 10-15); do
3 if [ $processId != 1 ] ;then
4 kill -9 $processId
5 echo "kill $processId success" >> ./log/log.log
6 fi
7 done

```

tcpdumpcut -c 10-15ID

```

1 #!/bin/bash
2 process_exists=false
3 for processId in $(ps -ef|grep "tcpdump"|grep -v grep|cut -c 10-15); do
4 if [ $processId != 1 ] ;then
5 process_exists=true
6 echo "tcpdump process already exists,will not start capture process" >> ./log/
    capture.log
7 fi
8 done
9 if [ "$process_exists" != true ] ;then

```

```

10 nohup /root/package/scripts/capture.sh &
11 fi

```

shell :process_exists=true

23.1.3 shell

23.2

Linux/usr

23.2.1

"cat /etc/issue", tar.gz

```

1 #!/etc/group
2 yum install texlive-scheme-full
3
4 #
5 #v
6 #R(recursive)
7 chmod -vR dolphin:dolphin DolphinDevManual
8
9 tar -zxf .tar.gz
10
11 #Linux
12 cat /proc/version
13
14 #
15 ps -aux
16
17 #ApachMySQL
18 chkconfig httpd on
19 chkconfig mysqld on

```

xextract f(file) gzip filter the archive through gzip vverbose

scpSecuritycopyssh

```

1 scp -r -P 50000 root@servername:/root/package/scripts ./
2
3 #
4 scp -r /tmp/local_dir username@servername:remote_dir

```

P50000 IP

23.2.2

```

1  #
2  tail -f Device.log |grep "7E 02 00"
3
4  #
5  tail -f MVSP.DeviceServer.log |grep "7E 02 00 00 . . . . . . . . . . . . . . . . [^0][^0]
6                                [^0][^0] [^0][^0] [^0][^0]"
7  #GPS

```

23.2.3

IP DHCP IP

```

1  #ip
2  dhclient
3  #ipMAC
4  ifconfig

```

ip IP

```

1  #
2  vi /etc/sysconfig/network-scripts/ifcfg-eth0

```

O IPADDR=192.168.4.10 NETMASK=255.255.255.0 GATEWAY=192.168.4.1 ONBOOT=noONBOOT=yes
BOOTPROTO=dhcpBOOTPROTO=none

```

1 DEVICE=eth0
2 HWADDR=00:0C:29:A5:78:61
3 TYPE=Ethernet
4 UUID=282eb4cc-6657-4a54-98e3-29605f5998b1
5 ONBOOT=yes
6 NM_CONTROLLED=yes
7 BOOTPROTO=none
8 IPADDR=192.168.24.85
9 NETMASK=255.255.255.0
10 GATEWAY=192.168.24.255

```

ESC:wq

```

1 service network restart

```

eth0ip

```
1 ifconfig eth0
```

IPpingWINDOWS+Rcmd ping 192.168.24.85pingIP

iptables() iptablesLinux

```
1 #CentOS iptables
2 nano /etc/sysconfig/iptables
3 #
4 iptables -L -n
5 #input
6 /sbin/iptables -I INPUT -p tcp --dport 8080 -j ACCEPT
7 #output
8 iptables -A OUTPUT -p tcp sport 22 -j ACCEPT
9 #
10 #/etc/init.d/iptables save
11 #CentOS
12 /etc/rc.d/init.d/iptables save
```

ftp 20 21

ssh 22

telnet 23

rsync 873

svn 3690

pop3110

smtp25

dns53

mysql3306

nfs111

23.2.4 tcpdump

tcpdumpeth112.26.32.14

```
1 tcpdump -i eth1 host 12.26.32.14 -vv
```

eth112.26.32.146973

```
1 tcpdump -i eth1 dst host 12.26.32.14 and port 6973 -vv
```

eth1TCP12.26.32.146973

```
1 tcpdump -i eth1 tcp and dst host 12.26.32.14 and port 6973 -vv
```

eth1TCP12.26.32.146973,140

```
1 tcpdump -i eth1 tcp and dst host 12.26.32.14 and port 6973 and 'ip[2:2]>140' -vv
```

eth1TCP12.26.32.146973,140

```
1 tcpdump -i eth1 tcp and dst host 12.26.32.14 and port 6973 and 'ip[2:2]>140' -vv -X
```

-Xtcpdumptcpdump16ASCII eth1TCP12.26.32.14 6973,140100

```
1 tcpdump -i eth1 tcp and dst host 12.26.32.14 and port 6973 and 'ip[2:2]>140' -vv -X -c  
100
```

eth1TCP12.26.32.146973,140 IP407e02()0x

```
1 tcpdump -i eth1 tcp and dst host 12.26.32.14 and port 6973 and 'ip[2:2]>140 and ip[40,2]=0  
x7e02' -vv -X -c 100
```

eth1TCP12.26.32.146973,140 IP407e02()0x

```
1 tcpdump -i eth1 tcp and dst host 12.26.32.14 and port 6973 and 'ip[2:2]>140 and ip[40,2]=0  
x7e02' -vv -X -c 100
```

eth1TCP12.26.32.146973,140 IP407e02()

```
1 tcpdump -i eth1 tcp and dst host 12.26.32.14 and port 6973 and 'ip[2:2]>0 and ip[41:2]=0  
x0200 and ip[53:4]!=0x00000000' -vv -X -c 100
```

eth1TCP12.26.32.146973,140 IP407e02()0x41310718

```
1 tcpdump -i eth1 tcp and dst host 12.26.32.14 and port 6973 and 'ip[2:2]>0 and ip[41:2]=0  
x0200 and ip[53:4]!=0x00000000 and ip[46:4]!=0x41310718' -vv -X -c 100
```

```
2 tcpdump -i eth1 tcp and dst host 12.26.32.14 and port 6973 and 'ip[2:2]>100 and ip[41:2]=0  
x0200 and ip[53:4]==0x200000 and ip[46:4]!=0x41310718' -vv -X -c 10000
```

tcpdump

tcpdump-w1,000,000 bytes Savefiles after the first save-file will have the name specified with the -w flag, with a number after it, starting at 1 and continuing upward. The units of file_size are millions of bytes (1,000,000 bytes, not 1,048,576 bytes).

tcpdump

dumptcpdump-tttt

```
1 /usr/sbin/tcpdump -i eth1 port 6973 and host 12.26.32.14 -tttt -s0 -w $packageStoreDir/
    $currentTime.cap
```

Wireshark

23.2.5 vi

vi + filename	
^f	(forward)
^b	(before)
^d	(down)
^u	(up)
^n	n(next)
^N	N
u	(undo)
Ctrl+r	(redo)

1

yy

2

nyynn123

2

p

23.2.6 Vim

gg	
\$	
[N]yy	N
G	
[n]gg	

23.2.7 grep

grep(Globally search a Regular Expression and Print) ()

```

1 #vid[10]vid[11]
2 #-Eegrep grep
3 grep -E 'vid\[10\]|vid\[11\]',
4
5 #vid[10]
6 grep -v 'vid\[10\]'
```

-v --color

23.2.8 anacron

23.2.9 cron

Ubuntu cron/etc,vi crontab

```

1 /etc/crontab: system-wide crontab
2 Unlike any other crontab you don't have to run the 'crontab'
3 command to install the new version when you edit this file
4 and files in /etc/cron.d. These files also have username fields,
5 that none of the other crontabs do.
6
7 SHELL=/bin/sh
8 PATH=/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/usr/bin
```

Cron

rsyslog/etc/rsyslog.d/50-default.conf #cron.*# rsyslogservice rsyslog restart cronservice cron restart

more /var/log/cron.log Cron No MTA installed, discarding output

```

1 * * * * * dolphin /home/dolphin/cron.sh >>$HOME/cronlog.log 2>&1
```

crontab

```

1 #crontab
2 /etc/init.d/cron start
3
4 #crontab
5 /etc/init.d/cron restart
6
7 #cron
8 ps -ef|grep cron
9
10 #crontab
11 crontab -l
12
13 #8capture.sh
14 0 8 * * * root /root/package/scripts/start_capture.sh >> /root/package/capture.log

```

23.2.10 CentOSPHP 5.4

RHEL / CentOS 4 PHP 5.3, CentOS 6 Yum PHP 5.4 :

1. SCL repo

```
1 yum install centos-release-SCL
```

2. php 5.4

```
1 yum install php54
```

Step 3. PHP 5.4 /etc/profile :

```
1 source /opt/rh/php54/enable
```

:

```
1 source /etc/profile
```

php -v PHP 5.4.

23.3 Angile

23.3.1 Scrum

(product backlog) """33

(sprint backlog) 1616

23.3.2 Redmine

redmime/var/www/redmine/config/configuration.yml

```
1 find / -name configuration.yml
```

delivery_method: :smtpsmtpasync_smtpApache

23.4 Code Review

23.4.1 Tools

23.4.2 Install Review Board

Part II

Premature optimization is the
root of all evil!

Donald Knuth

Chapter 24

24.1 Apache Kafka

Apache Kafka is an open-source message broker project developed by the Apache Software Foundation written in Scala. The project aims to provide a unified, high-throughput, low-latency platform for handling real-time data feeds. The design is heavily influenced by transaction logs.

24.2 log4net

OFF ↓ FATAL ↓ ERROR ↓ WARN ↓ INFO ↓ DEBUG ↓ ALL

24.2.1

LogMachineIDID log4net

```

1  CREATE TABLE [dbo].[Log](
2      [Id] [int] IDENTITY(1,1) NOT NULL,
3      [Date] [datetime] NULL,
4      [Thread] [varchar](255) NULL,
5      [Level] [varchar](50) NULL,
6      [Logger] [varchar](255) NULL,
7      [Message] [varchar](4000) NULL,
8      [Exception] [varchar](2000) NULL,
9      [location] [varchar](512) NULL,
10     [MachineID] [varchar](64) NULL)

```

24.2.2 log4netRollingFileAppender

app.configWebweb.config

```

1 <configSections>
2     <section name="log4net" type="log4net.Config.
3         Log4NetConfigurationSectionHandler, log4net"/>
4 </configSections>

```

log4net.config

```

1 <?xml version="1.0" encoding="utf-8"?>
2 <configuration>
3     <configSections>
4         <section name="log4net" type="log4net.Config.Log4NetConfigurationSectionHandler
5             , log4net"/>
6     </configSections>
7     <log4net>
8         <!--

```

```

8  <appender name="RollingFileAppender" type="log4net.Appender.
9    RollingFileAppender">
10   <file value="log\log_" />
11   <appendToFile value="true" />
12   <rollingStyle value="Date" />
13   <datePattern value="yyyyMMdd'.txt'" />
14   <staticLogFileName value="false" />
15   <param name="lockingModel" type="log4net.Appender.FileAppender+MinimalLock
16     " />
17   <layout type="log4net.Layout.PatternLayout">
18     <ConversionPattern value="%date] [%thread] [%level] [%logger] [%ndc] - %
19       message%newline" />
20   </layout>
21 </appender>
22
23 <root>
24   <level value="ALL" />
25   <appender-ref ref="rollingFile" />
26 </root>
27
28 <logger name="*>
29   <level value="ALL" />
30   <appender-ref ref="RollingFileAppender" />
31 </logger>
32 </log4net>
33 </configuration>

```

24.2.3 log4net.config(ADONetAppender)

log4net¹log4net.configSQL Server

```

1  <?xml version="1.0" encoding="utf-8" ?>
2  <configuration>
3    <configSections>
4      <section name="log4net" type="log4net.Config.Log4NetConfigurationSectionHandler,
5        log4net" />
6    </configSections>
7    <common>
8      <logging>
9        <factoryAdapter type="Common.Logging.Log4Net.Log4NetLoggerFactoryAdapter,
10          Common.Logging.Log4net">
11          <arg key="configType" value="INLINE" />
12        </factoryAdapter>
13      </logging>
14    </common>
15    <!--
16      ...
17    -->

```

¹The Apache log4net library is a tool to help the programmer output log statements to a variety of output targets. log4net is a port of the excellent Apache log4j framework to the Microsoft .NET runtime.<http://logging.apache.org/log4net/>

```
14 <log4net>
15   <!--           Consoleolog           -->
16   <appender name="ConsoleAppender" type="log4net.Appender.ConsoleAppender">
17     <layout type="log4net.Layout.PatternLayout">
18       <conversionPattern value="%date [%thread] %-5level %logger %ndc - %message%
19         newline" />
20     </layout>
21   </appender>
22   <!--           log           -->
23   <appender name="RollingLogFileAppender" type="log4net.Appender.
24     RollingFileAppender">
25     <file value="log\Log" />
26     <appendToFile value="true" />
27     <rollingStyle value="Date" />
28     <datePattern value="yyyyMMdd'.txt'" />
29     <!--           =-1           1000           -->
30     <param name="MaxSizeRollBackups" value="10"/>
31     <!--           -->
32     <param name="MaximumFileSize" value="50MB"/>
33     <staticLogFileName value="false" />
34     <layout type="log4net.Layout.PatternLayout">
35       <ConversionPattern value="%date [%thread] %-5level %logger [%ndc] - %message%
36         newline" />
37     </layout>
38   </appender>
39   <appender name="ADONetAppender" type="log4net.Appender.AdoNetAppender">
40     <bufferSize value="0"/>
41     <connectionType value="System.Data.SqlClient.SqlConnection, System.Data,
42       Version=1.0.3300.0, Culture=neutral, PublicKeyToken=b77a5c561934e089"/>
43     <connectionString value="Data Source=;Initial Catalog=zouwo-weixin;User ID=;
44       Password=/>
45     <commandText value="INSERT INTO Log ([Date],[Thread],[Level],[Logger],[
46       Message],[Exception]) VALUES (@log_date, @thread, @log_level, @logger,
47       @message, @exception)"/>
48     <parameter>
49       <parameterName value="@log_date"/>
50       <dbType value="DateTime"/>
51       <layout type="log4net.Layout.RawTimeStampLayout"/>
52     </parameter>
53     <parameter>
54       <parameterName value="@thread"/>
55       <dbType value="String"/>
56       <size value="255"/>
57       <layout type="log4net.Layout.PatternLayout">
58         <conversionPattern value="%thread"/>
59       </layout>
60     </parameter>
61     <parameter>
62       <parameterName value="@log_level"/>
63       <dbType value="String"/>
64       <size value="50"/>
```

```
58   <layout type="log4net.Layout.PatternLayout">
59     <conversionPattern value="%level"/>
60   </layout>
61 </parameter>
62 <parameter>
63   <parameterName value="@logger"/>
64   <dbType value="String"/>
65   <size value="255"/>
66   <layout type="log4net.Layout.PatternLayout">
67     <conversionPattern value="%logger"/>
68   </layout>
69 </parameter>
70 <parameter>
71   <parameterName value="@message"/>
72   <dbType value="String"/>
73   <size value="8000"/>
74   <layout type="log4net.Layout.PatternLayout">
75     <conversionPattern value="%message"/>
76   </layout>
77 </parameter>
78 <parameter>
79   <parameterName value="@exception"/>
80   <dbType value="String"/>
81   <size value="8000"/>
82   <layout type="log4net.Layout.ExceptionLayout"/>
83 </parameter>
84 <parameter>
85   <parameterName value="@MachineID" />
86   <dbType value="String" />
87   <size value="64" />
88   <layout type="log4net.Layout.PatternLayout" >
89     <param name="ConversionPattern" value="%property{MachineID}"/>
90   </layout>
91 </parameter>
92 </appender>
93 <!-- Setup the root category, add the appenders and set the default level -->
94 <root>
95   <level value="ALL" />
96   <appender-ref ref="ConsoleAppender" />
97   <appender-ref ref="RollingLogFileAppender" />
98   <appender-ref ref="ADONetAppender" />
99 </root>
100 </log4net>
101 </configuration>
```

24.2.4

ADONetAppender AssemblyInfo.cs

```
1 [assembly: log4net.Config.XmlConfigurator(Watch = true, ConfigFile = "./config/log4net
    .config")]

```

log4netconfig Client/ServerBrowser/Server Windows Servicelog4net , log4net.configconfig Client/Server

```
1 /*
2      Initial log4net in Windows Form
3 */
4 var assemblyFilePath = Assembly.GetExecutingAssembly().Location;
5 var assemblyDirPath = Path.GetDirectoryName(assemblyFilePath);
6 var configFilePath = assemblyDirPath + @"\config\log4net.config";
7
8 /*
9 * Always check if the 'configFilePath' is the correct 'log4net.config' file path.
10 */
11 log4net.Config.XmlConfigurator.ConfigureAndWatch(new FileInfo(configFilePath));
12
13 /*
14     Initail log4net in MVC
15 */
16 log4net.Config.XmlConfigurator.Configure(new System.IO.FileInfo(Server.MapPath("~/
    config/log4net.config")));
17
18 /*
19     Initial log4net in ASP.NET Web API
20     Write this code in Global.asax
21     Global.          asax          ASP.NET
22                         HTTP
23 */
24
25 /*
26     Log4net
27 */
28 BasicConfigurator.Configure();

```

MVClog4netGlobal.asaxApplication_Startlog4net

```
1 private static readonly log4net.ILog logger = log4net.LogManager.GetLogger("FrmTest"
    );

```

logger

```
1 private static readonly log4net.ILog logger = log4net.LogManager.GetLogger(
    MethodBase.GetCurrentMethod().DeclaringType);

```

using System.Reflection DeclaringTypeGets the class that declares this member logger logger log4net

```
1 Task.Run(() => AsyncLog4Net());
```

AsyncLog4Netlog4net

```
1 //  
2 for (int n = 1; n <= 5; n++)  
3 {  
4     Task.Run(() => logger.DebugFormat("Log entry {0}", n));  
5 }  
6  
7 /*  
8  
9 DEBUG Log entry 6  
10 DEBUG Log entry 6  
11 DEBUG Log entry 6  
12 DEBUG Log entry 6  
13 DEBUG Log entry 6  
14 */  
15  
16 //  
17 public void Debug(string message)  
18 {  
19     ThreadPool.QueueUserWorkItem(task => logger.Debug(message));  
20 }
```

24.2.5 log

log4net ??IIS log



24.1:

log4netAppender

```
1 <param name="lockingModel" type="log4net.Appender.FileAppender+MinimalLock" />
```

lockingModel RollingFileAppender FileAppender.ExclusiveLock, FileAppender.MinimalLock
and FileAppender.InterProcessLock close

24.2.6 log4net

log4net

```

1 <parameter>
2   <parameterName value="@MachineID" />
3   <dbType value="String" />
4   <size value="64" />
5   <layout type="log4net.Layout.PatternLayout" >
6     <param name="ConversionPattern" value="%MachineID"/>
7   </layout>
8 </parameter>

```

PatternLayout

```

1 public MyLayout()
2 {
3   AddConverter("MachineID", typeof(MachineIDPatternConverter));
4 }

```

PatternLayoutConverter

```

1 protected override void Convert(TextWriter writer, LoggingEvent loggingEvent)
2 {
3   LogMessage logMessage = loggingEvent.MessageObject as LogMessage;
4   //MachineID
5   writer.Write(logMessage.MachineID);
6 }

```

```

1 public class LogMessage
2 {
3   #region ID
4   private string _machineID;
5
6   public string MachineID
7   {
8     get { return _machineID; }
9     set { _machineID = value; }
10  }
11  #endregion
12 }

```

log4net²

1.

```

1 <parameter>
2   <parameterName value="@MachineID" />
3   <dbType value="String" />

```

²<http://stackoverflow.com/questions/12139486/log4net-how-to-add-a-custom-field-to-my-logging>

```

4   <size value="64" />
5   <layout type="log4net.Layout.PatternLayout" >
6     <param name="ConversionPattern" value="%property{MachineID}"/>
7   </layout>
8 </parameter>

```

2.macId

```

1 //      log4net
2 log4net.GlobalContext.Properties["MachineID"] = macId;

```

24.2.7 log4net

```

:
1 this.Closing += new CancelEventHandler(Form1_Closing);
2 logger = new log4net.Appender.MemoryAppender();
3 log4net.Config.BasicConfigurator.Configure(logger);
4 logWatcher = new Thread(new ThreadStart(LogWatcher));
5 logWatcher.Start();

```

```

1 private bool logWatching = true;
2 private log4net.Appender.MemoryAppender logger;
3 private Thread logWatcher;

```

LogWatcher

```

1 private void LogWatcher()
2 {
3   while (logWatching)
4   {
5     LoggingEvent[] events = logger.GetEvents();
6     if (events != null && events.Length > 0)
7     {
8       logger.Clear();
9       foreach (LoggingEvent ev in events)
10      {
11        string line = ev.LoggerName + ": " + ev.RenderedMessage + "\r\n";
12        AppendLog(line);
13      }
14    }
15    Thread.Sleep(500);
16  }
17 }

```

LogAppend

```

1  delegate void delOneStr(string log);
2  void AppendLog(string _log)
3  {
4      if (txtLog.InvokeRequired)
5      {
6          delOneStr dd = new delOneStr(AppendLog);
7          txtLog.Invoke(dd, new object[] { _log });
8      }
9      else
10     {
11         StringBuilder builder;
12         if (txtLog.Lines.Length > 99)
13         {
14             builder = new StringBuilder(txtLog.Text);
15             builder.Remove(0, txtLog.Text.IndexOf('\r', 3000) + 2);
16             builder.Append(_log);
17             txtLog.Clear();
18             txtLog.AppendText(builder.ToString());
19         }
20         else
21         {
22             txtLog.AppendText(_log);
23         }
24     }
25 }
```

```

1  void Form1_Closing(object sender, CancelEventArgs e)
2  {
3      logWatching = false;
4      logWatcher.Join();
5 }
```

log4netTraceAppenderSystem.Diagnostics.Trace

```

1  <appender name="TraceAppender" type="log4net.Appender.TraceAppender">
2      <layout type="log4net.Layout.PatternLayout">
3          <conversionPattern value="%date [%thread] %-5level %logger [%property{NDC}]
4              - %message%newline" />
5      </layout>
6  </appender>
```

TraceListener, CustomTraceListener : TraceListener

```
_customListener = new CustomTraceListener(this); System.Diagnostics.Trace.Listeners.Add(_customListener);
```

24.2.8 TraceDebug

```

1 Trace.TraceError("      Error      ");
2 Trace.TraceWarning("     Warning      ");
3 Trace.TraceInformation("    Info      ");
4 Trace.WriteLine("      ");
5 Trace.Flush();//

```

Release(DEBUG),(,) Debug.XXX() Debug,

24.2.9

Loggername Logger GetLogger

24.2.10

log4net loglog

```

1 public static class PublicAttribute<T>
2 {
3     /// |summary|
4     ///
5     /// |/summary|
6     public static readonly ILog Logger = LogManager.GetLogger(typeof(T));
7 }

```

PublicAttribute

24.2.11 (Logging Advisor)

- (anti-pattern)
- logASCIIlogUTF-8(render)log

24.2.12 Tail

log.io rTail

24.2.13

log4net IIS IIS 6.0NETWORK SERVICE log

24.3 Opserver

OpserverStack ExchangeNetMVCNet

24.3.1 title

24.4 ELMAH

ELMAHError Logging Modules and Handlers for ASP.NET ELMAH ELMAHELMAH-
<http://code.google.com/p/elmah/>

ELMAHASP.NET Web FormsASP.NET MVC ELMAHXMLAccessSQLOracle RAM ELMA-
 Hemail

ELMAH elmah.axdELMAH Superexpert.comelmah

24.5 NLog

24.6 log.io

Real-time log monitoring in your browser.

24.7 ELK

24.7.1 logstash

Logstash Elasticsearch + Logstash + KibanaELK Google//CNZZJS Nginx Nginx/GoAc-
 cess/Awstats ELK Logstash Elasticsearch Kibana

elasticsearch elasticsearch

```

1  #
2  wget https://download.elastic.co/elasticsearch/release/org/elasticsearch/distribution/tar/
      elasticsearch/2.3.3/elasticsearch-2.3.3.tar.gz
3
4  #
5  tar -xzvf elasticsearch-2.3.3.tar.gz
6
7  #
8  mv elasticsearch-2.3.3 /usr/local
9

```

```
10  #
11 ln -s /usr/local/ elasticsearch-2.3.3 /usr/local/ elasticsearch
12
13 #elasticsearch
14 ./ elasticsearch -e 'input { stdin { } } output { stdout { } }'
15
16 #
17 mkdir -p /usr/local/logstash/etc
18
19 #
20 vim /usr/local/logstash/etc/hello_search.conf
21
22 #
23 /usr/local/logstash/bin/logstash -f /usr/local/logstash/etc/hello_search.conf
24
25 #logstash agent
26 ./logstash agent
```

logstash logstach

```
1  #
2 wget https://download.elastic.co/logstash/logstash/logstash-2.3.3.tar.gz
3
4 #
5 tar -xzvf logstash-2.3.3.tar.gz
6
7 #
8 mv logstash-2.3.3 /usr/local
9
10 #
11 ln -s /usr/local/logstash-2.3.3 /usr/local/logstash
12
13 #logstash
14 ./logstash -e 'input { stdin { } } output { stdout { } }'
15
16 #
17 mkdir -p /usr/local/logstash/etc
18
19 #
20 vim /usr/local/logstash/etc/hello_search.conf
21
22 #
23 ./logstash --configtest -f ..etc/hello_search.conf
24
25 #
26 /usr/local/logstash/bin/logstash -f /usr/local/logstash/etc/hello_search.conf
27
28 #logstash agent
29 ./logstash agent
```


Chapter 25

25.1 SVN

VisualSVN ServerCommit IP (Configure authentication options...) NetworkServer NameIP
 SVNCode Review (CommitUpdate)

25.1.1 SVN Revert

svn revert Undo all local edits

25.1.2 svn cleanup failed previous operation has not finished; run cleanup if it was interrupted

1. Install sqllite (32 bit binary for windows) from here
2. sqlite .svn/wc.db select * from work_queue

```
D:\项目\hotmark\.svn>sqlite3 wc.db "select * from work_queue"
1586 !<dir-remove RRMall.AutoUpdater/bin 1 1>
```

25.1: SVN

The SELECT should show you your offending folder/file as part of the work queue. What you need to do is delete this item from the work queue.

3. sqlite .svn/wc.db delete from work_queue*

```
D:\项目\hotmark\.svn>sqlite3 wc.db "delete from work_queue"
D:\项目\hotmark\.svn>
```

25.2: SVN

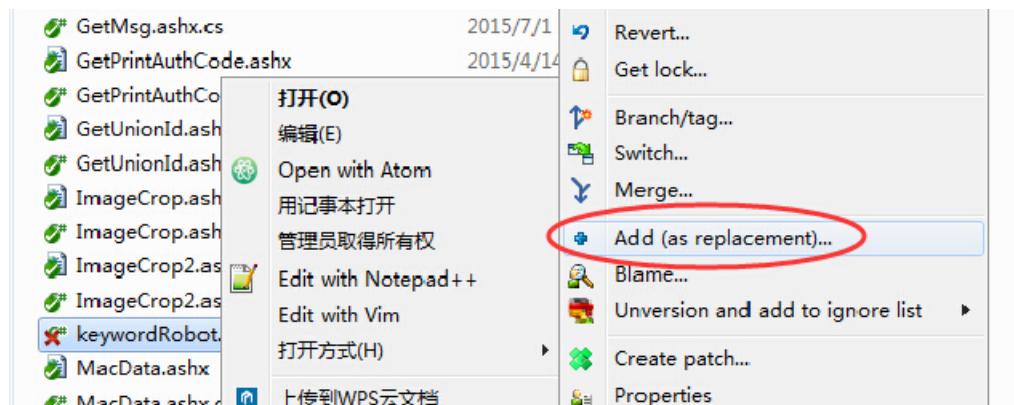
Thats it. Now, you can run cleanup¹ again and it should work. Or you can proceed directly to the task you were doing before being prompted to run cleanup (adding a new file etc.)

Also, svn.exe (a command line tool) is part of the Tortoise installer but is unchecked for some reason. Just run the installer again, choose modify and select the command line tools.

25.1.3 SVN

SVNWindows SVN svnAddas replacement... Adjust Case??

¹SVN () clean up



25.3: SVN

25.1.4 tagstrunkbranches

trunk,tags,branches Milestone tagtrunk branchestags branchbranches branchessvn tagstags tags

25.1.5 switchrelocate

switch relocate Relocate the working copy to point to a different repository root URL
IPrelocateURL svn relocate

```
1 svn switch --relocate https://192.168.1.222:888/svn/Zouwo https://183.230.47.195:888/svn
   /Zouwo
```

URLURLURLURL SVN SVNSVN relocate

trunk switchSVNtrunk switch updatecommit switchtrunk

switchtrunktrunktrunkswtichtrunkupdatetrunkcommit

25.1.6 SVN

get-lock, read-only --

25.1.7 SVN

25.1.8

svnsync init file:///Repository URL

svnsync sync file:///Repository

1.repositoryadmin/admin 2.backup serverhookspre_revprop_change.templpre_revprop_change.batexit

```
0, svnsync init http://localhost/svn/backup http://localhost/svn/src –username admin –password
admin
```

```
5,src serverpost-commit.tmplpost-commit.bat, svnsync sync –non-interactive http://localhost/svn/backup
–username admin –password admin
```

25.1.9 SVN

SVN Windows SVN

```

1 @echo off
2 =====
3 @echo author
4 @echo modifier
5 @echo blog:http://luomingui.cnblogs.com;jiangxiaoqiang@gmail.com
6 @echo update:2012-08-27
7 @echo modifyDate:2015-11-18
8 =====
9 rem      SVN
10 set svn_home=C:\Program Files\TortoiseSVN\bin
11 rem      SVN
12 set svn_work=D:\    \Tour
13 rem      SVN
14 set setup_path=E:\          \bat
15
16 if exist %svn_work% goto :UPDATE
17
18 :UPDATE
19 @echo      %svn_work%
20 if exist "%setup_path%\autoUpdate.log" (echo update: %date% %time% >> "%
21     setup_path%\autoUpdate.log" ) else echo create: %date% %time% >"%setup_path%"
22     "\autoUpdate.log
23 "%svn_home%\TortoiseProc.exe /command:update /path:"%svn_work%" /notempfile /
24     closeonend:1
25 @echo
26 pause
27 exit

```

Windows

```

1 @echo off
2 =====
3 @echo author
4 @echo modifier
5 @echo blog:http://luomingui.cnblogs.com;jiangtingqiang@gmail.com
6 @echo email:luomingui@hailin.com
7 @echo update:2012-08-27
8 @echo modifyDate:2015-11-18
9 =====

```

```

10 @echo off
11 rem SCHTASKS /Create /SC MINUTE /ST 08:30:00 /TN "auto update SVN" /TR "%~
      sdp0autosvn.bat" /F
12 SCHTASKS /Create /SC MINUTE /mo 5 /ST 08:30:00 /TN "auto update SVN" /TR "%~
      sdp0autosvn.bat" /F[text=white,font=,inner
      sep=0.2mm,draw,circle,fill=black]1;
13 pause

```

[text=white,font=,inner **sep=0.2mm,draw,circle,fill=black**]1; auto update SVNTNTTask Nameauto
tosvn.bat TRTask Run55

Visual StudioSVN ??

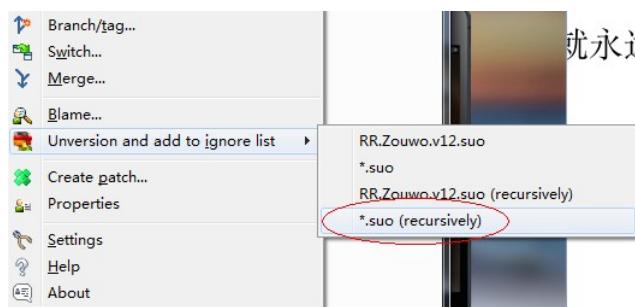


25.4: SVN

25.1.10 Ignore List Setting

.obj,.lst,*sln,*.proj , binobj TortoiseSVN

??



25.5: SVN

recursively

25.1.11 SVN(SVN Commit Rule)

.sln/.suo/*.log/bin/obj pre-commit(Hooks)

```

1 @echo off
2 setlocal
3 set REPOS=%1
4 set REV=%2

```

```

5 set svnlook="C:\Program Files\VisualSVN Server\bin\svnlook.exe"
6 rem check that logmessage contains at least 10 characters
7 rem %svnlook% log "%REPOS%" -t "%REV%" | findstr ..... >nul
8 rem if %errorlevel% gtr 0 (goto err) else exit 0
9
10 rem
11 %svnlook% changed -t "%REV%" "%REPOS%" | findstr "suo$"
12 if %errorlevel% EQU 0 (goto SuffixError) else exit 0
13
14 %svnlook% changed -t "%REV%" "%REPOS%" | findstr "sln$"
15 if %errorlevel% EQU 0 (goto SuffixError) else exit 0
16
17 :err
18 echo. 1>&2
19 echo Your commit has been blocked because you didn't give any log message 1>&2
20 echo Please write a log message describing the purpose of your changes and 1>&2
21 echo then try committing again. -- Thank you 1>&2
22 exit 1
23
24 :SuffixError
25 echo Don't commit forbidden file, like :obj\pdb\exp\ilk ....., thank you 1>&2
26 exit 1

```

%1%2 ABC.BATset a=%1: ABC.BAT HOW ARE YOU set a=HOW%2ARE%3YOU

findstr findstrASCII findstr \$
EQU - NEQ - LSS - LEQ - GTR - GEQ -

1&2 &—1 -stdout2 -stderr 0

25.1.12 SVN.svn

1.7.X.svn 1.7.X.svn Subversion 1.7

25.1.13 diffpatch

diff patchdiff patch diff diffpatch

patchdiff AB,diffC, A - B = C ,patchB+C = A A-C =B A, B, Cdiffpatchdiffpatch

25.2 Git

25.2.1

Git

```

1  #
2  git branch
3
4  #
5  git branch -a
6
7  #
8  git branch -r
9
10 # Git
11 $ git init
12
13 #
14 $ git add [dir]
15
16 #
17 $ git add .
18
19 #-r
20 $ git rm -r --cache Fosc.Dolphin.UI/Fosc.Dolphin.UI/obj/
21
22 #git add
23 $ git add --help
24
25 #git add
26 $ git add -h
27
28 #Git
29 $ git commit -m "Init"

```

WindowsGit Bash Git BashGit Repository

```

1 #E;DOS
2 $ cd /e
3
4 #Repository
5 $ cd Temp/doc/DolphinDev/DolphinDevManual
6
7 #Repository
8 $ git status

```

Git

```

1 # Git
2 $ git config --list
3
4 # Git
5 $ git config -e [--global]
6
7 #
8 $ git config [--global] user.name "[name]"
9 $ git config [--global] user.email "[email address]"

```

Git

```

1 #
2 $ git commit -m [message]

```

GitHub SSH Key

```

1 # Lists the files in your .ssh directory, if they exist
2 $ ls -al ~/ssh

```

SSH Key

```

1 #
2 ssh-keygen -t rsa -C "jiangtingqiang@gmail.com"
3
4 #Github
5 ssh -T git@github.com

```

ssh-keygen ssh-keygen github.com ssh pushfatal: could not read Username for https://github.com:

No such file or directorygiturl Url:

```

1 git remote set-url origin git@github.com:jiangxiaoqiang/Fosc.git

```

ssh-agentadd your SSH key to the ssh-agent

```

1 ssh-add ~/ssh/id_rsa

```

Could not open a connection to your authentication agent

```

1 ssh-agent bash

```

ssh bashRSA key ssh_configIdentityFile ./ssh/ ./ssh/

git pull git pull

```
1 git pull <           > <           >:<           >
```

Gitgit remote git remote -v

```
1 git remote -v
```

-a()

```
1 git branch -a
```

git push git push git pull

```
1 git push <           > <           >:<           >
```

25.2.2 GitHub

Git Git Bash GitHubGit

```
1 #
2 git remote add origin master https://github.com/jiangxiaoqiang/DolphinDevManual.git
3
4 #
5 git clone https://github.com/jiangxiaoqiang/DolphinDevManual.git
6
7 #
8 git init
9
10 #fetch
11 git fetch origin master
12
13 #pull
14 git pull https://github.com/jiangxiaoqiang/XiaoqiangResume.git
15
16 #git
17 git add [ file1 ]
18
19 #GitHub
20 git push origin master
```

git add git addsvnadd git add git fetchcommit. fetchcommit. commit. fetch. fetchremote, .
fetchmergecommit, commit. merge.

25.2.3 Git

git push Git

cache cache 15

store store Git home

osxkeychain MacGit osxkeychain HTTPS Safari Windows winstore osxkeychain
Windows Credential Store

25.2.4 (Add Ignore List)

Git GitRepository.gitignore

```
1 $ touch .gitignore
```

```
1 vi .gitignore
```

Untrace

```
1 git status
```

25.2.5

debug1: No more authentication methods to try. Permission denied (publickey)

```
1 ssh -vT git@github.com
```

Public KeyGitHubSSH Key Settings

25.3 StyleCop.exe

StyleCop analyzes C# source code to enforce a set of style and consistency rules. It can be run from inside of Visual Studio or integrated into an MSBuild project. StyleCop has also been integrated into many third-party development tools.

-
-
-
-
-

25.4 CruiseControl.Net

CruiseControl²CC (CVSVSSSVN) EmailJabber (MavenAnt)

CruiseControl.NET-1.8.5.0-Setup.exe Windows Service Windows ServiceCruiseControl.NET
webdashboardIIS

CruiseControl.NET-CCTray-1.8.5.0-Setup.exe ccnet.config³settingproject

25.4.1

ccnet.configProject

```

1 <project name="HotMark" description="RMall advertise by print machine." queue="Q1
2   "gt;
3   <webURL>http://127.0.0.1/ccnet</webURL>
4   <workingDirectory>D:\Dailybuild</workingDirectory>
5   <!--
6   <artifactDirectory>D:\Dailybuild</artifactDirectory>
7   <!--
8   <modificationDelaySeconds>10</modificationDelaySeconds>
9   <category>Advertisment</category>
10  <!-- specify a state folder to prevent CCNet from saving it in Program Files\
11    CruiseControl.NET\server
12  programs may not standard write their data in it on windows Vista and up)
13  -->
14  <state type="state" directory="D:\Dailybuild" />
15
16  <triggers>
17  <!-- check the source control every X time for changes, and run the tasks if changes are
18    found -->
19  <intervalTrigger
20    name="continuous"
21    seconds="60"
22    buildCondition="IfModificationExists"
```

²<http://www.cruisecontrolnet.org/>

³ccnet.configCruiseControl.NET server

```

20    initialSeconds="5"/>
21  </triggers>
22
23  </project>
```

triggersseconds 60 SVN Project

```

1  <!--          -->
2  <sourcecontrol type="svn">
3      <!--      SVN      -->
4      <trunkUrl>https://129.11.21.112/svn/hotmark</trunkUrl>
5      <!--      CruiseControl      .      NET      ,CruiseControl.
6          NETSVNcheck           out           .-->
7      <workingDirectory>D:\Dailybuild\Source</workingDirectory>
8      <!--      SVN      -->
9      <executable>C:\Program Files (x86)\VisualSVN\bin\svn.exe</executable>
10     <!--      SVN      -->
11     <username>jiangxiaoqiang</username>
12     <autoGetSource>true</autoGetSource>
13     <password>jiangxiaoqiang</password>
14 </sourcecontrol>
```

CruiseControl

25.4.2 Build

BuildProjecttasks:

```

1 <msbuild>
2     <executable>C:\Windows\Microsoft.NET\Framework\v4.0.30319\MSBuild.exe</
3         executable>
4     <workingDirectory>D:\Dailybuild\Source</workingDirectory>
5     <projectFile>HotMark.sln</projectFile>
6     <buildArgs>/p:OutputPath=D:\Dailybuild\BuildOutput</buildArgs>
7     <targets>Build</targets>
8     <timeout>9000</timeout>
9     <!--          -->
10    <logger>C:\Program Files (x86)\CruiseControl.NET\server\ThoughtWorks.
11        CruiseControl.MSBuild.dll</logger>
12 </msbuild>
```

{msbuild};task

25.4.3

```

1 <nunit>
2     <path>C:\Program Files (x86)\ NUnit 2.6.4\bin\nunit-console.exe</path>
```

```

3   <outputfile>D:\Dailybuild\buildlogs\NunitLog\nunit-results.xml</outputfile>
4   <assemblies>
5     <assembly>D:\Dailybuild\BuildOutput\RRMall.WxPrint.Dal.dll</assembly>
6   </assemblies>
7 </nunit>

```

|nunit;task

25.4.4

sourceDir

```

1 <!--      -->
2 <buildpublisher>
3   <sourceDir>D:\Dailybuild\BuildOutput</sourceDir>
4   <publishDir>D:\publish</publishDir>
5   <useLabelSubDirectory>false</useLabelSubDirectory>
6 </buildpublisher>

```

|buildpublisher;task sourceDir publishDir

25.4.5

```

1 <publishers>
2   <!--      -->
3   <xmllogger />
4
5   <!--      -->
6   <artifactcleanup cleanUpMethod="KeepLastXBuilds"
7       cleanUpValue="50" />
8
9   <!--      -->
10  <email mailport="25" includeDetails="true" mailhostUsername="
11    jiangxiaoqiang@renrenmall.com" mailhostPassword="123456" useSSL="FALSE">
12    <from>jiangxiaoqiang@renrenmall.com</from>
13    <mailhost>smtp.renrenmall.com</mailhost>
14    <users>
15      <user name="cheng" group="developers" address="xiefei@renrenmall.com" />
16    </users>
17
18    <groups>
19      <group name="developers">
20        <notifications>
21          <notificationType>Failed</notificationType>
22          <notificationType>Fixed</notificationType>
23        </notifications>

```

```

23   </group>
24 </groups>
25
26 <!--          -->
27 <subjectSettings>
28   <subject buildResult="StillBroken" value="Build is still broken for {
29     CCNetProject}" />
30 </subjectSettings>
31   <attachments>
32     <file>D:\CCNET2\CCNET2\TestResults\mstest-results.xml</file>
33   </attachments>
34 </email>
</publishers>
```

|buildpublisher|task

25.4.6 Dashboard Configuration

Dashboarddashboard.configCruiseControl.NET/webdashboarddashboard

```

1 <administrationPlugin password="123456"/>
```

25.4.7

```

1 D: \ZouwoDailybuild\Source\RR.Zouwo.sln(Build      ) (1) ->
2 D: \ZouwoDailybuild\Source\RR.AdminMange\RR.AdminMange.csproj(      ) (6) ->
3 D:\ZouwoDailybuild\Source\RR.AdminMange\RR.AdminMange.csproj(564,3): error
    MSB4019:           C:      \Program Files (x86)\MSBuild\Microsoft\
        VisualStudio\v11.0\WebApplications\Microsoft.WebApplication.    targets      <
        Import>
```

Visual Studio2012csproj

```

1 <PropertyGroup>
2   <VisualStudioVersion Condition="$(VisualStudioVersion) >= ''>10.0</
        VisualStudioVersion>
3   <VSToolsPath Condition="$(VSToolsPath) >= ''>$(&#39;$(MSBuildExtensionsPath32)\
        Microsoft\VisualStudio\v$(VisualStudioVersion)&#39;</VSToolsPath>
4 </PropertyGroup>
5 <Import Project="$(MSBuildBinPath)\Microsoft.CSharp.targets" />
6 <Import Project="$(VSToolsPath)\WebApplications\Microsoft.WebApplication.targets"
        Condition="$(VSToolsPath) != '' />
7 <Import Project="$(MSBuildExtensionsPath32)\Microsoft\VisualStudio\v10.0\
        WebApplications\Microsoft.WebApplication.targets" Condition="false" />
```

```

8  <Target Name="MvcBuildViews" AfterTargets="AfterBuild" Condition="$(
9    MvcBuildViews)'=='true'">
10   <AspNetCompiler VirtualPath="temp" PhysicalPath="$(WebProjectOutputDir)" />
11 </Target>

```

```

1 <PropertyGroup>
2   <VisualStudioVersion Condition="$(VisualStudioVersion) == '12.0">
3     VisualStudioVersion>
4   <VSToolsPath Condition="$(VSToolsPath) == '$(MSBuildExtensionsPath32)\Microsoft\VisualStudio\v$(VisualStudioVersion)">
5     VSToolsPath>
6   </PropertyGroup>
7   <Import Project="$(MSBuildBinPath)\Microsoft.CSharp.targets" />
8   <Import Project="$(VSToolsPath)\WebApplications\Microsoft.WebApplication.targets"
9     Condition="$(Solutions.VSVersion) == '12.0'" />
10  <Import Project="$(MSBuildExtensionsPath32)\Microsoft\VisualStudio\v12.0\WebApplications\Microsoft.WebApplication.targets" Condition="$(Solutions.
11    VSVersion) == '12.0'" />
12  <Target Name="MvcBuildViews" AfterTargets="AfterBuild" Condition="$(
13    MvcBuildViews)'=='true'">
14    <AspNetCompiler VirtualPath="temp" PhysicalPath="$(WebProjectOutputDir)" />
15  </Target>

```

25.5 Jenkins

Jenkins is an open source continuous integration tool written in Java. The project was forked from Hudson after a dispute() with Oracle.

Jenkins provides continuous integration services for software development. It is a server-based system running in a servlet container such as Apache Tomcat. It supports SCM tools including AccuRev, CVS, Subversion, Git, Mercurial, Perforce, Clearcase and RTC, and can execute Apache Ant and Apache Maven based projects as well as arbitrary shell scripts and Windows batch commands. The primary developer of Jenkins is Kohsuke Kawaguchi. Released under the MIT License, Jenkins is free software.

25.5.1 (Install Plug-in)

Jenkins-*z*Plugin Manager .NETMSBuild Available TabMSBuild Plugin MSBuildMSBuild

25.5.2 Job

jenkinsjenkinsC:/Program Files (x86)/Jenkins workspace

Back to DashboardDashboardNew Jobjob Build a free-style software projectHelloCI-RunUnitTestsOK

job MSBuild

Source Code Management Source Code ManagementSubversionRepository URLSubversionURL Local module directory Tour./trunk,

1 C:\Program Files (x86)\Jenkins\jobs\Tour\workspace\trunk

Build WindowsMSBuild.NET FrameworkMSBuild

1 C:\Windows\Microsoft.NET\Framework\v4.0.30319

BuildAdd build stepstep Build a Visual Studio project or solution using MSBuild MSBuild
 MSBuild Build File JenkinsMSBuild Build a Visual Studio project or solution using MSBuild
 MSBuild Build FileHelloCI.msbuild JenkinsRunUnitTestsTarget DefaultTargetsRunUnitTests
 Command Line Arguments/t:RunUnitTests/t/target MSBuild

1 /t:ResolveReferences;Compile /t:_CopyWebApplication /p:VisualStudioVersion=12.0 /p:
 Configuration=Release /property:TargetFrameworkVersion=v4.0 /p:
 WebProjectOutputDir=E:\Web\RR.Web.CCN.Tour\1.0.1 /p:OutputPath=E:\
 JenkinsPublish\Bin

- /t:Rebuild
- /property:Configuration=Release Release
- /property:TargetFrameworkVersion=v4.0.NET 4.0
- /p:WebProjectOutputDir
- /p:OutputPath

Build Now PDBMSBuildPDB

1 MSBuild.exe YourProject.csproj /p:DebugSymbols=false /p:DebugType=None

MSBuild Build File

1 D:\ 192.168.1.222\Tour\trunk\RR.Web.CCN.Tour\RR.Web.CCN.Tour.csproj

SaveApplyjobpull Dashboardjobjob Build NowJenkinsBuild Historyjob

jobMercurialHelloCI.msbuildRunUnitTest Jenkins Build History Console OutputJenkins

1 The imported project "C:\Program Files (x86)\MSBuild\Microsoft\VisualStudio\v12.0\
 WebApplications\Microsoft.WebApplication.targets" was not found. Confirm
 that the path in the <Import> declaration is correct, and that the file exists on
 disk.

Visual StudioVisual Studio Visual StudioImport

error MSB1008: Only one project can be specified *.csprog

```
1 msbuild.exe /p:VisualStudioVersion=12.0 "C:\Program Files(x86)\Jenkins\jobs\Tour\
    workspace\trunk\trunk\RR.Web.CCN.Tour\RR.Web.CCN.Tour.csproj"
```

MSB3030: Could not copy the file because it was not found msbuild.exebin *.cspro
jItemGroupReference Jenkinsmsbuild.exe msbuild.exe msbuild.exe

```
1 #
2 msbuild.exe /t:_CopyWebApplication /p:VisualStudioVersion=12.0 /p:Configuration=
    Release /p:outDir="E:\JenkinsPublish\Bin" "C:\Program Files (x86)\Jenkins\
        jobs\Tour\workspace\trunk\trunk\RR.Web.CCN.Tour\RR.Web.CCN.Tour.csproj"
3
4 #Jenkins
5 /t:ResolveReferences;Compile /t:_CopyWebApplication /p:VisualStudioVersion=12.0 /p:
    Configuration=Release /p:WebProjectOutputDir=E:\Web\RR.Web.CCN.Tour
    \1.0.1 /p:OutputPath=E:\JenkinsPublish\Bin
```

(Build Trigger) SCM(Source Code Management)

```
1 #(5)
2 */5 * * *
3 #To allow periodically scheduled tasks to produce even load on the system
4 #the symbol H (for hash) should be used wherever possible.
5 #(5,Jenkin)
6 H/5 * * *
```

Jenkins5Pull

Publish Webcsproj Command Line Arguments

```
1 /t:ResolveReferences;Compile /t:_CopyWebApplication /p:Configuration=Release /p:
    WebProjectOutputDir=C:\Jenkins_Publish /p:OutputPath=C:\Jenkins_Publish\
        bin
```

WebProjectOutputDirwebOutputPathdll Visual Studioxml xml

```
1 /t:Rebuild /p:Configuration=Release;PublishProfile=Jenkins-DEV;DeployOnBuild=true;
    VisualStudioVersion=11.0
```

PublishProfileProfile) DeployOnBuild=true VisualStudioVersion=11.0 VS2012

25.5.3 (E-Mail Notification)

163Jenkins SMTPsmtp.163.comSMTP 163dolphinjiang123@163.com 163SMTP 163

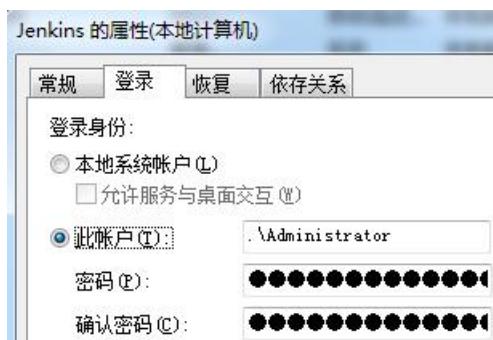
25.5.4

25.5.5 Jenkins

Jenkins

```
1 xcopy D:\ClientRelease\JenkinRelease\*.* \\192.168.24.253\          \Client\2.0\Release /S /
      R /Y
```

Jenkins(Jenkins) ??



25.6: Jenkins

xcopy

```
1 #Client2.0-Release-20160524010923
2 xcopy D:\ClientRelease\JenkinRelease\*.* \\192.168.24.253\          \Client\2.0\Client2.0-
   Release-%date:~0,4%%date:~5,2%%date:~8,2%0%time:~1,1%%time:~3,2%%time
   :~6,2% /S /R /Y /I
```

/I Jenkins(Build Number)

```
1 #Client2.0-Release-20160524-315
2 xcopy D:\ClientRelease\JenkinRelease\*.* \\192.168.24.253\          \Client\2.0\Client2.0-
   Release-%date:~0,4%%date:~5,2%%date:~8,2%-%BUILD_NUMBER% /S /R /Y /
   I
```

25.6 Travis CI

25.7

25.7.1

```

1 @echo off
2 title
3 set sourcePath=D:\          \
4           Debug
5 set targetPath=D:\update
6 :: Copy update file
7 copy %sourcePath%\RRMall.WxPrint.Bll.dll %targetPath%
8 copy %sourcePath%\RRMall.WxPrint.Common.dll %targetPath%
9 copy %sourcePath%\RRMall.WxPrint.Dal.dll %targetPath%
10 copy %sourcePath%\RRMall.WxPrint.exe %targetPath%
11 copy %sourcePath%\RRMall.WxPrint.exe.config %targetPath%
12 copy %sourcePath%\RRMall.WxPrint.Model.dll %targetPath%
13
14 pause

```

Source Path Target Path ANSI

25.8 Gradle

25.8.1

GRADLE_HOMEGradle

25.9 JIRA

JIRA(or bugs,task,improvement,new feature) AtlassianJ2EE. J2EEBugzilla

25.9.1 JIRA

JDK

```

1 whereis java
2 which java      java
3 echo $JAVA_HOME
4 echo $PATH

```

```

5
6 #jdk
7 rpm -qa|grep java

```

JDK JDKRPM

```

1 #
2 chmod +x jdk-8u91-linux-64.rpm
3 #
4 rpm -ivh jdk-7u25-linux-x64.rpm

```

etc/profile

```

1 export JAVA_HOME=/usr/java/jdk1.8.0_91
2 export CLASSPATH=/usr/java/jdk1.8.0_91/lib
3 export PATH=$JAVA_HOME/bin:$PATH

```

source /etc/profile

MySQL MySQL

```

1 #yummysql
2 yum -y install mysql-server
3 #
4 chkconfig mysqld on
5
6 cMySql
7 # service mysqld start
8
9 dMySQLroot
10 # mysql -u root
11 mysql> select user,host,password from mysql.user;
12
13 eroot
14 mysql> set password for root@localhost=password('root');
15
16 f
17 mysql> delete from mysql.user where user=    ;
18 mysql> exit
19
20 g
21
22 GRANT ALLPRIVILEGES ON *.* TO 'root'@'%' IDENTIFIED BY 'root' WITH GRANT
   OPTION;
23 FLUSHPRIVILEGES;

```

jira JIRA

```
1   a
2 CREATE DATABASE jiradb CHARACTER SET utf8 COLLATE utf8_bin;
3
4   b
5 INSERT INTO mysql.user(HOST, USER, PASSWORD) VALUES("localhost","jirauser",
6           PASSWORD("1234"));
7
8   c
9 GRANT SELECT,INSERT, UPDATE, DELETE, CREATE, DROP, ALTER, INDEX ON
10      jiradb.* TO 'jirauser'@'localhost' IDENTIFIED BY '1234';
11 GRANT ALLPRIVILEGES ON *.* TO jirauser@'%' IDENTIFIED BY '1234' WITH
12      GRANT OPTION;
13 flushprivileges ;
```

JIRA8080 MySQLbinconfig.sh

25.10 Ansible

ansible
title Ansible is Simple IT Automation
IT APPAWS

Chapter 26

26.1 WinDbg

WinDbgwindows dmpIE WinDebug(source-level) KernelDump C:/WINDOWS/MEMORY.DMP
C:/WINDOWS/Minidump/

26.1.1

WinDbgSymbol Path WinDbg WinDbg WinDbg-;File-;Symbol File Path

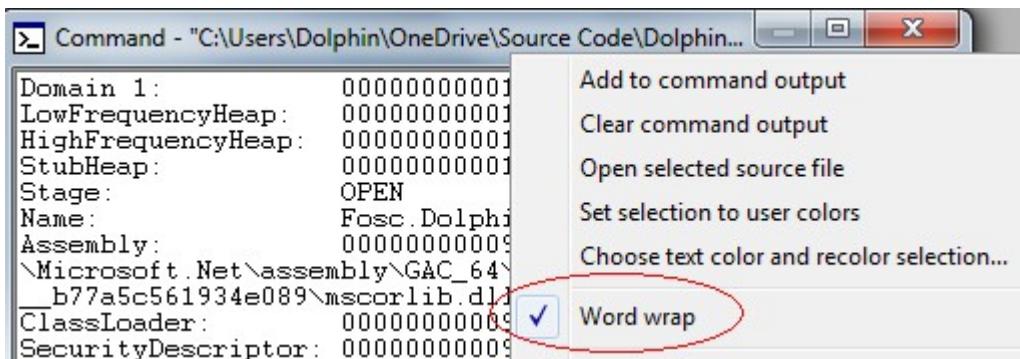
```

1 #SRV
2 D:\testdmp;srv*d:\symbols\local*http://msdl.microsoft.com/download/symbols
3
4 cache*D:\MySymbol;srv*http://msdl.microsoft.com/download/symbols
5 #()
6 srv*\192.168.24.253\          \Develop\Debug*http://msdl.microsoft.com/download
   /symbols

```

WinDbgC:\MySymbolSymbol MSSymbol ServerSymbols) Symbolhttp://www.microsoft.com/whdc/devtools/debugg
Symbol D:\WINDOWS\Symbols D:\WINDOWS\Symbols

Command ??



26.1: WinDbg

26.1.2 dump

dumpPE Dump 1 2 imagesize 3

Dumpdump Dump WinDbgbug Dump .dmp.dmpbug bugbug

26.1.3 dump

dumpdump dump1st chance exception dump AdplusWindbgVBSSAdplusdump Crashdump

```
1 adplus.exe –crash –pn OneDrive.exe –fullonfirst –o D:\dumps
```

-fullonfirst1st chance exception2nd chance exceptionfull dump Adplus-cexception dumpmini dumpfull dump

WinDbg File/Attach to a process/ .exe DUMP dmp.dump /m C:/dumps/myapp.dmp .dump /ma C:/dumps/myapp.dmp .dump /mFhutwd C:/dumps/myapp.dmp

dmp

26.1.4 dump

26.1.5 WinDbgSOS

SOS(SOS.dll)(CLR) WinDbg.exeVisual Studio Visual Studio 2013SOS If you are using Visual Studio 2013, SOS.dll is supported in the Windows Debugger within Visual Studio, but not in the Immediate window of the Visual Studio debugger. SOS

```
1 .load C:\Windows\Microsoft.NET\Framework64\v4.0.30319\SOS.dll
2 g #
3 .loadby sos clr
```

.load .loadby Specifies the debugger extension DLL to load. If you use the .load command, DLLName should include the full path. If you use the .loadby command, DLLName should include only the file name. Unable to find module 'clr' g.loadby sos clr

26.1.6 symstore

SymStore (symstore.exe) Windows SymStore(.dbg)(.pdb) .pdb()

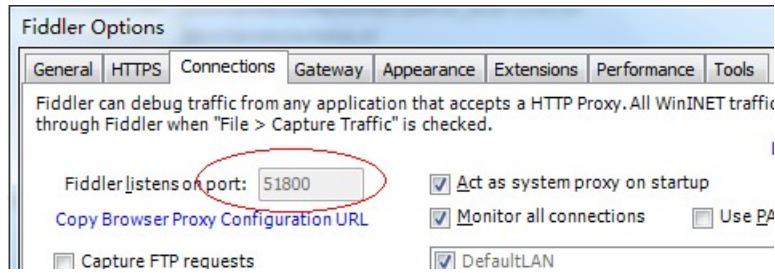
```
1 symstore.exe add /r /f D:\Source\2.0\*.pdb /s \\192.168.24.253\          \
               Debug\Symbol /t BRProduct /z pri
```

symstore.exeWindows SDK

26.2 Fiddler(Free,Not Open Source)

FiddlerHTTP HttpFiddlerHTTP Fiddler88888888 FiddlerFiddler Tools-;Fiddler Options-;Connections??

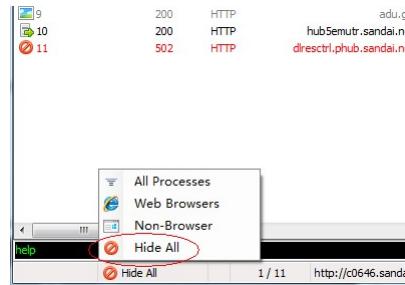
Fiddler



26.2: Fiddler

26.2.1 Fiddler Capture

Fiddler () 2(AutoScroll Session List) HTTPHide All ??



26.3: Fiddler

(LAN) IP IPIP ??



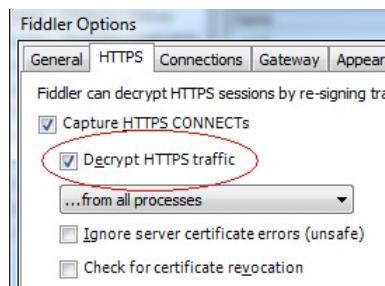
26.4: Fiddler

FiddlerFirefoxHTTP HTTPS FiddlerOptionsHTTPS FirefoxHTTPFiddler HTTPSFiddler
Firefox-*i*-l

Fiddler

26.2.2 FiddlerHTTPS

HTTPSJSFiddlerHTTPS FiddlerHTTPS FiddlerHTTPS DO_NOT_TRUST_FiddlerRootCA
 CATLS DO_NOT_TRUST_FiddlerRootCA HTTPS Tools; Fiddler Options; HTTPS Decrypt
 HTTPS Traffic ??



26.5: FiddlerHTTPS

Fiddler2 man-in-the-middle()HTTPS WebFiddler2HTTPS HTTPS Fiddler2 Fiddler2HTTPS

26.2.3 FiddlerHSTS

HSTS HSTS(HTTP Strict Transport Security)IETEWeb HSTSHTTPS HTTP(HSTS)WebHTTP
 HTTPHTTPS web HTTP HTTPS http://www.foo.com/foo.com HTTP HSTS Web HTTP
 HTTPHTTPS HSTSWebWeb WebHTTPSCookieHTTPS

HSTSSSLSSL Moxie Marlinspike 2009 New Tricks For Defeating SSL In Practice SSL-
 HTTPS https://3xx HTTPHTTPSHTTPhttps://http:// HTTPS

HSTSSSL HTTPSHTTP

HSTSHSTS

WiFi WiFi

HTTPS HSTS HTTPS HTTPS

FiddlerHSTS FiddlerHTTPS HSTS HTTPS Fiddler HSTS HTTPS HTTPHSTS Chrome

chrome://net-internals/#hsts

HSTS

Delete Domain HTTPS HSTS HTTPS HSTS HSTS HTTPS HTTP Strict-Transport-Security ?? HSTS

Strict-Transport-Securitymax-age=31536000 3651Fiddler HSTS Fiddler HTTP

Delete domain

Input a domain name to delete it from the HSTS set (you can't undo this!)

Domain:

Query domain

Input a domain name to query the current HSTS set:

Domain:

Found:

```
static_sts_domain: www.taobao.com
static_upgrade_mode: UNKNOWN
static_sts_include_subdomains:
static_sts_observed:
static_pkp_domain:
static_pkp_include_subdomains:
static_pkp_observed:
static_spki_hashes:
dynamic_sts_domain: www.taobao.com
dynamic_upgrade_mode: STRICT
dynamic_sts_include_subdomains: false
dynamic_sts_observed: 1458266037.237044
dynamic_pkp_domain:
dynamic_pkp_include_subdomains:
dynamic_pkp_observed:
dynamic_spki_hashes:
```

26.6: HSTS

Transformer | **Headers** | TextView | SyntaxView

Response Headers

HTTP/1.1 200 OK

Cache

```
Age: 29
Cache-Control: max-age=0, s-maxage=100
Date: Fri, 18 Mar 2016 02:12:57 GMT
Vary: Accept-Encoding
Vary: Ali-Detector-Type
X-Cache: HIT TCP_MEMORY_HIT dirn:-2:-2
```

Entity

```
Content-Length: 150181
Content-Type: text/html; charset=utf-8
```

Miscellaneous

```
EagleId: dac92e6514582671774424102e
Server: Tengine
X-Swift-CacheTime: 99
X-Swift-SaveTime: Fri, 18 Mar 2016 02:12:29 GMT
```

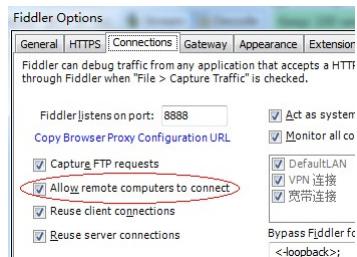
Security

```
Strict-Transport-Security: max-age=31536000
Timing-Allow-Origin: *
```

26.7: Strict-Transport-Security

26.2.4 FiddlerCapture

FiddlerHTTP IPPCIP 8888PC IPIP (PC ping) PC Fiddler ??



26.8: Fiddler

26.2.5

<http://docs.telerik.com/fiddler/configure-fiddler/tasks/configurefiddler>

26.2.6 (Configurate Filter Rule)

Fiddler ?? http:// Actions

26.2.7 Composer

FiddlerHTTP RequestComposer(), Fiddler ComposerHTTP Request Request, Request, WebRequest. HTTP Request. HTTP Request Fiddler

1. WebRequest,
2. RequestRequest.
3. Request
4. Request.

ComposorRequest HistoryComment UrlComposorUrl RESTful Fiddler FiddlerScript FiddlerOnBeforeRequest

```

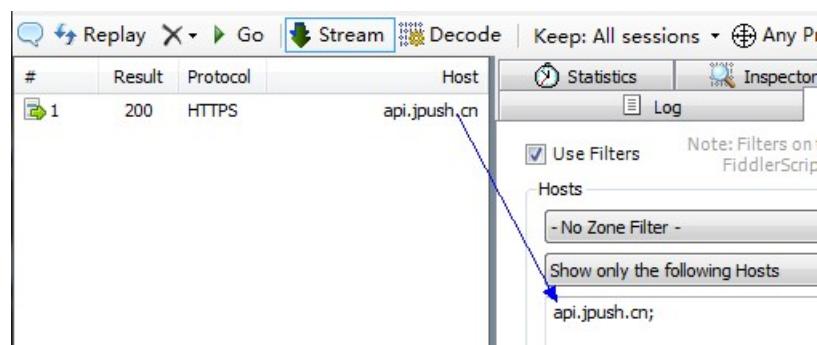
1  if (oSession.host.Contains("192.168.1.222:801")||oSession.host.Contains("129.89.81.118:801"))
2  {
3      oSession.oRequest["auth"] = "apple10adc3949ba59abbe56e057f20f883e";
4 }
```

host

Each session is marked with an icon for quick reference:

- Request is being sent to the server
- Response is being read from the server
- Request is paused at a breakpoint
- Response is paused at a breakpoint
- Request used HTTP HEAD method; response should have no body
- Request used HTTP POST method
- Request used HTTP CONNECT method; this establishes a tunnel used for HTTPS traffic
- Response was HTML
- Response was an image
- Response was a script
- Response was Cascading Style Sheet
- Response was XML
- Response was JSON
- Response was an audio file
- Response was a video file
- Response was a Silverlight applet
- Response was a Flash applet
- Response was a font
- Generic successful response
- Response was HTTP/300,301,302,303 or 307 redirect
- Response was HTTP/304: Use cached version
- Response was a request for client credentials
- Response was a server error
- Session was aborted by the client, Fiddler, or the Server.

26.9: Fiddler

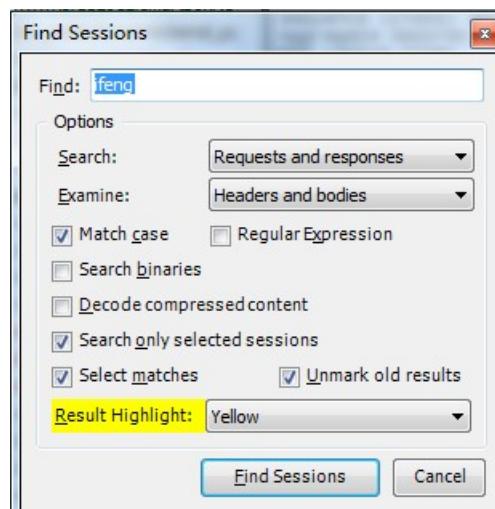


26.10: Fiddler Filter

26.2.8 Statistics

Fiddler Fiddler (Find)

Margin Text



26.11:

ifeng(Select matches) cssjs

26.2.9 Inspectors

Inspectors Inspectors JPG ImageViewHTML/JS/CSSTextView RawHTTP AuthProxy
 AuthorizationAuthorization Cookiescookieset-cookie Inspectors HTTPSbody SSL HTTPbody
 ??

Name	Value
mod	logging

Name	Value
fastloginfield	username
username	xiaoqiang_12345
cookietime	2592000
password	343735881xq
quickforward	yes
handlekey	ls

26.12:

HTTPSSSL SSL QQHTTP Fiddler

26.2.10 (Breakpoint Debugging)

FiddlerFiddler

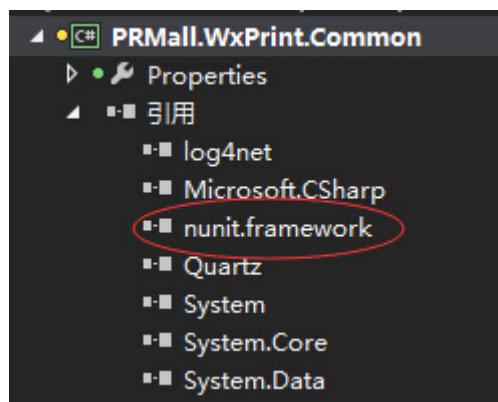
26.3 NUnitMIT License

NUnit.NETxUnit xUnitJavaJUnitC++CPPUnit NUnitxUnit SmalltalkJava.NET2.0

NUnit is a unit-testing framework for all .Net languages. Initially ported from JUnit, the current production release, version 2.6, is the seventh major release of this xUnit based unit testing tool for Microsoft .NET. It is written entirely in C# and has been completely redesigned to take advantage of many .NET language features, for example custom attributes and other reflection related capabilities. NUnit brings xUnit to all .NET languages.

RRMall.WxPrint.CommonSystemOperHelper NUnit

NUnit NUnit NUnit2.6.4.14350Visual Studio 2013 ??



26.13: NUnit

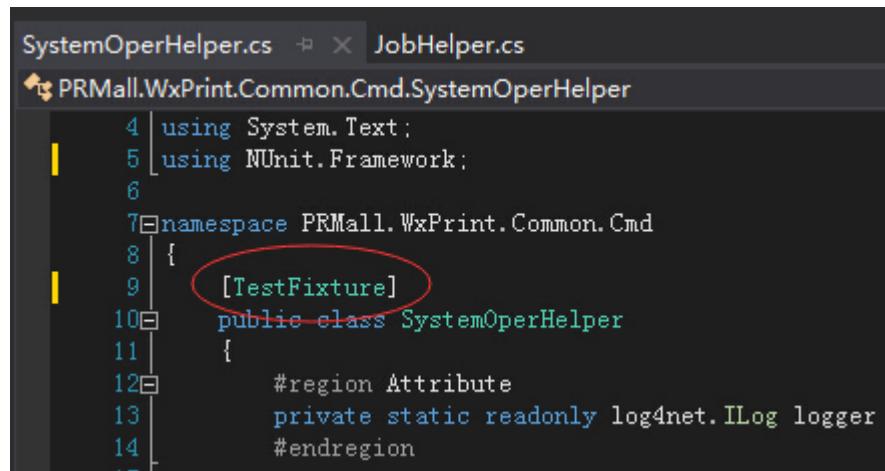
TestFixture TestFixture??

TestFixture

```

1 [TestFixture("hello", "hello", "goodbye")]
2 public class ParameterizedTestFixture
3 {
4     private string eq1;
5     private string eq2;
6     private string neq;
7
8     public ParameterizedTestFixture(string eq1, string eq2, string neq)

```



```

SystemOperHelper.cs  ✘ × JobHelper.cs
PRMall.WxPrint.Common.Cmd.SystemOperHelper
4  using System.Text;
5  using NUnit.Framework;
6
7  namespace PRMall.WxPrint.Common.Cmd
8  {
9      [TestFixture]
10     public class SystemOperHelper
11     {
12         #region Attribute
13         private static readonly log4net.ILog logger =
14         #endregion
15     }

```

26.14: TextFixture



```

    {
10     this.eq1 = eq1;
11     this.eq2 = eq2;
12     this.neq = neq;
13 }
14

```

TestCase("4000") TestCase 4000Public ??



```

#region 关闭计算机
/// <summary>
/// 关闭计算机
/// </summary>
/// <param name="seconds">启动关闭操作的时间（秒）</param>
[TestCase("4000")]
public void Shutdown(string seconds)
{
    if (string.IsNullOrEmpty(seconds))
    {
        // ...
    }
}

```

26.15: TestCase

PRMall.WxPrint.Common __NUnit-GUI C:/Program Files (x86)/ NUnit 2.6.4/bin ?? dll
ProjectAdd Assemblydll??

..., .?Ignore., .MultiplyTwoNumbersIgnore,??:

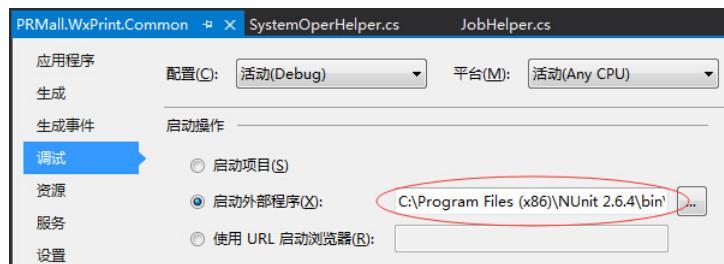
NUnit(TestCase)(Description)(Category)



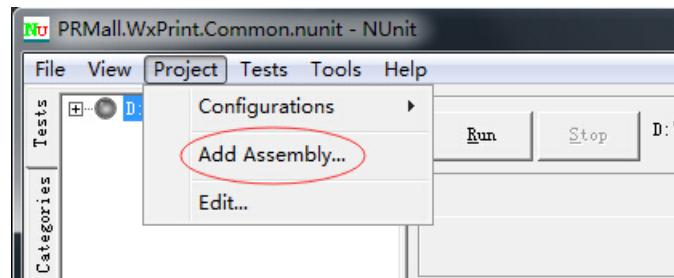
```

1  [TestCase("", Description = "           ", Category = "           ")]
2  [TestCase("", Description = "           ", Category = "           ")]
3  public void GetWxMessage(string message)
4  {

```



26.16: NUnit-GUI



26.17: NUnittdl

```

151
495     #region 更新奖品状态
496     /// <summary>
497     ///
498     /// </summary>
499     /// <param name="key"></param>
500     /// <returns></returns>
501     [TestCase("ba71f653-0c65-4f3a-9344-af201c1afeb2", Result = true)]
502     [Ignore]
503     public bool UpdateAwardStatus(string key)
504     {
505         string query = string.Concat(new object[]
506         {
507             "update tb_lotteryUser",
508             "set lotteryStatus = 1",
509             "where lotteryId = @key"
510         });

```

26.18: NUnitIgnore

```

5   //Execute code
6 }
```

GUICategories

26.3.1 NUNIT.NET.Framework 4.0

NUnit2.6.4NET.Framework 4.0NUnit.NET.Framework 4.0nunit.exe.configstartup NET.Framework 4.0

```

1 <!-- Comment out the next line to force use of .NET 4.0 -->
2 <requiredRuntime version="v4.0.30319" />
3 <supportedRuntime version="v4.0.30319" />
```

|supportedRuntime| |supportedRuntime| |supportedRuntime|¹ NET.Framework 4.0

```
1 %systemroot%\Microsoft.NET\Framework
```

26.3.2

NUnit NUnit

```
1 string tempPath = Application.StartupPath + @"\temp\";
```

C:\Program Files (x86)\NUnit 2.6.4\bin\temp\ NUnit NUnit NUnit

26.4 xUnit

26.4.1 xUnit

xUnit.NET Framework 4.5.NET Framework 4.5 xUnitxUnit xUnit:

```

1 #
2 Install -Package xunit
3 #2.1.0
4 Install -Package xunit -Version 2.1.0
```

Demo:

```

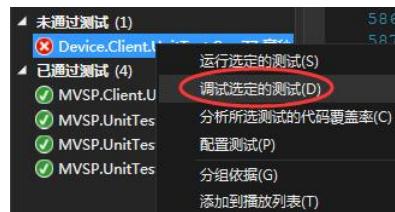
1 public class UnitTest1
2 {
3     [Fact]
```

¹C#718.6.4

```

4  public void PassingTest()
5  {
6      Assert.Equal(4, Add(2, 2));
7  }
8 }
```

xUnit xunit.runner.visualstudio xunit.execution.desktop.dll Visual Studio xunit.execution.desktop.dll
??



26.19:

26.4.2

[Fact(DisplayName = "Max")]

[Fact(Skip = " ")]

[Trait("Group", "Category")]

26.5 MiniProfiler

MVC MiniProfilerStack Overflow ASP.NET MVC AjaxIframe, SQLEFEEF CodeFirst Profiler .NET DbConnectionprofilerEntity FrameworkLINQ to SQL Step N+1profiler MiniProfilerApache License V2.0

26.5.1

```

1 #Miniprofiler MVC
2 Install-Package MiniProfiler.Mvc4
3 #Miniprofiler EF
4 Install-Package MiniProfiler.EF
```

26.5.2

Step 1 MiniprofilerMiniprofiler MiniprofilerMiniprofiler

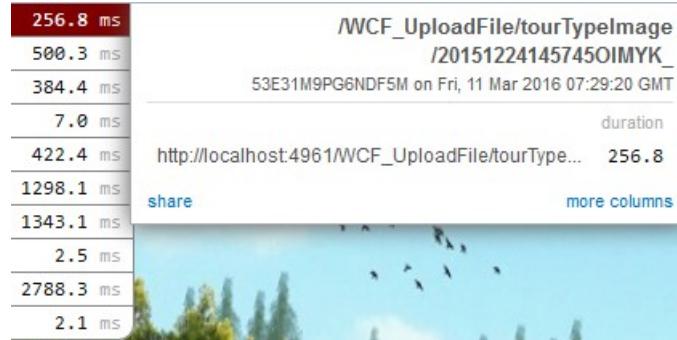
```

1 protected void Application_Start()
2 {
3     MiniProfilerEF. Initialize ();
4 }
5
6 void Application_BeginRequest()
7 {
8     if (Request.IsLocal)
9     {
10        MiniProfiler .Start();
11    }
12 }
13
14 void Application_EndRequest()
15 {
16     MiniProfiler .Stop();
17 }
```

Step 2 MVC

```
1 @StackExchange.Profiling.MiniProfiler.RenderIncludes()
```

??



26.20: Miniprofiler

26.6 dotTrace

https://www.jetbrains.com/help/profiler/10.0/Introduction.html?origin=old_help

26.6.1 dotTraceASP.NET MVC

dotTracedotTrace(run dotTrace as a standalone application) Profile ApplicationIISOpenUrlUrl Profier OptionsTimeLinedotTrace

26.7 CLR Profiler

CLR Profiler<https://www.microsoft.com/en-us/download/details.aspx?id=16273> The CLR Profiler allows developers to see the allocation profile of their managed applications.

26.8 JustDecompile

26.9 DebugView.exe

DebugView² using System.Diagnostics;Debug.WriteLine("");

26.10 Selenium

26.11 JMeter

26.12 PerfView

PerfViewWindowsETW PerfmonPALXperf PerfViewDiff Dump PerfView is an application designed to simplify the collection and analysis of performance data. PerfView(I/OGC) Event Tracing for Windows(ETW) PerfView

26.13 SoapUI(Apahce Licence 2.0)

SoapUI is a free and open source cross-platform Functional Testing solution. With an easy-to-use graphical interface, and enterprise-class features, SoapUI allows you to easily and rapidly create and execute automated functional, regression, compliance, and load tests. In a single test environment, SoapUI provides complete test coverage and supports all the standard protocols

²DebugView is an application that lets you monitor debug output on your local system, or any computer on the network that you can reach via TCP/IP. It is capable of displaying both kernel-mode and Win32 debug output, so you don't need a debugger to catch the debug output your applications or device drivers generate, nor do you need to modify your applications or drivers to use non-standard debug output APIs.

and technologies. There are simply no limits to what you can do with your tests. Meet SoapUI, the world's most complete testing tool!

26.14 Wireshark(GNU General Public License)

```
wireshark 80Filter tcp.port==8080 tcp.dstport==8080 tcp.srcport==8080
```

26.14.1

Wireshark

```
1 #60026003IP12.26.32.14
2 tcp port 6003 or tcp port 6002 or host 12.26.32.14
```

WinpcapBerkeley Packet FilterBPF IP

```
1 #6002
2 ip .src == 192.168.24.79 && tcp.dstport == 6002
3
4 ip .dst == 192.168.1.222 or ip.dst == 183.230.47.195
5
6 #
7 tcp.port == 6002
```

HTTP

```
1 http || tcp.port == 80
```

ViewColoring Rules()

TCP

201662909

```
1 frame.time > "June 29, 2016 09:00:01.009638000"
```

16

```
1 tcp.len > 16 and tcp.segment_data contains 7e:80:01:00
2
3 #
4 data.data contains 7e:02:00
5
6 #
7 data.data contains 7e:02:00 and data.data contains 41:31:07
```

```

8  #
9  #
10 data.data contains 7e:02:00 and data.data contains 41:31:07 and !data.data[53,4] ==
11   00:00:00:00
12 #
13 #Wireshark data slice
14 data[0,1-2,5-6] == 7e:02:00:01:41
15 #
16 data[1:2] == 02:00 and data[13:4]==00:20:00:00

```

Apply as Filter

TCP TCP

```

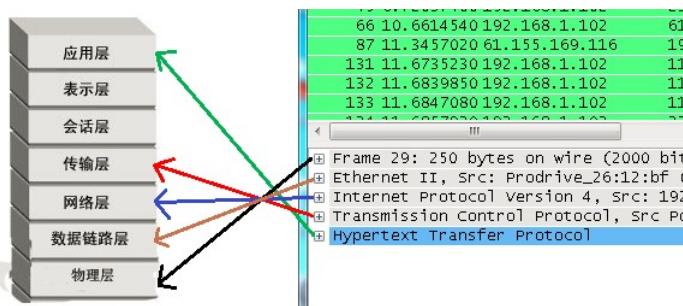
1 tcp[0:2]==3e:88
2
3 #Data3e2388:90
4 data[0,2-3]==3e:88:90

```

tcp023e88 3e88

26.14.2

Wireshark7?? (Frame)(Ethernet II) (Internet Protocol Version 4)(Transmission Control Protocol) Wireshark ()



26.21: 7

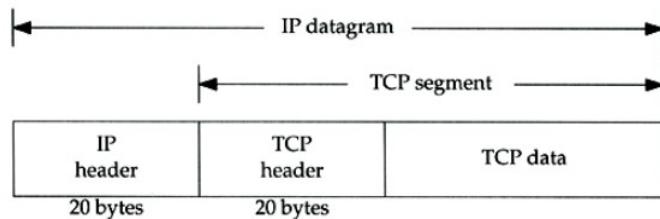
(Data Link Layer) SLIPCSLIPPPPAPRARPMTU WiresharkEthernet II Ethernet II Header??

(Network Layer) -- IP3 2IP3 ARP3 3 packet IPICMPRIOSPFBGPIGMP IP Wireshark??

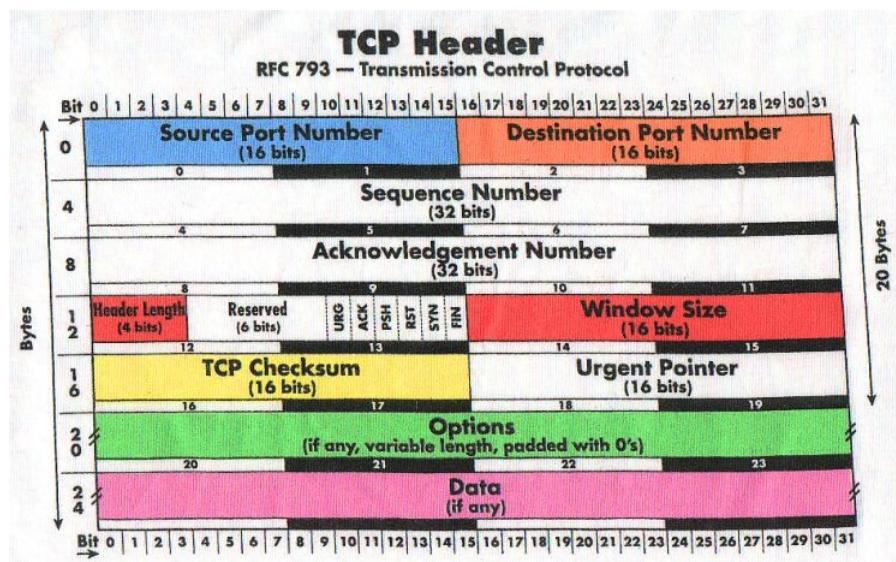
(Transport Layer) 4packets TCPTCP segments UDPdatagrams 4 TCPUDPSPX TCP Header??

Ethernet II Header					
Destination Mac Address	Source Mac Address	Type	Data	CRC Checksum	
Ethernet II, Src: F5Networ_d1:96:c4 (00:01:d7:d1:96:c4), Dst: Cisco_23:a9:80 (00:12:00:23:a9:80)					
Destination: Cisco_23:a9:80 (00:12:00:23:a9:80)	Address: Cisco_23:a9:80 (00:12:00:23:a9:80)				
.....0..... = IG bit: Individual address (unicast)0..... = LG bit: Globally unique address (factory default)				
Source: F5Networ_d1:96:c4 (00:01:d7:d1:96:c4)	Address: F5Networ_d1:96:c4 (00:01:d7:d1:96:c4)				
.....0..... = IG bit: Individual address (unicast)0..... = LG bit: Globally unique address (factory default)				
Type: IP (0x0800)					

26.22: Ethernet

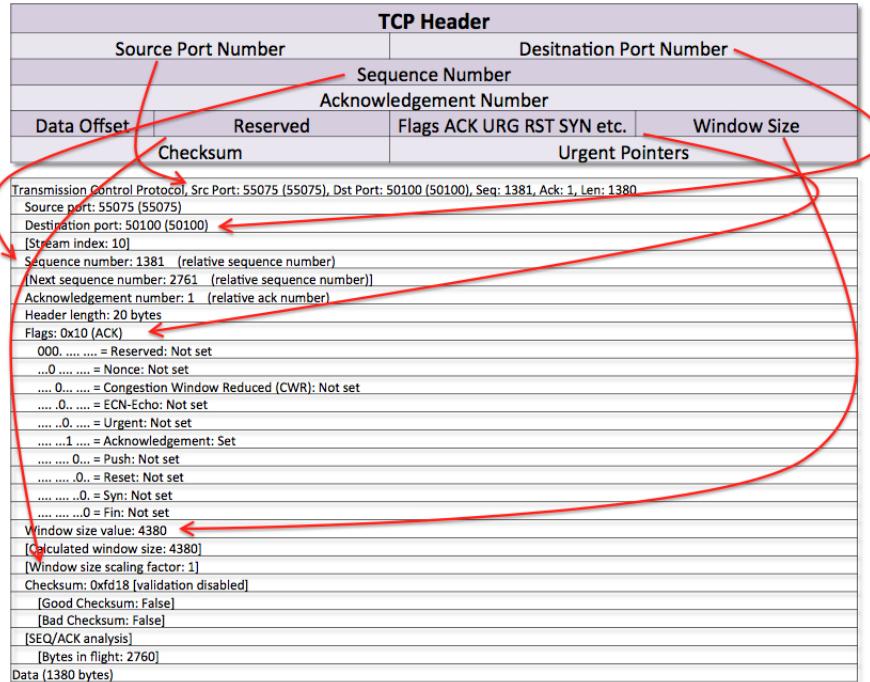


26.23: 7



26.24: TCP

TCP Header Wireshark

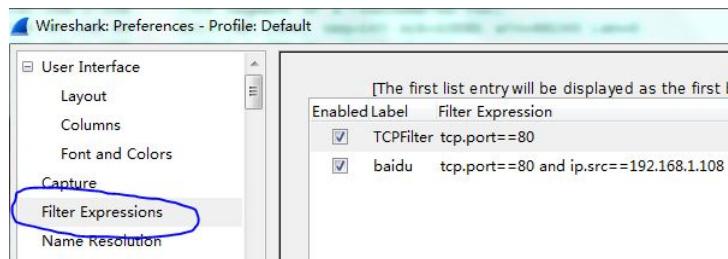


26.25: TCPWireshark

(Application Layer) Telnet FTP HTTPS SNMP HTTP

26.14.3 Filter

C:/Users/Dolphin/AppData/Roaming/Wireshark/preferences Filter Expressions GUIEdit-
Preferences->Filter Expressions



26.26: WireShark Filter Management

26.14.4

wireshark

1.cmd 2.route add ip mask 255.255.255.255 ip

```
1 #  
2 route print  
3 #  
4 route add 192.168.24.79 mask 255.255.255.255 192.168.24.1
```

route delete 172.16.51.115 mask 255.255.255.255 172.16.1.1 wireshark wireshark URLPIP
localhost127.0.0.1localhost127.0.0.1

26.14.5

The temporary file to which the capture would be saved ("") could not be opened:
Invalid argument Captureoption C:\a.cap

Chapter 27

27.1 Linux

27.1.1 Putty

27.1.2 Vi

27.2 GMap.NET

GMap.NET is great and Powerful, Free, cross platform, open source .NET control. Enable use routing, geocoding, directions and maps from Google, Yahoo!, Bing, OpenStreetMap, ArcGIS, Pergo, SigPac, Yendux, Mappy.cz, Maps.lt, iKarte.lv, NearMap, OviMap, CloudMade, WikiMapia, MapQuest in Windows Forms & Presentation, supports caching and runs on windows mobile!

http://greatmaps.wikia.com/wiki/Main_Page

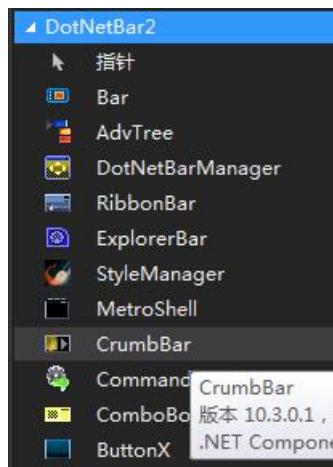
27.3 DotNetBar(Commercial)

27.3.1 Introduce

DotNetBar56Windows Form Windows Form C#Office 2007 style RibbonOffice 2003 office2010 windows7,Windows XP

27.3.2 DotNetBarVisual Studio

Visual Studio DotNetBar DotNetBar DevComponents.DotNetBar2.dll DotNetBar ??



27.1: DotNetBar

DotNetBar Visual Studio

27.4 ildasm.exe(MSIL Disassembler)

MSIL Disassembler C:/Program Files (x86)/Microsoft SDKs/Windows

27.5 Source Insight(Commercial)

Source Insight is a project-oriented program editor and code browser, with built-in analysis for C/C++, C#, and Java programs. Source Insight parses your source code and maintains its own database of symbolic information dynamically while you work, and presents useful contextual information to you automatically.

Source Insight can display reference trees, class inheritance diagrams, and call trees. Source Insight features the quickest navigation of source code and source information of any programming editor. Source Insight 3.x does not yet support UNICODE files.

27.5.1 (Feature)

Call Graphs and Class Tree Diagrams The Relation Window is a Source Insight innovation that shows interesting relationships between symbols. It runs in the background and tracks what symbols you have selected. With it, you can view class hierarchies, call trees, reference trees, and more. C#Call Tree??

class hierarchiesC#

The beauty of the Relation Window is that you dont have to do anything special. It works in the background while you work, but you can interact with it when you want to.

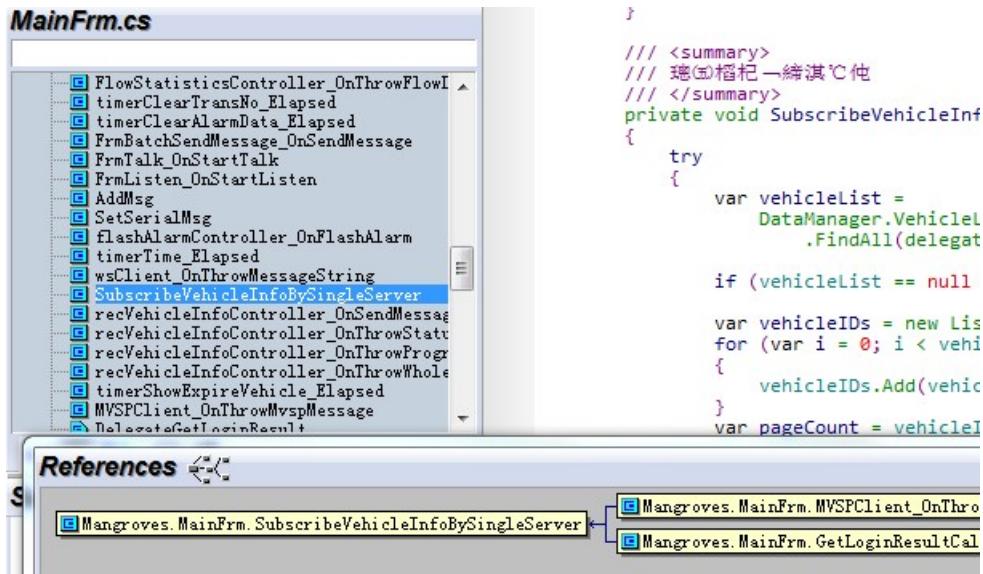
The Relation Window can be viewed either graphically, or in outline format. You can also have several Relation Windows open, each showing different types of information.

27.6 Inno Setup

27.6.1

Next Chinese.isl Languages Chinese.isl

1 [Languages]



27.2: Call Graphs

2 Name: "Chinese"; MessagesFile: "compiler:\Languages\Chinese.isl"

27.6.2

```

1 [Code]
2 procedure InitializeWizard();
3 var
4     Page: TWizardPage;
5 begin
6     Page := CreateCustomPage(wpWelcome, 'Custom wizard page controls', 'TButton and
7         others');
8 end;

```

27.6.3

Setup

1 DisableWelcomePage=no

??

27.6.4 .NET Framework

.net.Net FrameworkWPK, M.Net Framework..Net Framework.Net Framework



27.3: Inno Setup

27.7 Graphviz

Graphviz¹ is open source graph visualization software. Graph visualization is a way of representing structural information as diagrams of abstract graphs and networks. It has important applications in networking, bioinformatics, software engineering, database and web design, machine learning, and in visual interfaces for other technical domains.

Graphviz(Graph Visualization Software)AT&T, DOT² Graphviz, Common Public LicenseMac2004
"WYTIWYGwhat you think is what you get officeWYSIWYGwhat you see is what you get

dotps

```
1 C:\>dot -Tps a.dot -o 1.ps
```

jpgSign.dotSign.jpgdot

```
1 dot -T[output\_filetype] [-G[option\_name]] -o [output\_filename] [input\_filename]
2
3 dot -Tjpg Sign.dot -o Sign.jpg
```

Graphvizdipi

¹<http://www.graphviz.org/pub/graphviz/stable/windows/graphviz-2.38.msi>

²dot is a tool to generate nice-looking diagrams with a minimum of effort. It's part of GraphViz, an open source project developed at AT&T and released under an MIT license. It is a high-quality and mature product, with very good documentation and support, available on all major platforms, including Unix/Linux, Windows, and Mac.

```
1 dot -Tjpg -Gdpi=331 PhotoPrintWorkflow.dot -o ppw.jpg
```

27.7.1

Graphvizdot Graphvizfontname

```
1 digraph G{
2     size="8,8"
3     edge[fontname="FangSong"];
4     node[shape=box,fontname="FangSong",size="20,20"]
5         ->      [label="          "];
6         ->      [label="          "];
7         ->      [label="+          "];
8         ->      ;
9         ->      ;
10        ->      ;
11        ->      ;
12        ->      [label="          "];
13        ->      [label="          "];
14        ->      ;
15        ->      ;
16        ->      ;
17        ->      ;
18        ->      [ style=bold];// 
19        edge[color=red];// 
20        ->      ;
21 }
```

Windows

```
PMingLiU
MingLiU
DFKai-SB
SimHei
SimSun
NSimSun
FangSong
KaiTi
_GB2312 FangSong_GB2312
_GB2312 KaiTi_GB2312
Microsoft JhengHei
Microsoft YaHei
```

27.7.2

Node

```

1 digraph G{
2     size="8,8";
3     edge[fontname="FangSong"];
4     node[shape="Mrecord",fontname="FangSong",size="20,20",fontsize=12,color="skyblue
5         ",style="filled"]
6         -> app_config ;
7         app_config -> ;
8         :sw-> :w[label=" "];
9         -> [label=" "];
10        -> Json ;
11        Json -> [label=" "];
12        Model -> ;
13        -> [label=" "];
14        -> RRshop_order [label=" "];
15

```

swwn,ne,e,se,nw ??

27.8 gVim

27.8.1

gVimutf-8

```

1 set fileencodings=utf-8,chinese,latin-1

```

27.9 Atom

27.9.1

27.10 Tex

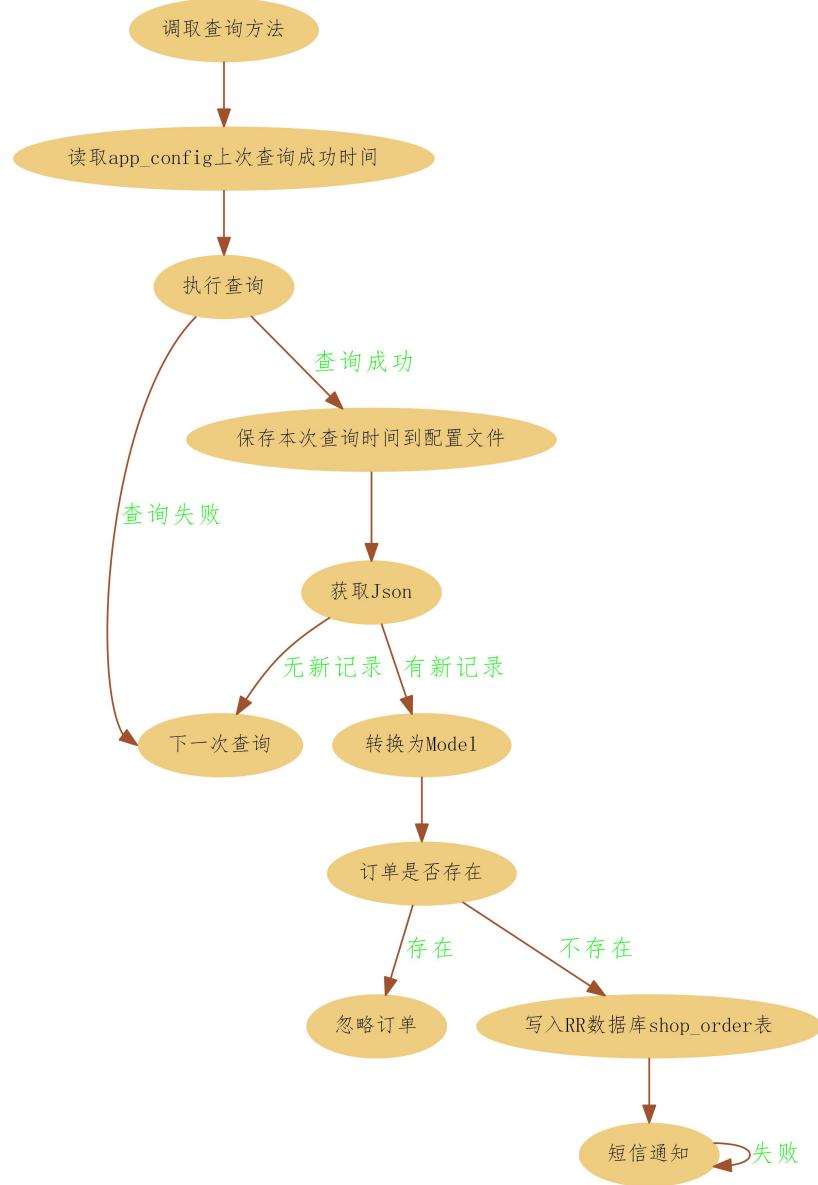
27.10.1 Install

TexLiveLatex

```

1 #
2 yum install texlive-scheme-full

```



27.4:

```

3 #ubuntu
4 sudo apt-get install texlive texlive-math-extra texlive-latex-extra texlive-latex-
5 recommended texlive-pictures texlive-science texlive-bibtex-extra latex-beamer

```

```
1 sudo apt-get install texlive-full latex-beamer
```

CJK

```
1 sudo apt-get install latex-cjk-chinese ttf-arphic-* hbf-*
```

```

1 \clearpage
2 \mbox{}
3 \clearpage

```

27.10.2 Tex

```

1 \newcounter{coderemarks} \\
2 \setcounter{coderemarks}{1} \\
3 \newcounter{codevar} \\
4 \setcounter{codevar}{1}

```

```

1 \newcommand{\circlemark}[1]{%
2 \tikz\node[font=\sffamily\bfseries,inner sep=0.2mm,draw,circle,fill=black
 ]{#1};}

```

makeremarkcirclemarkcoderemarksshowremarkecoderemarks

```

1 \newcommand{\makeremark}[1]{%
2 \circlemark{\arabic{coderemarks}}%
3 \global\expandafter\def\csname codebox\the\value{coderemarks}\endcsname{#1}%
4 \stepcounter{coderemarks}}

```

showremarkecoderemarkscodevaluemarkeremark

```

1 \newcommand{\showremarks}{%
2 \begin{list }{\circlemark{\arabic{codevar}}}} %
3 {} %
4 \whiledo{\value{codevar} < \value{coderemarks}}{ %
5 \item \expandafter\csname codebox\the\value{codevar}\endcsname %
6 \stepcounter{codevar}} %
7 \end{list} %
8 \setcounter{coderemarks}{1}%
9 \setcounter{codevar}{1}%
10 }

```

`makeremarklisting/showremarks``lstset{escapeinside=““}`

```

1 \begin{ lstlisting -internal}
2 #include makeremark()
3 makeremarklstinline——
4 int main() { makeremarkCmain
5     printf("Hello, world") makeremark
6 }
7 \end{ lstlisting -internal}
8 \showremarks

```

27.11 Rsync

`rsync3` remote synchronize rsync rsync ssh

rsync

rsh ssh

rsync

windows windows cwr sync

³<https://rsync.samba.org/>

27.12 Docbook

27.12.1 Docbook

d:/Docbook

Step 1:Docbook XSL Docbook Docbook Docbook Docbook XSL⁴ HTML FO sourceforgeXSL
<http://sourceforge.net/projects/docbook/files/> d:/docbook/docbook-xsl-ns-1.76.1 htmlutf-8 docbook-xsl-nsISO-8859-1 utf-8 d:/docbook/docbook-xsl-ns-1.76.1/html/docbook.xsl

Step 2:windowsxsltproc XML xsltproc⁵ CXML WindowsLinux JavaSaxon, Xalan <ftp://ftp.zlatkovic.com/libxml/>

- iconv-1.9.2.win32.zip
- zlib-1.2.3.win32.zip
- libxslt-1.1.24.win32.zip xslexslxsltproc
- libxml2-2.7.3.win32.zip xmlxmlintxmlcatalog

d:/docbook/xsltproc d:/docbook/xsltproc/bin includelib docbookhtml docbookpdf xsl-fopdf Apache FOP⁶

Step 3:Apache FOP ApacheFop<http://www.apache.org/dyn/closer.cgi/xmlgraphics-fop> d:/docbook/fop-1.0 source binarieszip fop-1.0-bin.zip

3.1java http://www.java.com/zh_CN/download/ http://x.139.xdowns.com/096/jre-6u4-windows-i586-p.rar c:/Program Files/Java

3.2 windows fonts/simsun.xmlfonts/simhei.xml

3.3fop.xconf d:/docbook/fop-1.0/conf/fop.xconf apache fop d:/docbook/fop-1.0/conf/fop.xconf docbookhtmlpdf chmHTML Help Workshop xsltprochhpchm

Step 4:HTML Help Workshop <http://msdn.microsoft.com/en-us/library/ms669985%28v=VS.85%29.aspx> c:/Program Files/HTML Help Workshop docbookhtmlpdf

⁴Extensible Stylesheet Language

⁵XSL Transport Processor

⁶Apache FOP (Formatting Objects Processor) is a print formatter driven by XSL formatting objects (XSL-FO) and an output independent formatter. It is a Java application that reads a formatting object (FO) tree and renders the resulting pages to a specified output. Output formats currently supported include PDF, PS, PCL, AFP, XML (area tree representation), Print, AWT and PNG, and to a lesser extent, RTF and TXT. The primary output target is PDF.

27.12.2 Docbook

Docbook 5.0 docbook.xml

```

1  <?xml version='1.0' encoding="utf-8"?>
2  <article xmlns="http://docbook.org/ns/docbook" version="5.0" xml:lang="zh-CN"
3    xmlns:xlink='http://www.w3.org/1999/xlink'>
4    <articleinfo>
5      <title>      Docbook      5.0      </title>
6      <author>
7        <firstname>Easwy</firstname>
8
9        <surname>Yang</surname>
10       </author>
11     </articleinfo>
12
13   <section>
14     <title>          </title>
15
16   <para>
17     Docbook      5.0      <link xlink:href='http://cnblogs.com/
18       jiangxiaoqiang/'> jxq </link>
19   </para>
20   </section>
21 </article>
```

27.12.3 HTML

UTF-8 docbook-xsl-nsISO-8859-1 UTF-8

C:/docbook/docbook-xsl-ns-1.74.3/html/docbook.xsl

```

1  <xsl:output method="html"
2            encoding="ISO-8859-1"
3            indent="no"/>
```

```

1  <xsl:output method="html"
2            encoding="UTF-8"
3            indent="no"/>
```

DocbookHTML

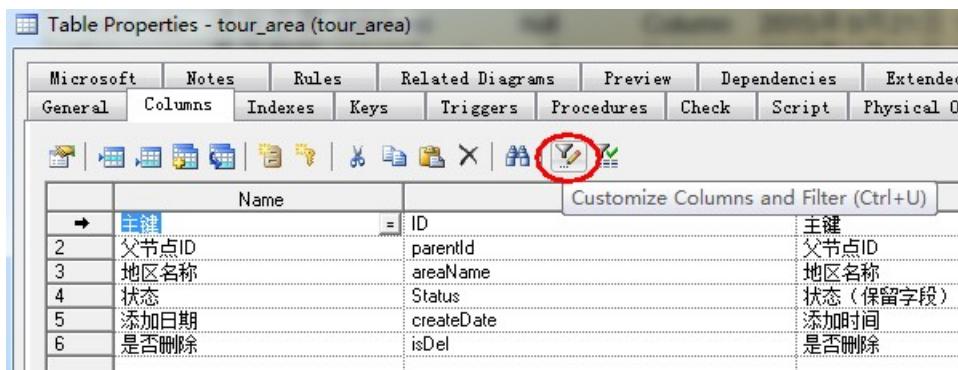
```

1  xsltproc.exe -o doc.html D:\Docbook\docbook-xsl-ns-1.78.1\html\docbook.xsl docbook.
2           xml
```

27.13 PowerDesigner(Commercial)

27.13.1

- Properties- Columns- Customize Columns and Filter(Ctrl+U)- Comment()- OK ??



27.5:

E-R() (Tools)- (Display Preference)- Table- Advance- Columns- Search

27.13.2

PowerDesigner "Identity" SQL Preview identity(1,1)

27.13.3

PowerDesignerTable Properties - Column Properties- Standard ChecksDefault ??

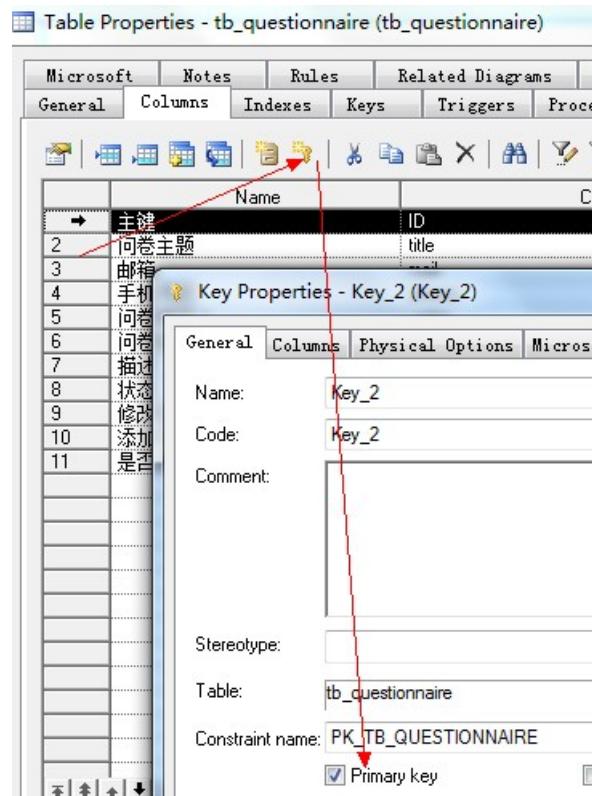
27.14 WebStorm

27.14.1 NodeJS

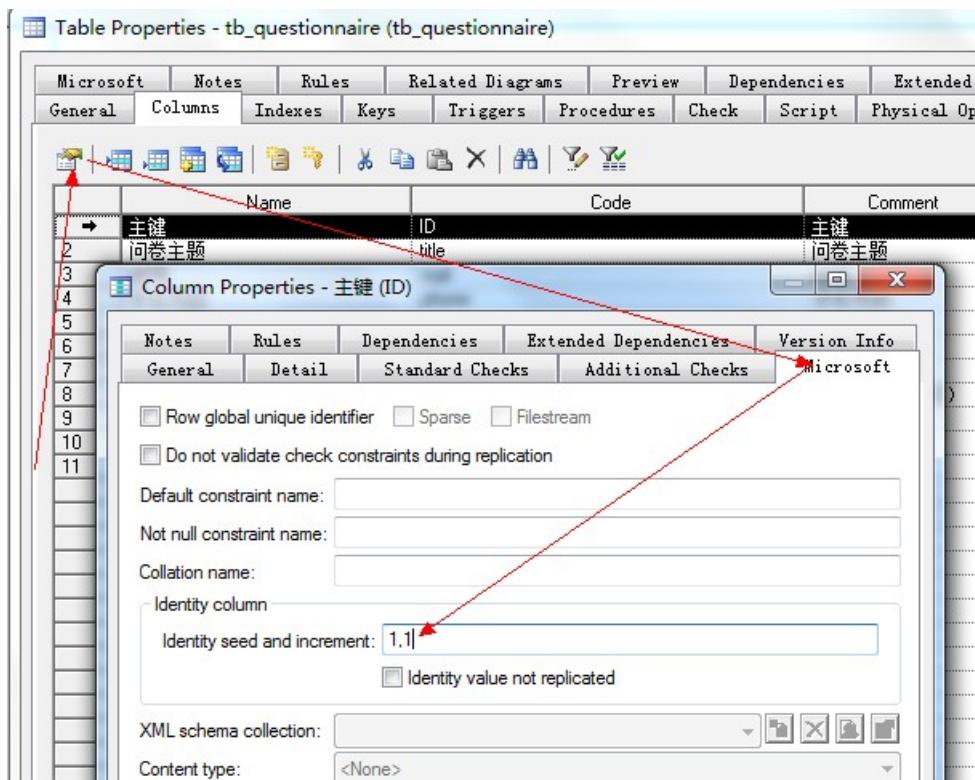
NodeJSRun-Edit Configurations-

27.15 curl(CommandLine Uniform Resource Locator)

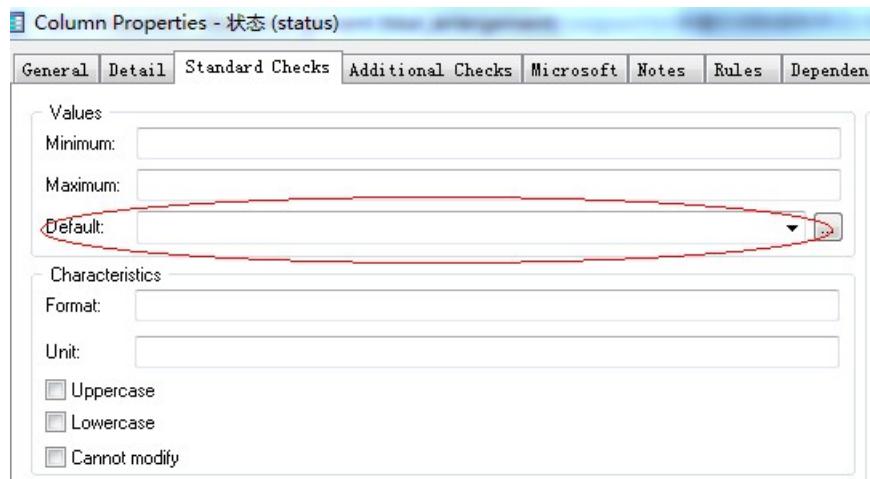
curlURL UnixLinux DOSWin32Win64 curl is an open source command line tool and library for transferring data with URL syntax, supporting DICT, FILE, FTP, FTPS, Gopher, HTTP, HTTPS, IMAP, IMAPS, LDAP, LDAPS, POP3, POP3S, RTMP, RTSP, SCP, SFTP, SMB, SMTP, SMTPE, Telnet and TFTP. curl supports SSL certificates, HTTP POST, HTTP



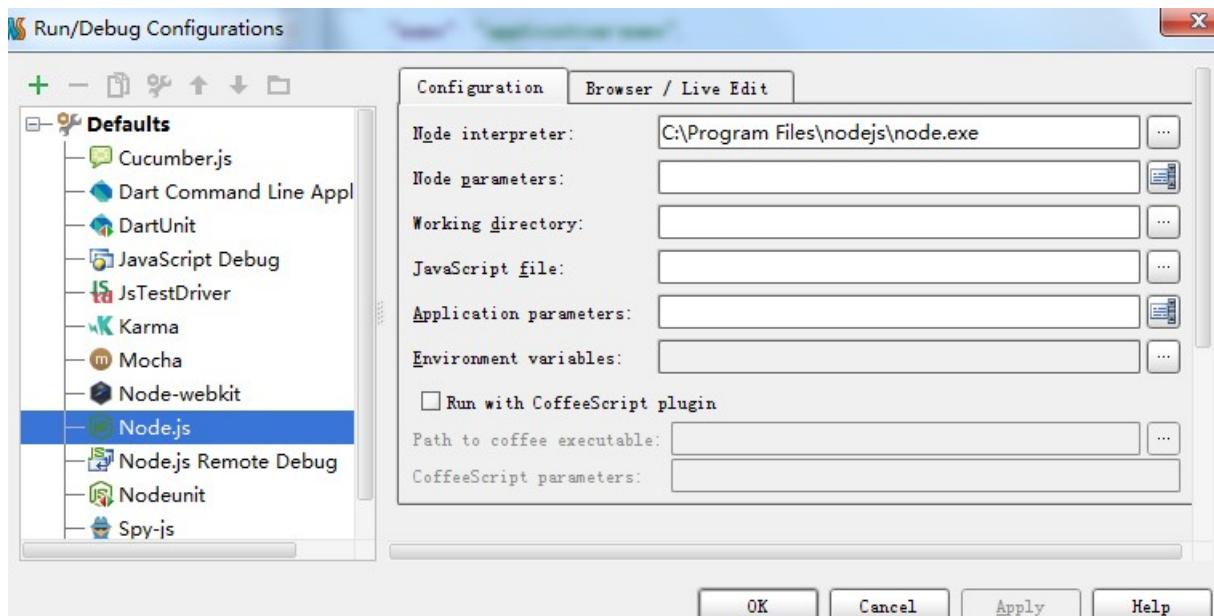
27.6:



27.7:



27.8:



27.9: WebStormNodeJS

PUT, FTP uploading, HTTP form based upload, proxies, HTTP/2, cookies, user+password authentication (Basic, Plain, Digest, CRAM-MD5, NTLM, Negotiate and Kerberos), file transfer resume, proxy tunneling and more.

27.15.1 curl for HTTP

```
1 curl -X POST -v https://api.jpush.cn/v3/push -H "Content-Type: application/json" -
u "7d431e42dfa6a6d693ac2d04:5e987ac6d2e04d95a9d8f0d1" -d '{"platform":"all",
"audience":"all","notification":{"alert":"Hi,JPush!"}}'
```

curl GetRestful

```
1 curl --request GET "http://129.29.81.128:8001/active/Lottery/GetWinningList" -d "
id=45&hour=24" --header "auth:appe10adc3949ba59abbe56e057f20f883e"
```

27.16 My Generation

MyGeneration C#,VB.Net,JScript,VBScript ORM SQLAsp.Net

```
1 Provider=SQLOLEDB.1;Persist Security Info=False;User ID=sa;Password=12345;Data
Source=129.19.11.121,5002
```

27.17 Brackets(MIT License)

27.17.1

Brackets BracketsLive Preview BracketsChrome htmlcssjavascript Bracketscoder Bracketschrome / ChromeChrome Chrome MacChrome BracketsChrome HTML - HTML Brackets Remote DebuggingChromeWebServer, --remote-debugging-port=1337, Chrome localhost:1337, ChromeHost,ChromeClient, Web

27.17.2

Google ChromeLive Preview Google htmlIIS HTMLUtf-8

```
1 <meta charset="utf-8"/>
```

<http://tid.tenpay.com/>

27.18 FileZilla

27.18.1

FTP tab

FileZillaIP127.0.0.1 IPIP FTP

27.19 Yeoman

27.19.1

YeomanGoogle Grunt BowerHTMLCSSJavascript Yeoman Yeomanyogruntbower

27.20 BrowserSyncMIT Licence

27.20.1

Browsersync⁷ htmljscsssassless BrowsersyncPC pcipadiphoneandroid browsersync 30%

27.20.2

```
1 npm install -g browser-sync
```

27.20.3

browser-sync-server C:/wamp/www/openadmin/style/html/ C:/wamp/www/openadmin(serverroot)

```
1 #-files
2 browser-sync start --server --files "style/html/*.html"
```

```
1 browser-sync start --proxy "192.168.1.108:8000" --files "*.*css,*.*html"
```

--files --serverweb --proxyPHPNginxweb windows

```
1 browser-sync start "192.168.1.108:8000" --files "index.html"
2
```

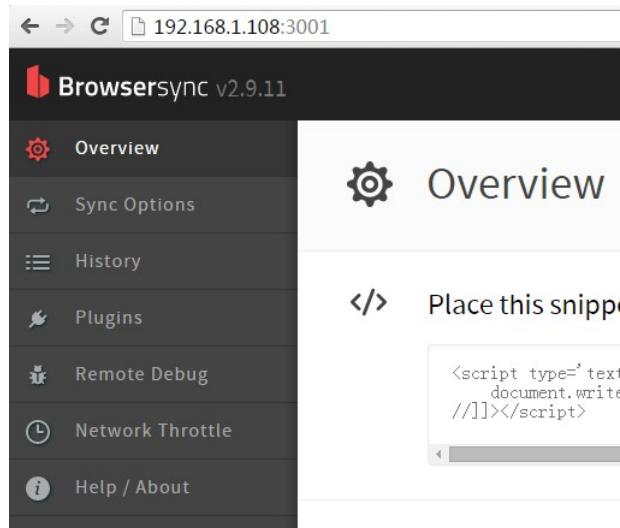
⁷<http://www.browsersync.io/>

```

3  #
4  browser-sync start --proxy "192.168.1.254:7000" --files "*.html,*.css"
5
6  #
7  browser-sync start --server --files "**/*.*.css,**./*.html"

```

<http://192.168.1.108:3001/help ??>



27.10: Browser

3000:3001BrowserSyncUI localhostIPURL Remote Debugger BrowserSync Remote Debugger Remote Debugger⁸

BrowserSync BrowserSyncjscripc_t_liveReload BrowserSyncweb socket BrowserSync

cssBrowserSynccss

WorkspaceChrome DevTools Chrome stable WorkspaceChrome ChromeCSSess chrome://flags/Developer Tools Experiments()⁹

27.21 ReSharper(Commercial)

ReSharperJetBrains Microsoft Visual StudioIDE C#Visual Basic .net ReSharper ReSharperC#VB.NETXMLASP.NETXAML ReSharperC#VB.NET.net

27.21.1 (Settings)

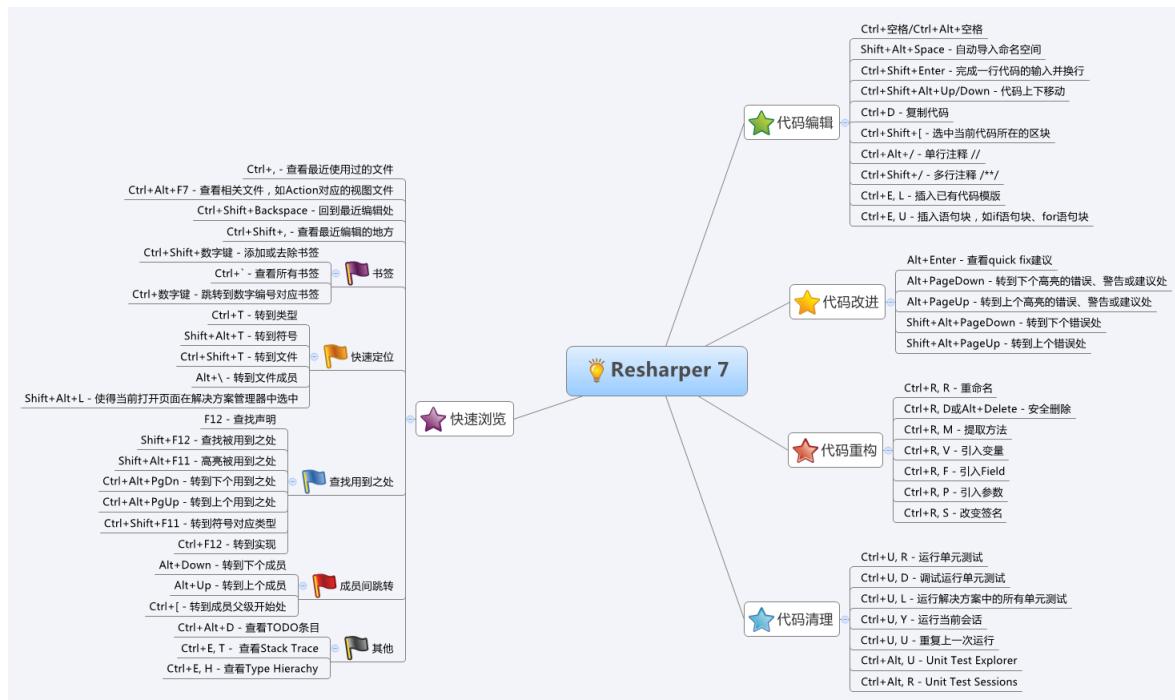
Resharper 9 1G Resharper Resharper->Options...->Environment->Products&Features Visual Studio 2013 500MB

⁸<http://www.codingserf.com/index.php/2015/03/browsersync/>

⁹<http://isux.tencent.com/chrome-workspace.html>

Resharper Resharper Options = C# = Formatting Style = Line Breaks and Wrapping = Right margin(columns) = ,360

27.21.2



27.11: Resharper

-
-
-
-

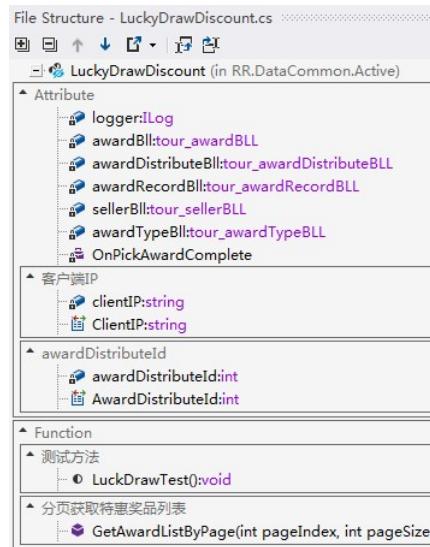
Ctrl+Enter region ResharperFile Structure region ??

region ResharperCtrl+F11 region UML

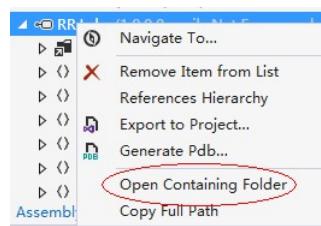
(Clean Up Code) Cleanup CodeCtrl + Alt + F

dll

ResharperShift+Alt+L(Locate)



27.12: Resharper File Structure



27.13: dll

Ctrl + Shift + Comma

27.21.3 Navigation and Search

Navigate To Navigate To is a single shortcut for all kinds of contextual navigation. Navigate To lists all destinations available at the current caret position. Press **Alt + ~** for quick navigation links to the declaration, type declaration, base class, inheritor(s), or usage of the symbol under the caret; interface implementation for an interface; function exits for a function, and more.

Go to File Member

Go to File Member https://www.jetbrains.com/resharper/features/navigation_search.html

27.21.4 Code analysis

Call Tracking In the past, attempting to track call sequences in code could end up with lots of Find Results windows and lost context. To address this problem, ReSharper can visualize the entire call sequence in a single tool window. This is called Call Tracking, and it enables you to view and navigate through call chains in your code.

Thanks to support for events, interfaces, and closures, ReSharper's Call Tracking is a substantial improvement over Visual Studio's own Call Hierarchy.

To visualize a call sequence, choose ReSharper — Inspect — Outgoing Calls or ReSharper — Inspect — Incoming Calls, or use the Inspect This shortcut feature.

Navigating Between Highlighted Code Items Each error, warning, or suggestion is represented by an individual stripe on the Marker Bar. Clicking the stripe navigates you directly to the line of code that contains the error or causes the warning/suggestion.

You can navigate between errors, warnings and suggestions by pressing Alt+PageDown (forward) and Alt+PageUp (backward). You can also navigate between just errors (skipping any warnings and suggestions) by pressing Shift+Alt+PageDown (to next error) and Shift+Alt+PageUp (to previous error). A message describing the current error, warning, or suggestion is displayed in the status bar.

There's also an alternative way of navigating between code issues: you can find all code issues in a certain scope, and explore them in a dedicated tool window.

27.22 Reflexil

Reflexil is an assembly editor and runs as a plug-in for Red Gate's Reflector, ILSpy and Telerik's JustDecompile. Reflexil is using Mono.Cecil, written by Jb Evain and is able to manipulate IL code and save the modified assemblies to disk. Reflexil also supports C#/VB.NET code injection.

27.23 Gulp

27.23.1

```
gulp.js GulpGruntGruntIO Gulp
```

27.23.2

```
1 npm install browser-sync gulp --save-dev
```

27.24 weinre

27.24.1 Install

```
1 npm -g install weinre
```

27.24.2

```
1 weinre --boundHost 192.168.1.108
```

<http://wyqbailey.diandian.com/post/2011-11-09/20511143>

<http://liyadong.com>

27.25 Shadowsocks

27.25.1

27.25.2

```
1 netstat -ano | findstr < >
```

27.26 NuGet

27.26.1

NuGet



27.14: NuGet

Nuget

```
1 #
2 Get-Package -listavailable -filter MiniProfiler
3 #
4 #
5 Install -Package Swashbuckle
6 #
7 #
8 Uninstall -Package Swashbuckle
9 #
10 #
11 Get-Package -ListAvailable -Filter Swashbuckle
```

27.27 Quartz.NET

27.27.1

Quartz.NET Quartz.NET OpenSymphony Quartz API .NET C# winform asp.net cron-like

27.27.2 app.config

quartz.net common.logging common.logging.log4net1213 app.config common.logging

```

1 <configSections>
2 <section name="quartz" type="System.Configuration.NameValueSectionHandler, System
   , Version=1.0.5000.0,Culture=neutral, PublicKeyToken=b77a5c561934e089"/>
3 <section name="log4net" type="log4net.Config.Log4NetConfigurationSectionHandler,
   log4net"/>
4 <sectionGroup name="common">
5 <section name="logging" type="Common.Logging.ConfigurationSectionHandler, Common.
   Logging" />
6 </sectionGroup>
7 </configSections>
8
9 <common>
10 <logging>
11   <factoryAdapter type="Common.Logging.Log4Net.Log4NetLoggerFactoryAdapter,
     Common.Logging.Log4Net1213">
12     <arg key="configType" value="FILE-WATCH" />
13     <arg key="configFile" value="~/config/log4net.config" />
14   </factoryAdapter>
15 </logging>
16 </common>
```

quartz.net.dll

dll

log4net	1.2.13.0
Common.Logging	3.0.0.0
Common.Logging.Log4Net1213	3.0.0.0
Quartz.net	2.3.1.0

27.27.3 quartz.config

quartz.app.config / web.config -; quartz.config / Quartz.quartz.config -; quartz.jobs.xml .

```

1 # You can configure your scheduler in either <quartz> configuration section
2 # or in quartz properties file
```

```

3 # Configuration section has precedence
4
5 quartz.scheduler.instanceName = ServerScheduler
6
7 # configure thread pool info
8 quartz.threadPool.type = Quartz.Simpl.SimpleThreadPool, Quartz
9 quartz.threadPool.threadCount = 10
10 quartz.threadPool.threadPriority = Normal
11
12 # job initialization plugin handles our xml reading, without it defaults are used
13 quartz.plugin.xml.type = Quartz.Plugin.Xml.XMLSchedulingDataProcessorPlugin, Quartz
14 quartz.plugin.xml.fileNames = ~/config/quartz_jobs.xml
15
16 # export this server to remoting context
17 quartz.scheduler.exporter.type = Quartz.Simpl.RemotingSchedulerExporter, Quartz
18 quartz.scheduler.exporter.port = 555
19 quartz.scheduler.exporter.bindName = QuartzScheduler
20 quartz.scheduler.exporter.channelType = tcp
21 quartz.scheduler.exporter.channelName = httpQuartz
22 quartz.jobStore.type = Quartz.Simpl.RAMJobStore, Quartz

```

quartz.plugin.xml.fileNamesquartz_jobs.xml quartz.configapp.configapp.config quartzapp.config

```

1 <quartz>
2   <add key="quartz.scheduler.instanceName" value="TaskScheduler"/>
3   <add key="quartz.scheduler.instanceId" value="AUTO"/>
4   <add key="quartz.threadPool.type" value="Quartz.Simpl.SimpleThreadPool,
      Quartz"/>
5   <add key="quartz.threadPool.threadCount" value="5"/>
6   <add key="quartz.threadPool.threadPriority" value="Normal"/>
7   <add key="quartz.plugin.xml.type" value="Quartz.Plugin.Xml.
      XMLSchedulingDataProcessorPlugin, Quartz"/>
8   <!-- config -->
9   <add key="quartz.plugin.xml.fileNames" value="~/config/quartz_jobs.xml"/>
10  <add key="quartz.plugin.xml.scanInterval" value="600"/>
11 </quartz>

```

27.27.4 quartz_jobs.xml

TriggerSimpleTriggerCronTrigger.

```

1 <?xml version="1.0" encoding="UTF-8"?>
2 <job-scheduling-data xmlns="http://quartznet.sourceforge.net/JobSchedulingData"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" version="2.0">
3   <processing-directives>
4     <overwrite-existing-data>true</overwrite-existing-data>
5   </processing-directives>
6   <schedule>
7     <job>

```

```

8   <name>ShutdownMachineJob</name>
9   <group>Group1</group>
10  <description>           </description>
11  <!--
12      ,           -->
13  <job-type>RRMall.WxPrint.Common.Cmd.JobHelper, RRMall.WxPrint.Common</
14      job-type>
15  <!--<durable>           —          Job
16      scheduler           —>
17  <durable>true</durable>
18  <recover>false</recover>
19  </job>
20  <trigger>
21  <!--
22  <simple>
23      <name>shutdownMachineTrigger</name>
24      <group>Group2</group>
25      <!--           job           —
26          namejobname           —>
27      <job-name>ShutdownMachineJob</job-name>
28      <!--           (job)           jobgroup           —>
29      <job-group>Group1</job-group>
30      <!--start-time(    )           utc           +08
31          :00           <start-time>2012-04-01T08:00:00+08:00</start-time>
32          —
33          —>
34          <start-time>2014-10-25T00:00:00+08:00</start-time>
35          <end-time>2015-05-10T00:00:00+08:00</end-time>
36          <!--           :           <repeat-count>-1</repeat-count>
37          -->
38          <repeat-count>10</repeat-count>
39          <!--           (    )—>
40          <repeat-interval>10000</repeat-interval>
41          </simple>
42      </trigger>
43      <job>
44          <name>ProbeNetworkStatusJob</name>
45          <group>Group3</group>
46          <description>           </description>
47          <job-type>RRMall.WxPrint.Common.Cmd.ProbeNetJob, RRMall.WxPrint.Common
48              </job-type>
49          <durable>true</durable>
50          <recover>false</recover>
51      </job>
52      <trigger>
53      <!--           croncron           —>
54      <cron>
55          <name>ProbeNetworkStatusTrigger</name>

```

```

47   <group>Group4</group>
48   <job-name>ProbeNetworkStatusJob</job-name>
49   <job-group>Group3</job-group>
50   <start-time>2014-10-25T00:00:00+08:00</start-time>
51   <!-- cron -->
52   <cron-expression>0/5 * * * * ?</cron-expression>
53   </cron>
54   </trigger>
55   </schedule>
56 </job-scheduling-data>

```

cron

```

1 #5
2 */5 * * * * ?
3 #1
4 0 */1 * * * ?
5 #1
6 0 0 1 * * ?

```

TriggerJobTriggerJob

27.27.5 IJob

```

1 public class SampleJob : IJob
2 {
3     private static readonly log4net.ILog logger = log4net.LogManager.GetLogger("SampleJob");
4     public void Execute(IJobExecutionContext context)
5     {
6         logger.Info("Task start...");
7     }
8 }

```

27.27.6

```

1 private void btn_ExecuteJob_Click(object sender, EventArgs e)
2 {
3     try
4     {
5         logger.Info("...");  

6         ISchedulerFactory schedulerFactory = new StdSchedulerFactory();
7         IScheduler scheduler = schedulerFactory.GetScheduler();
8         scheduler.Start();
9     }
10    catch (Exception ee)

```

```
11  {
12      logger.Error("",
13      }
14 }
```

QuartzXMLSchedulingDataProcessorPlugin TriggerCron

27.28 ThunderBird

AppData/Thunderbird/abook.mab

27.29 PuTTY

27.29.1 PuTTY

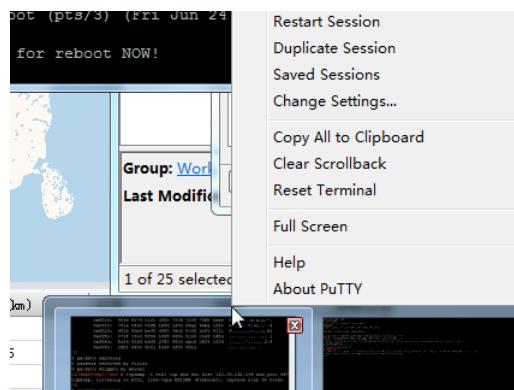
putty

27.29.2 psftp

```
1 #
2 open hostname
3 open username@hostname
4 #
5 #
6 lcd
```

27.29.3 putty

putty??



27.15: putty

Chapter 28

28.1 Lantern

Lantern¹ is a free desktop application that delivers fast, reliable and secure access to the open Internet for users in censored regions. It uses a variety of techniques to stay unblocked, including P2P and domain fronting. Lantern relies on users in uncensored regions acting as access points to the open Internet.

28.1.1 How does Lantern work

Lantern was built to give users fast access to the blocked Internet. Lantern automatically detects whether or not a site is blocked and then accesses the blocked site either through our own servers or through Lantern users running as access points in the uncensored world. If a site is unblocked, Lantern gets out of the way, and your browser accesses it directly to give you the fastest possible access.

28.2 Shadowsocks()

¹Official Website:<https://getlantern.org/>

Part III

Chapter 29

29.1 (Font)

29.1.1 Museo Sans

Museo Sans is based on the well-known Museo.

It is a sturdy, low contrast, geometric, highly legible sans serif typeface very well suited for any display and text use.

This OpenType font family offers also support for CE languages and even Esperanto. Besides ligatures, automatic fractions, proportional/tabular lining and old-style figures, numerators, denominators, superiors and inferiors MUSEO also has a case feature for case sensitive forms.

29.1.2 Avenir Web

Part IV

29.2

29.2.1 app.config

Node-Webkit

Node-Webkit Node-Webkit¹ Node-Webkit API html

```
1 gui.App.clearCache();
```

```
1 window.disableCache(bool);
```

videoUpdate

```
1 ProcessStartInfo startInfo = new ProcessStartInfo("RRMall.AutoUpdater.exe");
2 startInfo.Arguments = "videoUpdate";
3 Process.Start(startInfo);
```

```
1 static void Main(string[] Args)
2 {
3     Application.EnableVisualStyles();
4     Application.SetCompatibleTextRenderingDefault(false);
5     Application.Run(new FrmUpdate(Args));
6 }
```

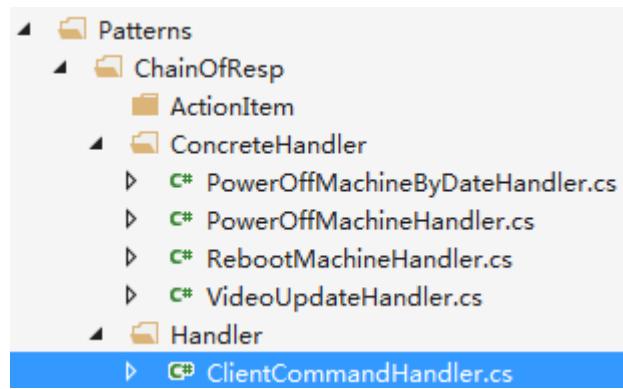
29.2.2

Chain Of Responsibility ClientModel Model ??

ClientCommandHandler

```
1 public abstract class ClientCommandHandler
2 {
3     #region Attribute
4
5     /// <summary>
```

¹NW.js lets you call all Node.js modules directly from DOM and enables a new way of writing applications with all Web technologies. It was previously known as "node-webkit" project.



29.1:

```

6   /**
7    /// </summary>
8    /// <param name="macData"></param>
9    public delegate void FireLeaveAction(MacData macData);
10
11   /// <summary>
12   ///
13   /// </summary>
14   /// <param name="macData"></param>
15   public FireLeaveAction fireLeaveAction = null;
16
17   /// <summary>
18   ///
19   /// </summary>
20   public ClientCommandHandler nextHandler { get; set; }
21
22   /// <summary>
23   ///   log4net
24   /// </summary>
25   private static readonly log4net.ILog logger = log4net.LogManager.GetLogger(
26     MethodBase.GetCurrentMethod().DeclaringType);
27
28   #endregion
29
30   #region Function
31
32   /// <summary>
33   ///
34   /// </summary>
35   /// <param name="macData"></param>
36   public abstract void ActionHandle(MacData macData);
37
38   /// <summary>
39   ///
40   /// </summary>
41   /// <param name="macData"></param>
42   public void LeaveAction(MacData macData)

```

```

42 {
43     if (fireLeaveAction != null)
44     {
45         fireLeaveAction(macData);
46     }
47 }
48 #endregion
49 }
```

```

1 public class RebootMachineHandler : ClientCommandHandler
2 {
3     #region Attribute
4
5     /// <summary>
6     ///
7     /// </summary>
8     private static readonly log4net.ILog logger = log4net.LogManager.GetLogger(
9         MethodBase.GetCurrentMethod().DeclaringType);
10    #endregion
11
12    #region Function
13
14    #region Constructor
15    public RebootMachineHandler()
16    {
17        this.fireLeaveAction += new FireLeaveAction(RebootMachine_Handle);
18    }
19    #endregion
20
21    #region
22    /// <summary>
23    ///
24    /// </summary>
25    /// <param name="macData"></param>
26    private void RebootMachine_Handle(MacData macData)
27    {
28        ActionHandle(macData);
29    }
30    #endregion
31
32    #region
33    /// <summary>
34    ///
35    /// </summary>
36    /// <param name="macData"></param>
37    public override void ActionHandle(MacData macData)
38    {
39        if (macData.isReboot == 1)
40        {
```

```

40     IGUIDataService GUIDataServcie = (new GUIDataServiceFactory()).Create();
41     if (GUIDataServcie.SetMacInfo("isReboot"))
42     {
43         ISystemOperHelper sysOper = (new SystemOperHelperFactory()).Create();
44         sysOper.Shutdown("60", MachineOperType.Restart);
45     }
46     else
47     {
48         logger.Error("      isReboot      ");
49     }
50 }
51 else
52 {
53     if (nextHandler != null)
54     {
55         //  

56
57         VideoUpdateHandler videoUpdateHandler = new VideoUpdateHandler();
58         nextHandler = videoUpdateHandler;
59         nextHandler.LeaveAction(macData);
60     }
61 }
62 #endregion
63
64 #endregion
65 }
```

HTML DOMsetInterval() setInterval() clearInterval() setInterval()IDclearInterval()

```

1 <script language=javascript>
2     var int=self.setInterval ("clock()",50)
3     function clock()
4     {
5         var t=new Date()
6         document.getElementById("clock").value=t
7     }
8 </script>
```

setInterval()

10²Quartz.NET Job

```

1 <job>
2   <name>ShutdownMachineJob</name>
3   <group>Group1</group>
4   <description>           </description>
5   <!--
6   ,           -->
7   <job-type>RRMall.WxPrint.Bll.Job.JobHelper, RRMall.WxPrint.Bll</job-type>
8   <!--<durable>           -->
9   scheduler           <-->
10  <durable>true</durable>
11  <recover>false</recover>
12  </job>
```

```

1 <trigger>
2   <!--
3   croncron           -->
4   <cron>
5     <name>ShutdownMachineTrigger</name>
6     <group>Group2</group>
7     <job-name>ShutdownMachineJob</job-name>
8     <job-group>Group1</job-group>
9     <start-time>2014-10-25T00:00:00+08:00</start-time>
10    <cron-expression>0 30 21 * * ?</cron-expression>
11  </cron>
12 </trigger>
```

cron930

```

1 #region
2 /// <summary>
3 ///
4 /// </summary>
5 /// <param name="seconds">           </param>
6 public void Shutdown(string seconds)
7 {
8   if (string.IsNullOrEmpty(seconds))
9   {
10     logger.Error("           seconds:           "+seconds);
11     return;
12   }
13   int time = 0;
14   if (int.TryParse(seconds, out time))
15   {
```

²Quartz.NETCrontab

```

16     var startInfo = new System.Diagnostics.ProcessStartInfo("cmd.exe");
17     startInfo.UseShellExecute = false;
18     startInfo.RedirectStandardInput = true;
19     startInfo.RedirectStandardOutput = true;
20     startInfo.RedirectStandardError = true;
21     startInfo.CreateNoWindow = true;
22     var myProcess = new System.Diagnostics.Process();
23     myProcess.StartInfo = startInfo;
24     myProcess.Start();
25     myProcess.StandardInput.WriteLine("shutdown -f -s -t " + seconds);
26 }
27 else
28 {
29     logger.Error("seconds: " + seconds);
30 }
31 }
32 #endregion

```

2250

```
1 at 22:50 shutdown -s
```

```
1 at /delete /yes
```

3G

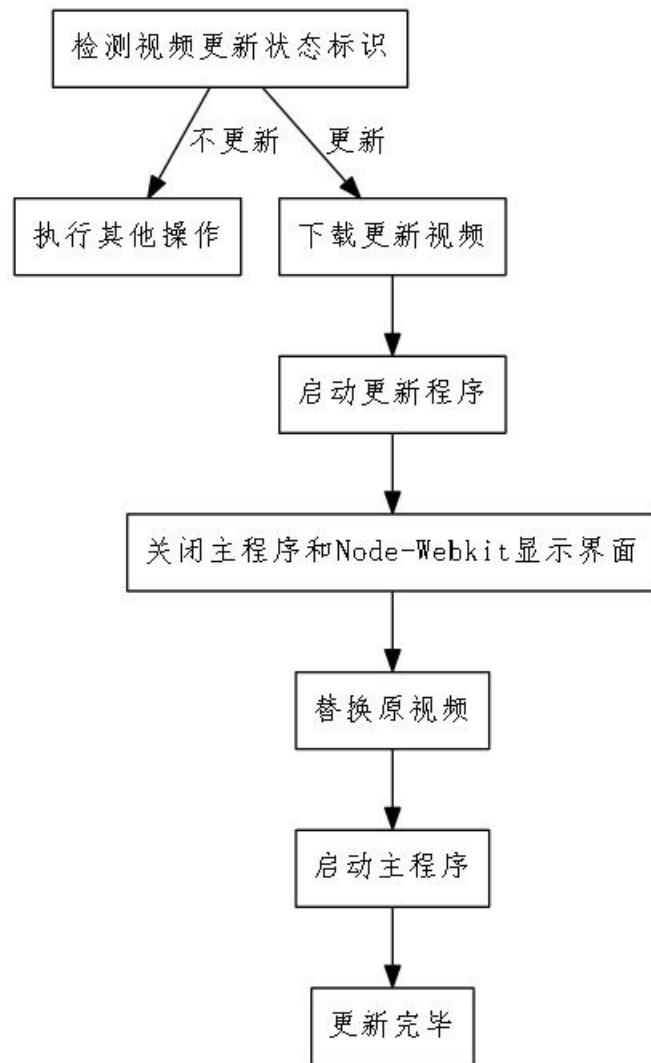
3G3G

??

Quartz.NETquartz-jobs.xml

```

1 <job>
2   <name>ProbeVideoUpdateJob</name>
3   <group>Group5</group>
4   <description>          </description>
5   <job-type>RRMall.WxPrint.Bll.Job.ProbeVideoUpdate,RRMall.WxPrint.Bll</job-type>
6   <durable>true</durable>
7   <recover>false</recover>
8 </job>
9 <trigger>
10  <!-- croncron -->
11  <cron>
```



29.2:

```

12 <name>ProbeVideoUpdateTrigger</name>
13 <group>Group6</group>
14 <job-name>ProbeVideoUpdateJob</job-name>
15 <job-group>Group5</job-group>
16 <start-time>2014-10-25T00:00:00+08:00</start-time>
17 <!--          CRON:          -->
18 <cron-expression>0 0 */1 * * ?</cron-expression>
19 </cron>
20 </trigger>

```

croncron-expressioncrontabM H D m d cmd. M: 0-59 H0-23 D1-31 m: 1-12 d: 0 60

```

10*/10 0 * * * ?
0 0 */1 * * ?
0 0/1 * * * ?
0/1501530455/155203550*/100/0/10 1HTTP

```

```

1 #region          FTP
2 ///
3 /// <summary>
4 ///      FTP
5 /// </summary>
6 /// <param name="saveFilePath">           </param>
7 /// <param name="saveFileName">           </param>
8 /// <param name="downloadFileName">         </param>
9 public void FTPDownloadFile(string saveFilePath, string saveFileName, string
                               downloadFileName)
10 {
11     //      FTP
12     FtpWebRequest ftpRequest = null;
13     //      FTP
14     FtpWebResponse ftpResponse = null;
15     //
16     FileStream saveStream = null;
17     //      FTP
18     Stream ftpStream = null;
19     string FTPFullFileName = string.Empty;
20     try
21     {
22         if (!Directory.Exists(saveFilePath))
23         {
24             Directory.CreateDirectory(saveFilePath);
25             logger.Info("          " + saveFilePath);
26         }
27         //
28         saveStream = new FileStream(saveFilePath + "\\\" + saveFileName, FileMode.
                                         Create);
29         /*
30          * The FTP URI like "ftp://IP Address/new.zip",the update file located in root
            dictionary.

```

```

31     */
32     FTPFullName = "ftp://" + remoteHost + "/" + downloadFileName;
33     //      FTP
34     ftpRequest = (FtpWebRequest)FtpWebRequest.Create(new Uri(FTPFullName));
35     //
36     ftpRequest.Method = WebRequestMethods.Ftp.DownloadFile;
37     //
38     ftpRequest.UseBinary = true;
39     //      FTP
40     ftpRequest.Credentials = new NetworkCredential(remoteUserName,
41             remoteUserPassword);
42     //      FTP
43     ftpResponse = (FtpWebResponse)ftpRequest.GetResponse();
44     //      FTP
45     ftpStream = ftpResponse.GetResponseStream();
46     //
47     long cl = ftpResponse.ContentLength;
48     int bufferSize = 2048;
49     int readCount;
50     byte[] buffer = new byte[bufferSize];
51     //      FTP
52     readCount = ftpStream.Read(buffer, 0, bufferSize);
53     while (readCount > 0)
54     {
55         saveStream.Write(buffer, 0, readCount);
56         readCount = ftpStream.Read(buffer, 0, bufferSize);
57     }
58     logger.Info("          " + FTPFullName + ", "
59                 + saveFilePath + "\\\" + saveFileName);
60 }
61 catch (Exception ex)
62 {
63     logger.Error("      ,FullFileName:" + FTPFullName, ex);
64 }
65 finally
66 {
67     if (ftpStream != null)
68     {
69         ftpStream.Close();
70     }
71     if (saveStream != null)
72     {
73         saveStream.Close();
74     }
75     if (ftpResponse != null)
76     {
77         ftpResponse.Close();
78     }
79 }

```

```
80 #endregion
```

object

```
1 //  
2 Thread t = new Thread(new ParameterizedThreadStart(DownloadFileByHTTP));  
3 t.Start(macData);
```

```
1 #region          - Video  
2 public static void DownloadFileByHTTP(object macData)  
3 {  
4     string fullPath = "";  
5     string fileName = "";  
6     MacData inputMacData = null;  
7     try  
8     {  
9         inputMacData = (MacData)macData;  
10        inputMacData.videoUrl = "http://static.zouwo.com/updater/a.wmv";  
11        HttpClient httpClient = new HttpClient();  
12        int position = inputMacData.videoUrl.LastIndexOf("/");  
13        fileName = inputMacData.videoUrl.Substring(position, inputMacData.videoUrl.  
14            Length - position);  
15        string fileFolder = Application.StartupPath + @"\temp";  
16        string videoStorePath = Application.StartupPath + @"\nwjs\video";  
17        if (!Directory.Exists(fileFolder))  
18        {  
19            Directory.CreateDirectory(fileFolder);  
20        }  
21        fullPath = fileFolder + @"\" + fileName;  
22        if (httpClient.GetSingleFile(fullFilePath, inputMacData.videoUrl))  
23        {  
24            logger.Info("      path:      "+fullFilePath);  
25            ISystemOperHelper sysOper = (new SystemOperHelperFactory()).Create();  
26            sysOper.KillRRMallProcess();  
27            if (!sysOper.ReplaceUpdateFile(fileFolder, videoStorePath))  
28            {  
29                logger.Error("      ,fullfilepath:"+fullFilePath);  
30            }  
31            System.Diagnostics.Process.Start("RRMall.WxPrint.exe");  
32        }  
33        else  
34        {  
35            logger.Error("      Path:      "+fullFilePath+",Url:"+inputMacData.  
36            videoUrl);  
37        }  
38    }  
39    catch (Exception e)  
40    {  
41        StringBuilder errorMesg = new StringBuilder();  
42        errorMesg.Append("      ,fullFilePath: " + fullFilePath)
```

```

41     ;
42     errorMesg.Append(",fileName:" + fileName);
43     errorMesg.Append(",VideoUrl:" + inputMacData.videoUrl + ",           ");
44     logger.Error(errorMesg, e);
45   }
46 #endregion

```

IIS HTTPIISMP4 404IISIIS6.5MIMEfile/mp4 video/mp4

HTML5 Node-Webkit HTML5³

video

Ogg = Theora Vorbis Ogg

MPEG4 = H.264 AAC MPEG 4

WebM = VP8 Vorbis WebM

E-

Handle.exe??

```

D:\Handle>handle D:\项目\hotmark\RRMall.WxPrint\bin\Debug\update\nwjs\video\2.mp
4

Handle v4.0
Copyright <C> 1997-2014 Mark Russinovich
Sysinternals - www.sysinternals.com

No matching handles found.

D:\Handle>

```

29.3: Handle.exe

2.mp4RRMall.WxPrint.vshost.exe Process Explorer.exe

1.

2. HTTP

3. tb_captureScreenRecord

³http://www.w3school.com.cn/html5/html_5_video.asp

29.2.3

??

```

1 [DllImport("winspool.Drv", EntryPoint = "OpenPrinter", SetLastError = true, CharSet =
    CharSet.Auto, ExactSpelling = true, CallingConvention = CallingConvention.
    StdCall)]
2 private static extern bool OpenPrinter([MarshalAs(UnmanagedType.LPStr)] string
    printerName, out IntPtr hPrinter, IntPtr pDefault);

```

```

1 bool openSuccess=OpenPrinter(PrinterName, out hPrinter, defaults.DesiredAccess);

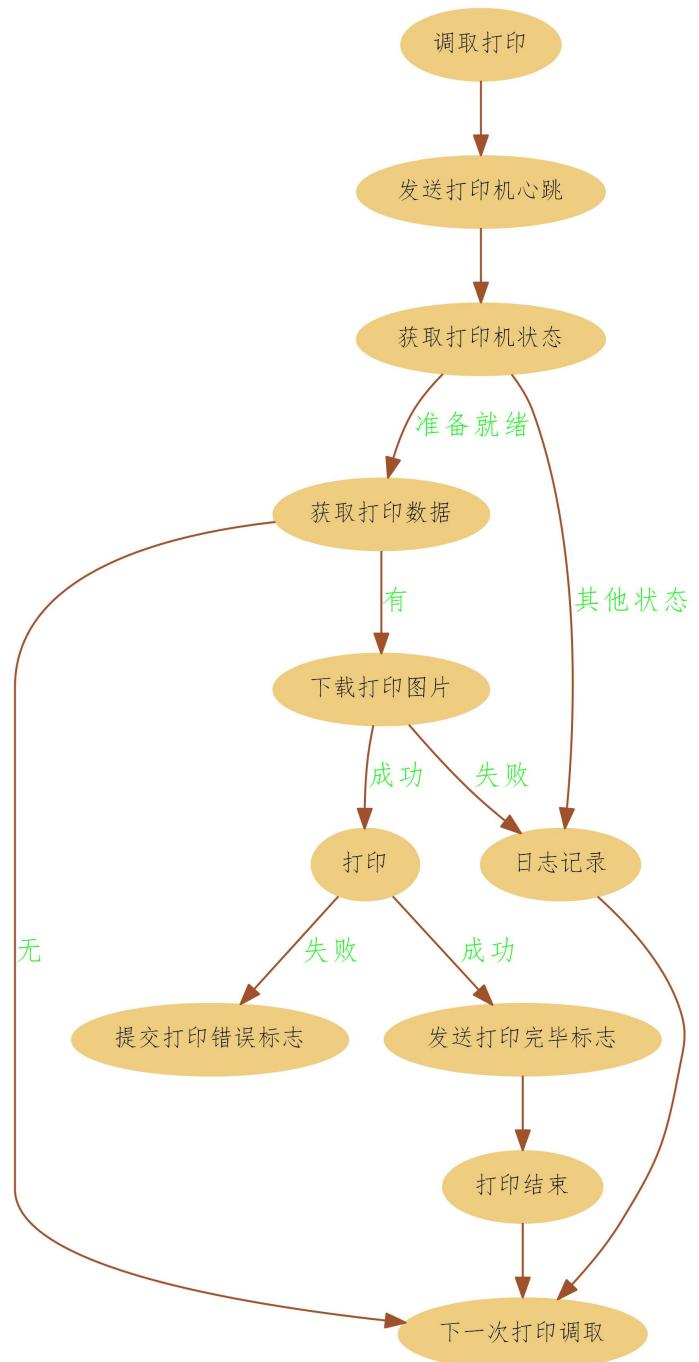
```

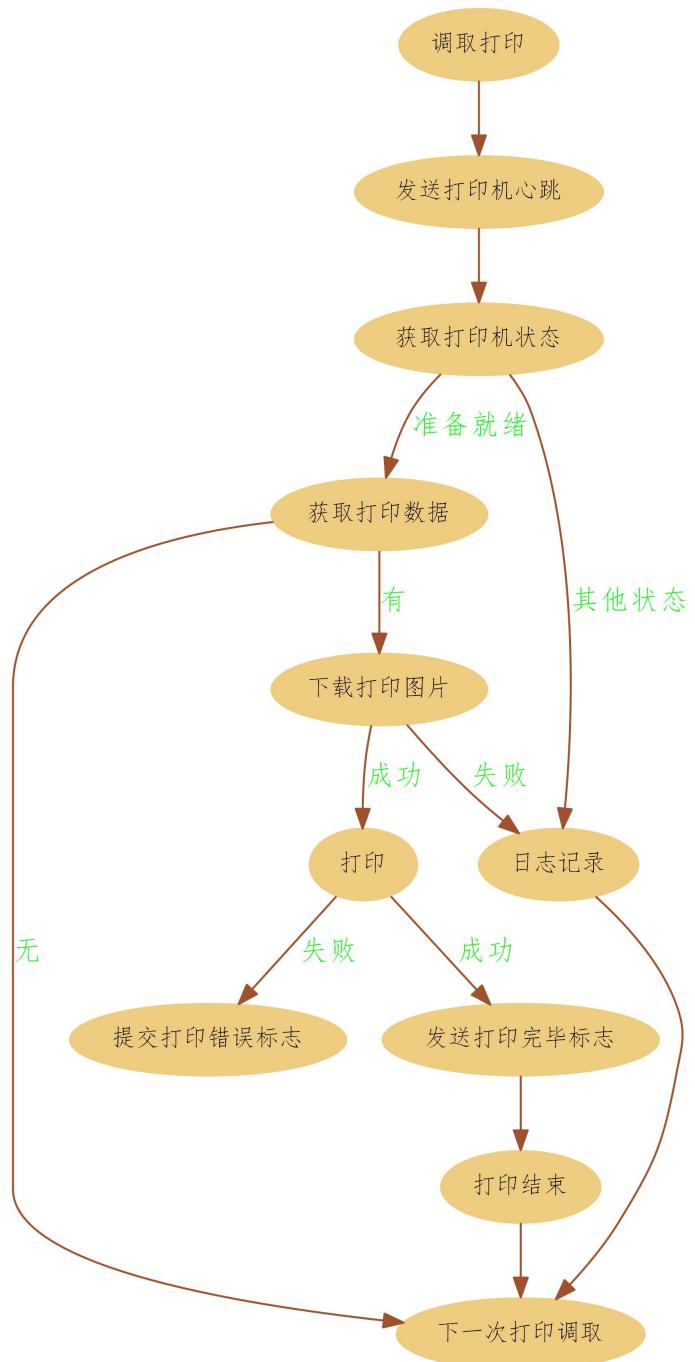
PrinterName String phPrinter Long pDefault PRINTER_DEFAULTSNULL PRINTER_DEFAULTS
DesiredAccess pDefaultopenprinter

```

1 #region
2 /// <summary>
3 ///
4 /// </summary>
5 /// <param name="printerName"></param>
6 /// <returns></returns>
7 [TestCase("EPSON L300 Series", Result = 0)]
8 public int GetPrinterStatusInt(string printerName)
9 {
10     int intRet = 0;
11     IntPtr hPrinter;
12     PRINTERDEFAULTS defaults = new PRINTERDEFAULTS();
13     try
14     {
15         bool openSuccess = OpenPrinter(printerName, out hPrinter, defaults.DesiredAccess)
16         ;
17         if (openSuccess)
18         {
19             int requestBufferSize = 0;
20             bool bolRet = GetPrinter(hPrinter, 2, IntPtr.Zero, 0, out requestBufferSize);
21             if (requestBufferSize > 0)
22             {
23                 IntPtr pAddr = Marshal.AllocHGlobal((int)requestBufferSize);

```





```

23         bolRet = GetPrinter(hPrinter, 2, pAddr, requestBufferSize, out
24             requestBufferSize);
25         if (bolRet)
26         {
27             PRINTER_INFO_2 Info2 = new PRINTER_INFO_2();
28             Info2 = (PRINTER_INFO_2)Marshal.PtrToStructure(pAddr, typeof(
29                 PRINTER_INFO_2));
30             intRet = System.Convert.ToInt32(Info2.Status);
31         }
32         Marshal.FreeHGlobal(pAddr);
33     }
34     else
35     {
36         logger.Info("Request failed!");
37     }
38     ClosePrinter(hPrinter);
39 }
40 else
41 {
42     logger.Info("Open failed:" + openSuccess);
43 }
44 catch (Exception e)
45 {
46     logger.Error("Get printer status encout an error", e);
47 }
48 return intRet;
49 #endregion

```

29.2.4 Mac

```

1 public string GetMacAddress()
2 {
3     string macAddress = string.Empty;
4     using (var macManagement = new ManagementClass(
5         "Win32_NetworkAdapterConfiguration"))
6     {
7         int macCount = 0;
8         foreach (ManagementObject managementObject in macManagement.GetInstances
9             ())
10        {
11            if (managementObject["MacAddress"] != null)
12            {
13                ++macCount;
14                macAddress = managementObject["MacAddress"].ToString();
15                if (macCount > 1)
16                {
17                    logger.Error("mac address count>1");
18                }
19            }
20        }
21    }
22 }

```

```
16 }  
17 }  
18 }  
19 }  
20 return macAddress;  
21 }
```


Part V

Stay Hungry. Stay Foolish.

Chapter 30

30.1

30.1.1

	QR Code ¹ (Quick Response Code)
	Short Messaging Service
	Parentheses
URI ²	Uniform Resource Identifier
URL ³	Uniform Resource Locators
URN ⁴	Functional Requirements for Uniform Resource Names
	Continuous Integration
	Electronic signature
	Lucky Draw
	Chongqing Cable Networks
cspproj	C Sharp Project
	Font-End Development
	New Media
	Advertising Machine
	Coupon
	Cash Voucher
	Voucher
BLE	Bluetooth Low Energy
	Group Purchase
LBS	Location Based Service
	Tourist Spots
GPG	GNU Privacy Guard
	Mashup
PV()	Page View
UV()	Unique Visitor
QPS()	Query Per Second
	Iteration Planning Meeting
	Daily Standup
	Code Review
	Retrospective Meeting
	Pair Programming
	On-site Customer

	Syntactic Sugar ⁵
	Callback Hell
DevOps	Development&Operations
RAML	RESTful API(RESTful API Modeling Language:RAML)
UGC()	User Generate Content
CC()	Carbon Copy
OTA()	Online Travel Agent
DM()	Direct Mail(Magazine) Advertising
Sketchy GUI	
Stencils	(IOS UI Stencils)]stencil
Realm	(in the realm of...)
RSS	Really Simple Syndication
CRUD	(Create)(Retrieve)(Update)(Delete)
HTTPS	HTTP over Secure Sockets Layer
Stems() from pitfall	
MVP	Minimum Viable Product()
Over Engineering	
Gene-Editing	
ludicrous	
Disposable items	
bible	
swagger	;
PR(PR on line or Public Relations)	e
LBS	(LBS,Location Based Services)
ACC	STARTONSTARTSTARTACLOCK

¹<http://en.wikipedia.org/wiki/Barcode>

² RFC1630 1994 6 Universal Resource Identifiers in WWW: A Unifying Syntax for the Expression of Names and Addresses of Objects on the Network as used in the World-Wide WebInformational RFC

³ RFC1738 1994 12 , Uniform Resource Locators Proposed Standard Internet Standard

⁴ RFC1737 1994 12 Functional Requirements for Uniform Resource Names1997 Proposed Standard RFC2141

URN Syntax RFC1737 urn: http:ftp:

⁵ In computer science, syntactic sugar is syntax within a programming language that is designed to make things easier to read or to express. It makes the language "sweeter" for human use: things can be expressed more clearly, more concisely, or in an alternative style that some may prefer.

30.1.2

	Serialization
DSN	Data Source Name
ODBC	Open DataBase Connectivity
GGSCI	GoldenGate Software Command Interface
CPE	Extract Checkpoint File()
CPR	Replicat Checkpoint Files()
PCE	Extract Process()
PCR	Replicat Process()
PCM	Manager Process
RAC	Real Application Clusters
TDM	(Transactional Data Management)
DVI	(Device Independent)
DWF	Design Web Format
BPEL	Business Process Execution Language
STA	Single-Threaded Apartment
MTA	Multi-Threaded Apartment
ESB	Enterprise Service Bus
SOA	Service-Oriented Architecture
CI	Continuous integration
CCB	Configuration Control Board
	Obfuscated Code
	Test-Driven Development TDD
	Behavior-Driven Development BDD
	Data Persistence
	Foundation Class
	Log Component
	Security Components
ADO	Activex Data Object
	Chain Of Responsibility
AOP	Aspect Oriented Programming
SGML	Standard Generalized Markup Language
REST	Representational State Transfer
WSDL	Web Service Description Language
ISE	(Integrated Scripting Environment)
Ajax	Asynchronous JavaScript and XML
	Code ReView
	Credential

SSL	(Secure Socket Layer)
TAP	TAPTest Access Point/ Tap

30.2

STA¹Single-threaded Apartment

MTA.NET

WebKit

Static Method Static methods are meant to be relevant to all the instances of a class rather than to any specific instance. They are similar to static variables in that sense. An example would be a static method to sum the values of all the variables of an instance for a class. For example, if there were a Product class it might have a static method to compute the average price of all products.

A static method can be invoked even if no instances of the class exist yet. Static methods are called "static" because they are resolved at compile time based on the class they are called on and not dynamically as in the case with instance methods which are resolved polymorphically based on the runtime type of the object. Therefore, static methods cannot be overridden

Christopher Alexander[AIS+7710]Alexander

1.Factory Method

2.Abstract Factory

3.Builder

4.Prototype

5.Singleton

1.Adapter

2.Bridge)

3. Composite-

4.Decorator

5.Facade

6.Flyweight

7.proxy

¹http://en.wikipedia.org/wiki/Component_Object_Model#Threading

1.Chain of Responsibility

2.Command:

3.Interpreter

4.Iterator

5.Mediator

6.Memento

7.Observer

8.State

9.(Strategy)

10.Template Method

11.Vistor

(Framework)[Deu89,JF88] C A D [V L 9 0 , J o h 9 2][J M L 9 2] [B E 9 3]

30.3

iOSAndroid cjava Ruby, PHP, JavaScriptObjective-C

Python/Ruby/PHP

Objective-C IPhone

HTML

CSS HTML

JavaScript HTML/CSSjQuery

Java/.Net Android

C/C++ GUI

JavaC++ Python C/C++Perl JavaPython Java Python .NETASP.NET ASP.NET MVC-SilverlightWinFormWPFUI UI TCP/IPWeb ServiceWCFRemoting

JAVAC#PHPC++VB10

1.

JavascriptPHPRuby

2.

JAVAC#VB

3.

CC++Object-C

JAVAC#VB

Chapter 31

1.Profile

2.joinjoin

31.1 Windows

= ANDOR

31.1.1

C#fields set get Get/Set

C#

31.1.2

```
1 :: Description:This script help you start and stop database service quickly
2 :: Author:jiangtingqiang@gmail.com
3 :: Date:2013-08
4 :::
5 :::
6 :: MODIFY HISTORY
7 :: 2013-08-20 jiangxiaoqiang add oracle11g start&&stop
8 :: 2013-08-21 jiangxiaoqiang add oracle10g start&&stop
9 :: 2013-08-26 jiangxiaoqiang change bat script name to 'SSDB',add database type
choose
```

```
10 :: 2013-09-13 jiangxiaoqiang Program can't jump back,just jump forward
11 :: 2013-09-14 jiangxiaoqiang Add start SQL Agent,add 'begin' label
12 :: 2014-02-26 jiangxiaoqiang Add start postgreSQL database
13
14 @echo off
15 :: SSDB:Start or stop database
16 title Start and Stop DB
17 mode con cols=100 lines=40
18 color 72
19 ::@ Close the echo
20
21 ::echo[ eku , ko ]:n.
22 ::vt.
23
24 echo.
25 echo Function:
26 echo This script help you to start and stop SQL Server and Oracle service quickly.
27 echo Start and close software you used frequently.
28 echo.
29
30 :: set [ variable=[string] ]
31 :: set /p:show the variable,the variable name not contain "="
32 :Begin
33
34 echo.
35 echo Please choose which software you want to operate:
36 echo 1.SQL Server
37 echo 2.Oracle
38 echo 3.Exit
39 echo 4Shutdown computer
40 echo 5.Restart computer
41 echo 6.Sleep computer
42 echo 7.Delete system thumbnail
43 echo 8.postgreSQL
44 echo 10.etherPad
45 echo.
46
47 set /p DBType=
48
49 if %DBType%==1 goto SQL Server
50 if %DBType%==2 goto Oracle
51 if %DBType%==3 goto Exit1
52 if %DBType%==4 goto shutdown
53 if %DBType%==5 goto Restart
54 if %DBType%==6 goto Sleep
55 if %DBType%==7 goto thumbnail
56 if %DBType%==8 goto postgreSQL
57 if %DBType%==10 goto etherPad
58 goto Error
```

```
59 :: goto end
60
61 :Oracle
62     set /p Version=Please choose your Oracle version[1:Oracle 10g ,2:Oracle 11g]:
63     echo.
64     if %Version%==1 goto Oracle10g
65     if %Version%==2 goto Oracle11g
66
67 --goto Oracle
68 echo The number you input can not be recognized.
69 goto end
70
71 :Oracle10g
72     echo Oracle10g .....
73     set /p var=Operation[1:Start , 2:Stop]:
74     echo.
75     if %var%==1 goto startOracle10g
76     if %var%==2 goto stopOracle10g
77     goto end
78
79
80 :Oracle11g
81     echo ..... oracle11g .....
82     set /p var=Operation[1:Start , 2:Stop]:
83     echo.
84     if %var%==1 goto startOracle11g
85     if %var%==2 goto stopOracle11g
86     goto Begin
87
88 :SQL Server
89     echo.
90     set /p var=Operation[1:Start , 2:Stop, 3:SQL Server Agent]:
91     echo.
92     if %var%==1 goto Start SQL Server
93     if %var%==2 goto Stop SQL Server
94     if %var%==3 goto SQL Server Agent
95     goto Error
96
97 :Start SQL Server
98     echo Start SQL Server .....
99     echo.
100    net start MSSQLSERVER
101    goto Begin
102
103 :Stop SQL Server
104     echo Stop SQL Server .....
105     echo.
106    net stop MSSQLSERVER
107     echo Stop SQL ReportServer.....
108     net stop ReportServer
109     goto Begin
```

```
110
111 :SQL Server Agent
112     set /p var=Operation[1.Start,2.Stop]:
113     if %var%==1 goto Start SQL Server Agent
114     if %var%==2 goto Stop SQL Server Agent
115     goto Error
116
117 :Start SQL Server Agent
118     echo Start SQL Server Agent.....  

119     echo.  

120     net start SQLServerAgent
121     goto begin
122
123 :Stop SQL Server Agent
124     echo Stop SQL Server Agent.....  

125     echo.  

126     net stop SQLServerAgent
127     goto begin
128
129 :startOracle10g
130     echo Start Oracle10g Listener .....  

131     net start OracleOraDb10g_home1TNSListener
132     echo Start Oracle10g service ORCL .....
133     net start OracleServiceORCL
134     goto Begin
135
136 :stopOracle10g
137     echo ..... Stop Oracle10g .....
138     echo.  

139     net start OracleOraDb10g_home1TNSListener
140     net start OracleServiceORCL
141     goto end
142
143
144 :startOracle11g
145     echo ..... Start Oracle11g .....
146     echo.  

147     net start OracleOraDb11g_home1TNSListener
148     net start OracleServiceORCL
149     goto begin
150
151 :stopOracle11g
152     echo ..... Stop Oracle11g .....
153     echo.  

154     net stop OracleOraDb11g_home1TNSListener
155     net stop OracleServiceORCL
156     goto begin
157
158 :shutdown
159     echo.  

160     echo Your computer will shutdown in 1 minites .....
```

```

161 echo If you want to cancel,please input 'shutdown /a' in command line window.....
162 shutdown /f /s /t 60
163 goto Begin

164

165 :Restart
166 echo.
167 echo Your computer will restart .....
168 shutdown /r /f /t 60
169 goto begin

170

171 :Sleep
172 echo.
173 echo Your computer will go to sleep .....
174 shutdown /l
175 goto begin

176

177 :thumbnail
178 echo.
179 echo Start to delete thumbnail .....
180 FOR %%I IN (      DEFGHI      ) DO (%%I cd\\ attrib -s -h -r Thumbs.db /s /
181           d >nul del Thumbs.db /s)
182 echo Complete!
183 goto begin

184

185 :postgreSQL
186 echo.
187 set /p var=Operation[1:Start]:
188 echo.
189 if %var%==1 goto Start PostgreSQL
190 goto Error

191

192 :Start PostgreSQL
193 echo.
194 echo Start PostgreSQL....
195 cd /d H:\Software\DB\pgsql\bin
196 pg_ctl start -D H:\Software\DB\pgsql\data
197 :: pg_ctl status -D H:\Software\DB\pgsql\data
198 goto begin

199

200 :etherPad
201 echo.
202 set /p var=Operation[1.Start]:
203 if %var%==1 goto Start etherPad

204

205 :Start etherPad
206 echo Start etherPad now.....
207 pause
208 cd /d I:\Program Files (x86)\etherPad\etherpad-lite-win
209 start start.bat
210 goto begin

```

```

211 :Error
212 echo invalid input !!!!!
213 echo.
214 goto begin
215
216 echo you can exit press any key ..... &pause>nul
217 :Exit1
218 ::end should be the last row
219 :end

```

31.1.3 Windows - % dp0

a.batD:/qq a.bat cd /d % dp0 cd /d % dp0cd /d d:/qq %0 d:/qq/a.bat dp d d: p /qq
dp d:/qq

DebugView.exe

NetDotNetDotNetDebugView

DebugView DebugRelease

Windows Vista

- 1.
2. HKLM/SYSTEM/CuurentControlSet/Control/Session ManagerDebug Print Filterkey
3. Debug Print FilterDefault,0xF.

```

1  using System;
2  using System.Collections.Generic;
3  using System.Text;
4  using System.Diagnostics;
5
6  namespace ConsoleApplication1
7  {
8      class Program
9      {
10         static void Main(string[] args)
11         {
12             Debug.Listeners.Add(new TextWriterTraceListener(Console.Out));
13             Debug.AutoFlush = true;
14             Debug.Indent();
15             Debug.WriteLine("Entering Main"); //DebugView
16             Console.WriteLine("Hello World.");
17             Debug.WriteLine("Exiting Main");
18             Debug.Unindent();
19         }
20     }

```

21 }

Visual StudioPass ThroughVisual StudioDebugView

31.2 AppDomain

AppDomainCLRAsssembly AppDomainCLR AppDomainAppDomain AppDomainAppDomain CLRCLR Host(Windows Shell or InternetExplorer or SQL Server) AppDomain (Main)AppDomain .NETOS CLR(_CorExeMain_CorBindToRuntimeEx) CLRAppDomainCLR MainAppDomainAp-pDomain

31.2.1 AppDomain VS

AppDomainAppDomainAppDomain 2.AppDomain vs AppDomain AppDomain AppDo-mainAppDomain CLRSyntax.Threading.Threadsoft threadhard thread soft threadAppDomainAp-pDomainhard thread hard threadAppDomain, AppDomainsoft thread hard threadthread local storage(TLS)CLRhard threadAppDomainsoft threadhard threadAppDomainTLS CLR

31.2.2 AppDomain VS Assembly

Assembly.NetCLRAsssembly AppDomainAppDomain AssemblyAppDomainAppDomainAssem-bly AppDomainassemblyAppDomainAppDomain

31.2.3 AppDomain VS

AppDomainAppDomainAppDomainProxy(reference type) Clone(value type) System.MarshalByRefObjectMarshal/UnMarshalSerializableMarshal/UnMarshal(Clone)

31.3

31.3.1

exe exe

```
1 #region
2 /// summary
3 /// Start update program
4 /// summary
5 /// param name="updatorArgs" /i
```

```

6  public void StartUpdaterByVersionNo(string updatorArgs)
7  {
8      string updatorProgramName = string.Empty;
9      string updatorFullPath = string.Empty;
10     ProcessStartInfo processInfo = new ProcessStartInfo();
11     processInfo.Arguments = updatorArgs;
12     if (string.IsNullOrEmpty(version))
13     {
14         processInfo.FileName = UPDATORNAME;
15         Process.Start(UPDATORNAME);
16     }
17     else
18     {
19         updatorProgramName = UPDATORNAME.Substring(0, UPDATORNAME.Length
20             - 4) + version + ".exe";
21         updatorFullPath = Application.StartupPath + @"\\" + updatorProgramName;
22         if (File.Exists(updatorFullPath))
23         {
24             logger.Info("... fullPath:" +
25             updatorFullPath);
26             processInfo.FileName = updatorProgramName;
27             Process.Start(processInfo);
28         }
29         else
30         {
31             logger.Info("... fullPath:" + updatorFullPath);
32             processInfo.FileName = UPDATORNAME;
33             Process.Start(processInfo);
34         }
35     }
36 #endregion

```

exe

```

1 static void Main(string[] Args)
2 {
3     Application.EnableVisualStyles();
4     Application.SetCompatibleTextRenderingDefault(false);
5     Application.Run(new FrmUpdate(Args));
6     string updateContent = Args[0];
7 }

```

31.4 Design Pattern

31.4.1

whatwho when

(Simple Factory)

Abstract Factory

Factory

Define an interface for creating an object, but let subclasses decide which class to instantiate. Factory method let a class defer instantiation to subclasses.

¹(Dependence Inversion Principle)

SystemOperHelperSystemOperHelper new

SystemOperHelper

```

1 public interface ISystemOperHelper
2 {
3     void KillRRMallProcess();
4 }
```

```

1 public class SystemOperHelper : ISystemOperHelper
2 {
3     public void KillRRMallProcess()
4     {
5         // ...
6     }
7 }
```

```

1 interface ISystemOperHelperFactory
2 {
3     ISystemOperHelper Create();
4 }
```

¹A. B.

```

1  public class SystemOperHelperFactory : ISystemOperHelperFactory
2  {
3      public ISystemOperHelper Create()
4      {
5          return new SystemOperHelper();
6      }
7  }

```

31.4.2

31.4.3

(Chain of Responsibility)

31.4.4 (Table-Driven Approach)

()(scheme)-(ifcase)

31.5 (Reverse Engineering)

31.5.1 radare2

radare2

31.5.2 dll(Deobfuscation dll)

()Dotfuscator,MaxToCode,Xenocode,ThemIDA.

Dedot ,DePhe,XeCoString,, De4Dot

De4Dot.Dotfuscator,MaxToCode,Xenocode,

:

- Agile.NET (aka CliSecure)
- Babel.NET
- CodeFort
- CodeVeil
- CodeWall

- CryptoObfuscator
- DeepSea Obfuscator
- Dotfuscator
- .NET Reactor
- Eazfuscator.NET
- Goliath.NET
- ILProtector
- MaxtoCode
- MPRESS
- Rummage
- Skater.NET
- SmartAssembly
- Spices.Net
- Xenocode

dll??

De4Dotdllde4dot

 1 de4dot.exe dllFullPath

??,dllFullPathdll dll+cleaned ILSpy

31.6

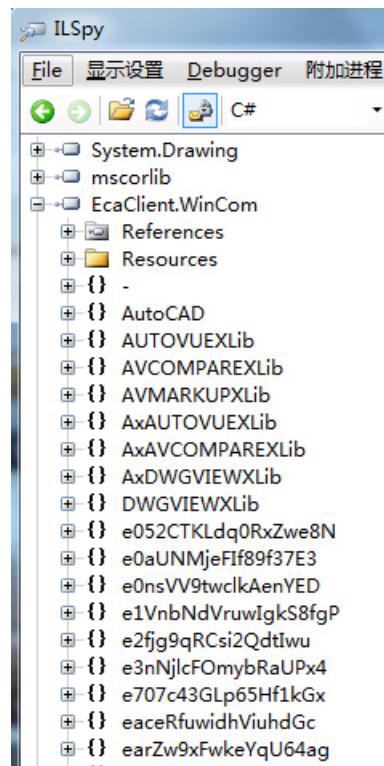
31.6.1 (Search Tricks)

(Exact phrase) Joe BloggsJoeBloggsJoe Bloggs

(Exclude terms) Joe Bloggs-jeansjeansJoe Bloggs

Either OR OROR[OR](—)

@ @



31.1: dll

```
E:\CrossPlatform\Software\Encrypt and Decrypt\de4dot-3.1.41592>de4dot.exe EcaClient.WinCom.dll

de4dot v3.1.41592.3405 Copyright (C) 2011-2014 de4dot@gmail.com
Latest version and source code: https://bitbucket.org/0xd4d/de4dot

Detected .NET Reactor <E:\CrossPlatform\Software\Encrypt and Decrypt\de4dot-3.1.41592\EcaClient.WinCom.dll>
Cleaning E:\CrossPlatform\Software\Encrypt and Decrypt\de4dot-3.1.41592\EcaClient.WinCom.dll
Renaming all obfuscated symbols
WARNING: Could not find property "eEitoeWG" in attribute "ef2bvWdxmP0quUCT2Gg" <02000AD4>
Saving E:\CrossPlatform\Software\Encrypt and Decrypt\de4dot-3.1.41592\EcaClient.WinCom-cleaned.dll
Ignored 2 warnings/errors
Use -v/-vv option or set environment variable SHOWALLMESSAGES=1 to see all messages
```

31.2: dll

```
1 php site:http://stackoverflow.com/
```

31.6.2 Using

'using'

```
1 //:
2 using(SomeDisposableClass someDisposableObject = new SomeDisposableClass())
3 {
4     someDisposableObject.DoTheJob();
5 }
6
7 //:
8 SomeDisposableClass someDisposableObject = new SomeDisposableClass();
9 try
10 {
11     someDisposableObject.DoTheJob();
12 }
13 finally
14 {
15     someDisposableObject.Dispose();
16 }
```

31.6.3 as

'(T)' 'as (T)' 'as (T)' Prefix-casting versus as-casting in C#

```
1 //
2 var woman = (Woman)person;
3
4 //
5 var woman = person as Woman;
```

31.6.4

int stringintEnum. GetName(Type enumType, Object value)

```
1 enum DatabaseName { System, Weixin};
2
3 public static void Main()
4 {
5     Console.WriteLine("The system database name is {0}", Enum.GetName(typeof(
6         DatabaseName), 0));
```

```
6 }
```

31.6.5

```
1 string message = string.Concat(new object[]
2 {
3     "Print ID not correct or duplicatePrintID:",
4     this.printModel.printId,
5     ",Print Guid:",
6     this.printModel.guid
7 });
8 logger.Error(message);
```

31.6.6

```
1 // 
2 DateTime.Now.ToString("yyyy-MM-dd 00:00:00");
3 // 
4 DateTime.Now.ToString("yyyy-MM-dd 23:59:59");
```

31.6.7 Code Optimized

LINQ(Replace Loop with LINQ) Linq List LINQ.NET

```
1 List<tour_roadLineModel> roadLineModels = new List<tour_roadLineModel>();
2 for (int i = 0; i < roadlineIdArr.Length; i++)
3 {
4     roadLineModels.Add(GetRoadLineModel(roadlineIdArr[i]));
5 }
```

```
1 roadLineModels = roadlineIdArr.Select(t => GetRoadLineModel(t)).ToList();
```

Method Group

```
1 roadLineModels = roadlineIdArr.Select(GetRoadLineModel).ToList();
```

```
1 var distnateProduct = new List<ProductModel>();
```

```

2 | foreach (var current in originProduct)
3 |
4 |     var productModel = new ProductModel();
5 |     productModel = HttpPost.MapModel(productModel, current);
6 |     distnateProduct.Add(productModel);
7 |

```

```

1 | var distnateProduct = (from current
2 |           in originProduct
3 |           let productModel = new ProductModel()
4 |           select HttpPost.MapModel(productModel, current)).ToList();

```

(Reducing Nesting) if

```

1 | if (condition)
2 |
3 | {
4 |     //do something
5 |
6 | }
7 | if (!condition) return;
8 | //do something

```

Culture(Specify Culture Explicitly) CultureInfo .NETCultureInfo Thread.CurrentCulture CultureInfo
 CultureInfo.NETCultureInfoInvariantCulture CultureInfo

```

1 | int i=6;
2 | string str=i.ToString(CultureInfo.InvariantCulture);

```

CultureCurrentCulture

Listing 31.1:

```

1 | #region
2 | //|summary\_\_
3 | //|/summary\_\_
4 | //|param name="pageIndex"\_|\param\_\_
5 | //|param name="pageSize"\_|\param\_\_
6 | //|param name="totalCount"\_|\param\_\_
7 | //|param name="activityId"\_ID|\param\_\_
8 | //|returns\_\_|\returns\_\_
9 | public static List<PhotoCollectionModel> GetPhotoByPage(int pageIndex, int pageSize,
   int activityId, out int totalCount)

```

```

10 {
11     var filter = "status=1 and isDel=0 and activityId=" + activityId;
12     List<PhotoCollectionModel> photoCollectionModels = null;
13     dynamic photoCollectionBll = new tour_photoCollectionBLL();
14     var photoCollectionTable = photoCollectionBll.GetListByPage(filter, "*", "sort",
15         pageSize, pageIndex, out totalCount);
16     if (photoCollectionTable != null && photoCollectionTable.Rows.Count > 0)
17     {
18         photoCollectionModels = HttpPost.ConvertDataTableToList<PhotoCollectionModel
19             >(photoCollectionTable);
20     }
21     return photoCollectionModels;
22 }
23 #endregion

```

Listing 31.2:

```

1 #region
2 /// i/summary;
3 /// i/summary;
4 /// iparam name="filter" i/param;
5 /// iparam name="sort" i/param;
6 /// iparam name="pageIndex" i/param;
7 /// iparam name="pageSize" i/param;
8 /// iparam name="totalCount" i/param;
9 /// iparam name="type" iBll/i/param;
10 //i/returns;
11 public static List<T> GetObjectByPage<T>(string filter, string sort, int pageIndex,
12     int pageSize, Type type, out int totalCount) where T : class, new()
13 {
14     List<T> models = null;
15     dynamic entityBll = Activator.CreateInstance(type);
16     var entityTable = entityBll.GetListByPage(filter, "*", sort, pageSize, pageIndex,
17         out totalCount);
18     if (entityTable != null && entityTable.Rows.Count > 0)
19     {
20         models = HttpPost.ConvertDataTableToList<T>(entityTable);
21     }
22     return models;
23 }
24 #endregion

```

Activator.CreateInstance Activator.CreateInstance new 3 100W200ms Activator.CreateInstance
Activator.CreateInstance:

```

1 var stopwatchNew = new Stopwatch();
2 stopwatchNew.Start();
3 for (var i = 0; i < 1000000; i++)
4 {

```

```

5   var bll = new fc.divisionModel();
6 }
7 stopwatchNew.Stop();
8 // Get the elapsed time as a TimeSpan value.
9 var ts = stopwatchNew.Elapsed;
10 // Format and display the TimeSpan value.
11 var elapsedTime = String.Format("{0:00}:{1:00}:{2:00}.{3:00}",
12     ts.Hours, ts.Minutes, ts.Seconds,
13     ts.Milliseconds / 10);
14 Console.WriteLine("RunTime using new keywords:" + elapsedTime);
15
16 var stopwatchRef = new Stopwatch();
17 stopwatchRef.Start();
18 for (var i = 0; i < 1000000; i++)
19 {
20     var bll = Activator.CreateInstance(typeof(fc_divisionModel));
21 }
22 stopwatchRef.Stop();
23 // Get the elapsed time as a TimeSpan value.
24 var ts1 = stopwatchRef.Elapsed;
25 // Format and display the TimeSpan value.
26 var elapsedTime1 = String.Format("{0:00}:{1:00}:{2:00}.{3:00}",
27     ts1.Hours, ts1.Minutes, ts1.Seconds,
28     ts1.Milliseconds / 10);
29 Console.WriteLine("RunTime using activator:" + elapsedTime1);
30 Console.ReadLine();
31
32 /*
33 RunTime using new keywords:00:00:00:06
34 RunTime using activator:00:00:00:20
35 */

```

Activator.CreateInstance MVCCControllerMVCC# object

where T : struct	T
where T : class	Tclass
where T : new()	T
where T : NameOfBaseClass	TNameOfBaseClass
where T : NameOfInterface	TNameOfInterface

1. Type.InvokeMember
2. ContructorInfo.Invoke
3. Activator.CreateInstance(Type)
4. Activator.CreateInstance(assemblyName, typeName)

5. Assembly.CreateInstance(typeName)

3Direct Create7 404

(Avoid Implicity Conversion) int string ??

```
GetProduct(int id)
    ject<ProductModel>("/tour/Product/GetProduct/" + (object)id);
```

31.3:

Switch Switch

```
1 /// jsummary;
2 /**
3 // j/summary;
4 private Dictionary<EnumMessageType, Action<int, Dictionary<string, IPlugin>,
    EnumMessageType, MVSPJSONMessage>> handleAction = new Dictionary<
        EnumMessageType, Action<int, Dictionary<string, IPlugin>,
        EnumMessageType, MVSPJSONMessage>>();
```

31.6.8

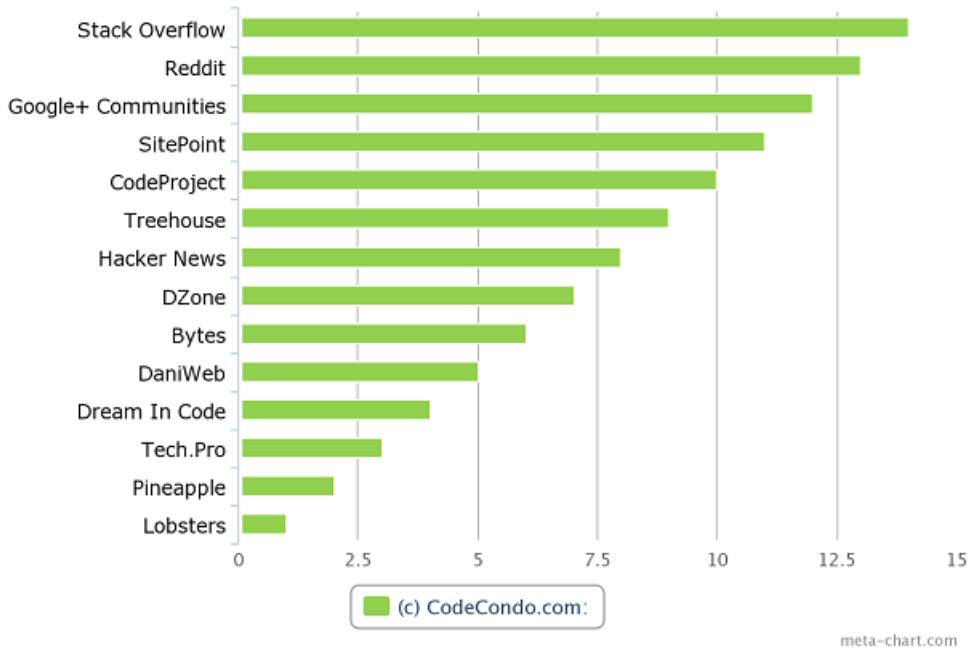
31.7

31.7.1

31.1:

1	http://stackoverflow.com/	2015-04-22	
2	http://www.googto.com/	2015-06-10	Google
3	https://github.com/	2015-06-10	
4	http://www.sourceforge.net/	2015-08-10	
5	http://www.experts-exchange.com/	2015-08-16	
6	http://www.cnblogs.com/	2015-08-18	
7	https://news.ycombinator.com/	2015-08-23	Hacker News
8	https://www.gitbook.com/	2015-08-28	Gitbook
9	http://www.gutenberg.org/	2015-08-31	Project Gutenberg
10	http://www.yinwang.org/	2015-09-01	

11	https://duckduckgo.com/	2015-09-01	
12	http://www.ruanyifeng.com/home.html	2015-09-04	
13	http://www.gnu.org/	2015-09-11	GNU
14	http://www.fsf.org/	2015-09-11	FSF
15	http://tool.oschina.net/	2015-09-11	
16	http://www.ted.com/	2015-09-13	Technology, Entertainment, Design
17	http://www.tedx.com/	2015-09-13	Technology, Entertainment, Design
18	http://runjs.cn/	2015-09-18	
19	http://local.joelonsoftware.com/	2015-09-21	Joel on Software
20	http://www.nodecloud.org/	2015-09-25	NodeJS Rank
21	http://island205.com/	2015-09-27	
22	https://linux.cn/	2015-10-07	
23	http://game-lab.org/	2015-10-07	
24	http://www.kendraschaefer.com/	2015-10-08	
25	http://www.365mini.com/	2015-10-10	Code Player
26	http://www.wufoo.com/html5/	2015-10-15	HTML5
27	http://chromecj.com/	2015-10-21	Chrome Plugin
28	http://www.csszengarden.com/	2015-10-24	CSS
29	http://learnlayout.com/	2015-10-26	Layout
30	http://www.ishadowsocks.com/	2015-10-28	Shadowsocks
31	http://html5demos.com/	2015-11-08	HTML5 Demo
32	http://googo.cf/	2015-11-09	Google Mirror
33	http://vim-adventures.com/	2015-11-13	VIM Practice
34	http://opensource.com/	2015-11-15	
35	http://referencesource.microsoft.com/	2015-11-18	Microsoft
36	http://wooyun.org/	2015-11-20	
37	https://github.com/Microsoft	2016-01-09	Microsoft on GitHub
38	http://unbug.github.io/codelf/	2016-01-12	
39	http://pagespeed.webkaka.com/docs/	2016-01-24	
40	http://cn.bing.com/	2016-01-12	
41	http://www.infoq.com/	2016-03-12	
42	http://nickcraver.com/	2016-03-12	Nick Craver(StackOverflow)
43	http://www.jobbole.com/	2016-03-12	
44	https://www.darencademy.com/	2016-04-02	
45	http://www.fosshub.com/	2016-04-21	Clean Software Host
46	http://wangjianshuo.com/	2016-04-22	
47	https://channel9.msdn.com	2016-04-22	
48	https://www.yandex.com/	2016-07-05	
49	https://freenode.net/	2016-07-08	supporting free and open source communities



31.4:

31.7.2

31.2:

1	http://mirrors.sohu.com/	2015-04-22	
2	http://www.ctex.org/documents/shredder/tex_frame.html		LaTex

31.7.3 LDAP(Lightweight Directory Access Protocol)

LDAP RFC4511 DAP Directory Access Protocol The Lightweight Directory Access Protocol (LDAP; /ldp/) is an open, vendor-neutral, industry standard application protocol for accessing and maintaining distributed directory information services over an Internet Protocol (IP) network. Directory services play an important role in developing intranet and Internet applications by allowing the sharing of information about users, systems, networks, services, and applications throughout the network.[2] As examples, directory services may provide any organized set of records, often with a hierarchical structure, such as a corporate email directory. Similarly, a telephone directory is a list of subscribers with an address and a phone number. LDAP Linux LDAP OpenLDAP LDAP LDAP email Samba LDAP Linux /etc/passwd

openldap openldap389openldap

```
1 #openldap
```

```
2 service slapd start
3
4 #OpenLDAP(slapd.conf)OLC
5 #
6 #OLC
7 #cn=config
8 slaptest -v -d 1 -F /etc/openldap/slapd.d
```

(DN,Distinguished Name) /LDAP/ /etc/passwd /usr/passwd, /opt/passwd DNSFQD-NFQDN LDAPdn dn"uid=aghaffar, ou=People, o=developer.ch" dn"uid=aghaffar, ou=Administrators, o=developer.ch" dn /etc/passwd /usr/passwd "ou=Administrators, o=developer.ch" uid"ou=People, o=developer.ch"uid

LDAP Account Manager (LAM)

LDAP Account Manager (LAM) is a webfrontend for managing entries (e.g. users, groups, DHCP settings) stored in an LDAP directory. LAM was designed to make LDAP management as easy as possible for the user. It abstracts from the technical details of LDAP and allows persons without technical background to manage LDAP entries. If needed, power users may still directly edit LDAP entries via the integrated LDAP browser.

```
1 vim /var/lib/ldap-account-manager/config/lam.conf
```


Chapter 32

Open Source

32.1

<https://guides.github.com/activities/contributing-to-open-source/>

32.1.1 Pull Request

Fork

```
1 git clone https://github.com/jiangxiaoqiang/OpenLiveWriter.git
```


Chapter 33

FAQ

33.1

33.1.1

-
-
-
-
- interfaces may be multiple-inherited, abstract classes may not (this is probably the key concrete reason for interfaces to exist separately from abstract classes - they permit an implementation of multiple inheritance that removes many of the problems of general MI).
- abstract classes can be inherited without implementing the abstract methods (though such a derived class is abstract itself)
- abstract classes may contain state (data members) and/or implementation (methods) items a class that implements an interface must provide an implementation of all the methods of that interface
- interfaces can have no state or implementation

[1](#)

33.1.2 POSTGET

1. GetRequest.QueryStringPostRequest.Form
2. GetPostFORMMethod"GET"
3. HTTPGETPOSTPUTDELETE4 GET/POST
4. POSTGET
5. POSTPOST, GETURLPOST.
6. POSTGET
7. GETURL?URL &EditPosts.aspx?name=test1&id=123456. GETURLURLPOSTHTTP-BodyPOSTURL.
8. GETGETURLHTTPGETsafe methodGET

¹<http://stackoverflow.com/questions/761194/interface-vs-abstract-class-general-oo>

33.1.3 ==equals()

```

1 string a = new string(new char[] { 'h', 'e', 'l', 'l', 'o' });
2 string b = new string(new char[] { 'h', 'e', 'l', 'l', 'o' });
3 Console.WriteLine(a == b); //true
4 Console.WriteLine(a.Equals(b)); //true
5 object g = a;
6 object h = b;
7 Console.WriteLine("g == h:" + (g == h)); //g == h:false
8 Console.WriteLine("g equal h:" + g.Equals(h)); //g equal h:true
9 Person p1 = new Person("jia");
10 Person p2 = new Person("jia");
11 Console.WriteLine("p1 == p2:" + (p1 == p2)); //p1 == p2:false
12 Console.WriteLine("p1 equal p2:" + p1.Equals(p2)); //p1 equal p2:false
13 Person p3 = new Person("jia");
14 Person p4 = p3;
15 Console.WriteLine("p3 == p4:" + (p3 == p4)); //p3 == p4:true
16 Console.WriteLine("p3 equal p4:" + p3.Equals(p4)); //p3 equal p4:true
17 Console.ReadLine();

```

== "equals": C#string.equals() string ,ab object g = a object h = b , g.equals(h)stingequals()
 ab string a="aa"; string b="aa"; ghb "aa"bab p1p2 p1==p2falsep1p2p1.equals(p2)false p3p4p4=p3p3p4p3p4true

```

1 int age = 25;
2 short newAge = 25;
3 Console.WriteLine(age == newAge);
4 //true
5 Console.WriteLine(newAge.Equals(age));
6 //false
7 Console.ReadLine();

```

==intshortlong ==shortintint (==) true falsestring == true string == == equalsequals
 == C#Equals

```

1 public bool Equals(string value);
2 public bool Equals(string value, StringComparison comparisonType);

```

EqualscomparisonType== comparisonTypeEquals comparisonTypeEquals

33.1.4 Request.Params[]Request[]Request.Form[]Request.QueryString[]

Request.FormPOSTForm Request.Formrequest form |form|(|input type=text|; form index.asp?abc=123
 Request.QueryString(GET)

Request(QueryString,Form,Cookies, ClientCertificate,ServerVariablesGET) QueryStringForm-
 ServerVariable Form RequestRequest.Form QueryStringServerVariable QueryStringServerVariable
 QueryStringURL Form Cookie HttpRequestServerVariablesWeb System.Web.HttpRequest

Listing 33.1: HttpRequest

```

1 public string this [ string ] key]
2 {
3     get
4     {
5         string text = this.QueryString[key][text=white,font=,inner
6             sep=0.2mm,draw,circle,fill=black]1;;
7         if (text != null)
8         {
9             return text;
10        }
11        text = this.Form[key][text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2;;
12        if (text != null)
13        {
14            return text;
15        }
16        HttpCookie httpCookie = this.Cookies[key][text=white,font=,inner
17             sep=0.2mm,draw,circle,fill=black]3;;
18        if (httpCookie != null)
19        {
20            return httpCookie.Value;
21        }
22        text = this.ServerVariables[key][text=white,font=,inner
23             sep=0.2mm,draw,circle,fill=black]4;;
24        if (text != null)
25        {
26            return text;
27        }
28    }
29 }
```

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1; GETkey

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2; POSTkey

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]3; Cookieskey

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]4; ServerVariableskey

Request.Form Request.QueryString2k Request.QueryStringRequest.Form

Request.Params[]Request[] KeyQueryStringFormCookies ServerVariables4 GET QueryS-
 tring POST Form ParamsItemGETPOST Item4 Params4() http://www.cnblogs.com/fish-li/archive/2011/12/06/2278463

33.1.5 HTTP CookieSession

HTTPCookieSessionCookieSessionHTTP Cookiesession

1CookieSession

2CookieCookieCookieSession

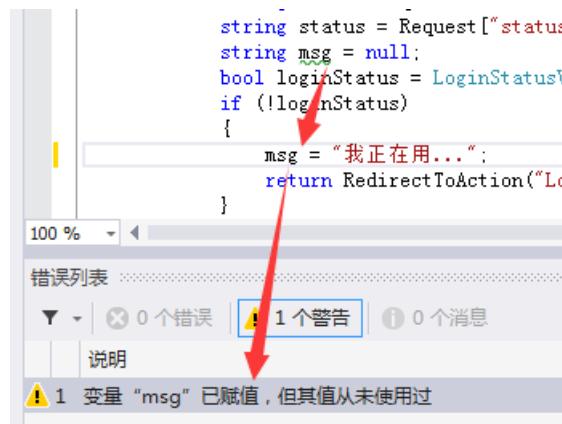
3CookieCookie

4Cookie4K20Cookie

5 Session Cookie

33.1.6 string.Empty””null

string str="" string str=" " string str=null ?? string.Empty”” string.Empty



33.1: string=null

string.Empty string.Empty??

Listing 33.2: string.Empty

```

1 public static readonly String Empty;[text=white,font=,inner
    sep=0.2mm,draw,circle,fill=black]1;
2
3 // The Empty constant holds the empty string value.
4 //We need to call the String constructor so that the compiler doesn't mark this as a literal.
5 //Marking this as a literal would mean that it doesn't show up as a field which we can access
6 //from native.
7 public static readonly String Empty = "";[text=white,font=,inner
    sep=0.2mm,draw,circle,fill=black]2;

```

[text=white,font=,inner **sep=0.2mm,draw,circle,fill=black**]1; EmptyStringString.EmptyStringnullInt0bool,false.NET
4.0

[text=white,font=,inner **sep=0.2mm,draw,circle,fill=black**]2; string.Empty.NET 2.0

Listing 33.3: IL

```

1 string str = null;
2 IL_0001: ldnull [text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1;
3
4 string str1 = "";
5 IL_0001: ldstr     ""[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2;
6
7 string str2 = string.Empty;
8 IL_0001: ldsfld    string [mscorlib]System.String::Empty[text=white,font=,inner
sep=0.2mm,draw,circle,fill=black]3;

```

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1; O (Load null)

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2; (Load string)

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]3; (Load static field)

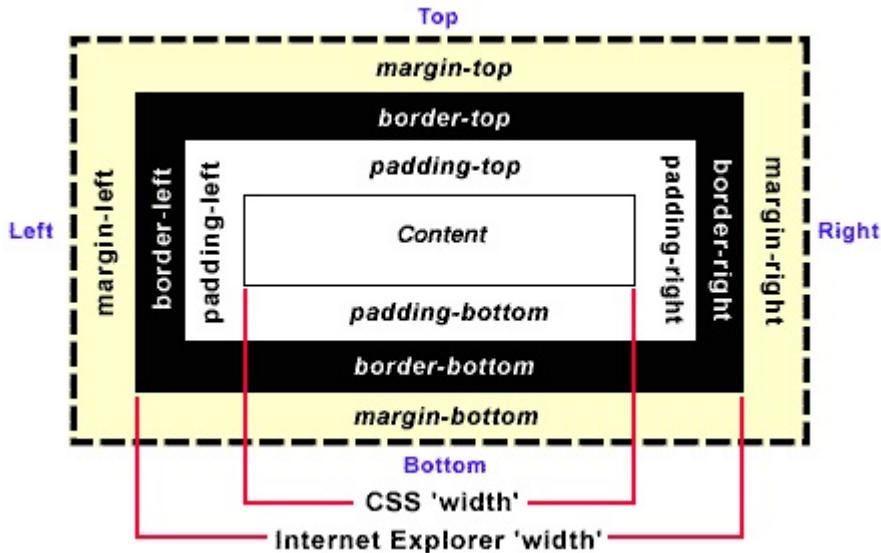
33.1.7 SQL Serverexecsp_executesql

sp_executesqlEXEC EXEC, sp_executesql sq_executesql

33.1.8 Local system/Network service/Local Service

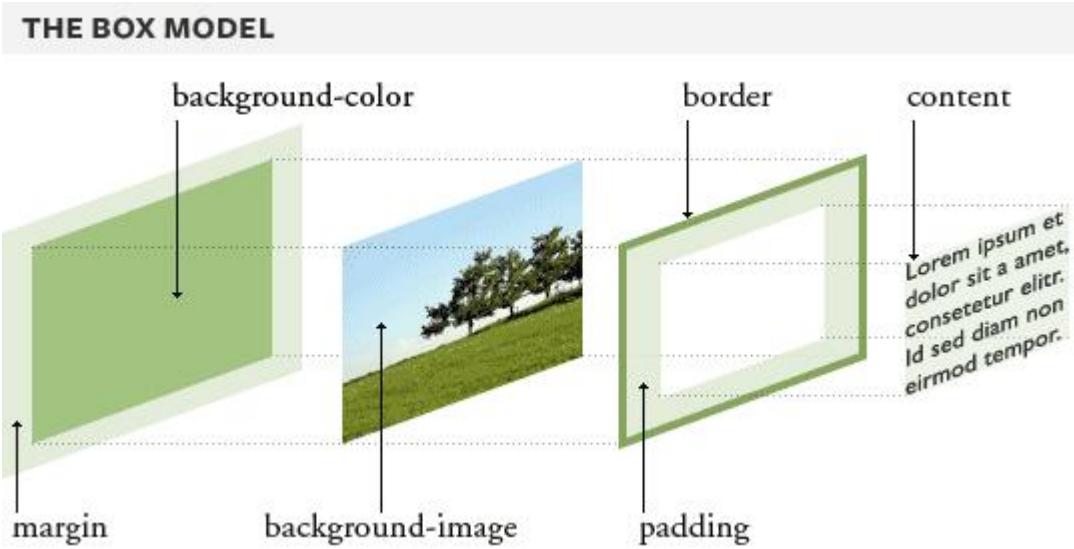
33.1.9 MarginPadding

W3C (box) (Box Model) (content)(padding)(border)(margin) ?? marginbackground-color background- imagepaddingcontentborder 3D??



33.2: MarginPadding

margin margin14 background-color background-image padding border content CSS width height



33.3: MarginPadding3D

33.1.10 abusoluterelative

```
position:relative; """
relative
position:absolute2; z-index z-index
```

33.1.11 FTP(Active FTP)(Passive FTP)

FTPFTP FTP ()FTPFTP

As mentioned in the main text, FTP server admins will almost definitely need to support passive FTP in order to allow the greatest number of clients to access their FTP resources. In order to support passive FTP, however, a large number of high-numbered ports on the server must be opened through a firewall. Luckily, most FTP servers allow this port range to be specified so as to limit exposure to attacks.

FTP FTPFTP

²<http://zh.learnlayout.com/position.html>

33.1.12 const,readonly,static,static readonly

struct readonly static static static static static readonlyconst static readonly const static readonly conststringnull static readonly,, Static Constructor Function staticconstreadonly constreadonly static

33.1.13 string

C# string string += StringBuilder +=

The string type represents a sequence of zero or more Unicode characters. string is an alias for String in the .NET Framework. Although string is a reference type, the equality operators (== and !=) are defined to compare the values of string objects, not references. This makes testing for string equality more intuitive.

```

1 string a = "hello";
2 string b = "h";[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1;
3 b += "ello";// Append to contents of 'b'
4 Console.WriteLine(a == b);[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2;
5 Console.WriteLine((object)a == (object)b);[text=white,font=,inner
    sep=0.2mm,draw,circle,fill=black]3;
```

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1; when you write this code, the compiler actually creates a new string object to hold the new sequence of characters, and that new object is assigned to b. The string "h" is then eligible for garbage collection.

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2; compare the value,output is true.

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]3; compare the address,output is false.

33.1.14 var,object,dynamic

varnet framework 3.5 var dynamicnet framework 4.0 , However, operations that contain expressions of type dynamic are not resolved or type checked by the compiler. The compiler packages together information about the operation, and that information is later used to evaluate the operation at run time.

33.1.15 typeofGetType()

typeof: The typeof operator is used to obtain the System.Type object for a type.

System.Type

Type t = typeof(int);

GetType: Gets the Type of the current instance.

```
int i = 10; Console.WriteLine(i.GetType());
```

```
GetType() object GetType()typeof()
```

```
1 if (myobj.GetType() == typeof(MyComplexClass))
2 {
3
4 }
```

33.1.16 JavaScript undefined null

JavaScript5UndefinedNullBooleanNumberString 1ObjectObject nullJava JavaScript primitivecomplex Brendan Eich JavaScript Brendan Eichnull0 Brendan Eichundefined null””0undefined””NaN undefined””

- undefined ID:

```
1 var cardId=function GetBoxId(){
2     //Get box id implement
3 }
```

ID ID

```
1 if (cardId === undefined) {
2     //Get id failed
3 } else {
4     //Get id success
5 }
```

- undefined
- undefined
- undefined

33.1.17 for/foreach/LINQ

For and foreach differ slightly in performance. They are approximately the same speed. But the foreach loop uses more stack space for local variables. The for-loop is faster than the foreach-loop if the array must only be accessed once per iteration. forforeach foreach foreachfor foreachfor IEnumerableGetEnumerator() Ienumerator Ienumerator foreach Ienumerator

33.1.18 Box(Unbox)

```
1 object objValue = 1;
```

, ildasm.exeVersion 2.0.50727.42

```
1 // Code size      9 (0x9)
2 .maxstack 1
3 .locals init ([0] object i)[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1;
4 IL_0000:  nop
5 IL_0001:  ldc.i4.1[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2;
6 IL_0002:  box      [mscorlib]System.Int32[text=white,font=,inner
    sep=0.2mm,draw,circle,fill=black]3;
7 IL_0007:  stloc.0[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]4;
8 IL_0008:  ret
```

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1; ILObjectobjValue

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2; 9

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]3; IL_boxSystem.Int32

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]4; 0

cpu

```
1 object objValue = 1;
2 int value = (int)objValue;
```

IL

```
1 // Code size      16 (0x10)
2 .maxstack 1
3 .locals init ([0] object objValue,
4     [1] int32 'value')
5 IL_0000:  nop
6 IL_0001:  ldc.i4.1
7 IL_0002:  box      [mscorlib]System.Int32
8 IL_0007:  stloc.0[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1;
9 IL_0008:  ldloc.0[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2;
10 IL_0009:  unbox.any [mscorlib]System.Int32[text=white,font=,inner
    sep=0.2mm,draw,circle,fill=black]3;
11 IL_000e:  stloc.1[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]4;
12 IL_000f:  ret
```

[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]1; 0

```
[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]2; 0objValue
[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]3; IL unbox.any objectSystem.Int32
[text=white,font=,inner sep=0.2mm,draw,circle,fill=black]4; 1value
```

cpu .NET 2.0

33.1.19

CLRCommon Language RuntimeSystem.Reflection.Assembly.LoadFrom System.Reflection.Assembly.Load
4 CLRLoad CodeBase

: dllexe

33.1.20 CSSpxem

```
pxPixelpx(CSS2.0) em (CSS2.0)
px/*mac osx 10.9.2, chrome/safari/opera/firefoxpath*/
```

16px=1emem div 1.2em 1.2 div1em=12px em bodyFont-size=62.5% 1em=16px*62.5%
Font-size=63%,IE IE

33.1.21 base64

```
emailEmail MIMEEmailEmail Email Email
Base64Email EmailASCII87 ASCII1Email 0Email RFC2046Base643 URL ascii ascii128255
AB Base64 Base64 Base64
```

33.1.22 StringBuilder

1.+

2.8StringBuiler

3.8List<string>

List<string>;string[]string.Concatstring.Join StringBuilerListStringBuilder O(n)StringBuilderListn
StringBuildern List<string>; 8 StringBuilder

³<http://www.ruanyifeng.com/blog/2008/06/base64.html>

33.1.23 C#stringString

.NETstringString objectObject string String

33.1.24 IIS

:

- web.config
- *.cs(App_Code)
- Bin
- *.aspx, *.ascx, *.master
- Idle

33.1.25 ASP.NET

ASP.NET IIS7ASP.NETIISw3wp.exe C:/WINDOWS/Microsoft.NET/Framework/v2.0.50727/Temporary ASP.NET Files IISDLLPTime-1 JITDLLPTime-2 aspx PTime-1 + PTime-2 DLLaspXascX w3wp.exeIISRESET PTime-2PTime-1 PTime-1 + PTime-2 IIS ASP.NET

- 1.
- 2.
3. DLL

HTMLPTime-1PTime-2 1IIS 2 3 4 Visual Studio 2012

33.1.26 ADOADO.NET

ADOADO.NET / Web ADOOLE DBCOMADO.NETADO.NET.NET .NETCOMADO.NETADOOLE DB ADO.NETADO

- ODBC Open Database ConnectivitySQLODBCODBC ODBCOpen Database ConnectivityAPIDBMS(Database Management System)APISQLODBCSQLSQLODBCODBC 1993DLL ODBCWOSAWindows Open Services ArchitectureODBCODBCODBC ODBCUNIXOD-BCunixODBCiODBC
ODBC(Open Database Connectivity)(WOSAWindows Open Services Architecture)APIAPI SQLODBCSQLSQLODBC
ODBCDBMSDBMSDBMSODBC FoxProAccessOracleODBC APIODBC

- DAO - Data Access Objects ODBC/C++/Visual Basic Access
- RDO DAO/Jet DAO ODBC/RDOR Remote Data Objects
- OLE DB COM Component Object Model OLE DB
- ADO OLE DB ADO Visual Basic OLE DB

1 ado.net dataset adorecords

2 adoado.net

3 adoado.net

4 ado.netxml

5 ado.net ado

6 ado.netxml

.NET XML

ADO Recordset ADO.NET DataSet Recordset SQLDataSet ADO ADO.NET XMLADO.NET
ADO COM COM ADO.NET XML COM

33.1.27 Javascript

`typeof bar === "object" bar Object typeof "object"`

1 `Object.prototype.toString.call(bar) === "[object Object]"`

```
1 let obj = {};
2 let arr = [];
3
4 console.log(Object.prototype.toString.call(obj)); // [object Object]
5 console.log(Object.prototype.toString.call(arr)); // [object Array]
6 console.log(Object.prototype.toString.call(null)); // [object Null]
```

33.1.28 ?

C# C++ C++ C# C++ iiii

```
1 // 
2 public delegate void InvokeDateComplete();
3 //
```

```

4 FrmCompleteList.InvokeDateComplete delegateInstance;
5 //,
6 delegateInstance = FrmCompleteList.LoadGridViewData;
7 //
8 delegateInstance();

```

C#

C#, .NET NMFC CALLBACK

-
- (add_event()remove_event())+=add_event()-=remove_event()
- delegate

33.1.29 localhost127.0.0.1IP

localhost

127.0.0.1

IP

33.1.30 StructClass

33.1.31 JavaciptWindowwindow

WindowwindowFireFox-*i*-*j*WebConsole Ctrl+Shift+K Windowwindow?? Window.window returns an only read reference to the current window. The window object represents a window containing a DOM document; the document property points to the DOM document loaded in that window. A window for a given document can be obtained using the document.defaultView property.

The window object implements the Window interface, which in turn inherits from the AbstractView interface. Some additional global functions, namespaces, objects, interfaces, and constructors, not typically associated with the window, but available on it, are listed in the JavaScript Reference and DOM Reference.

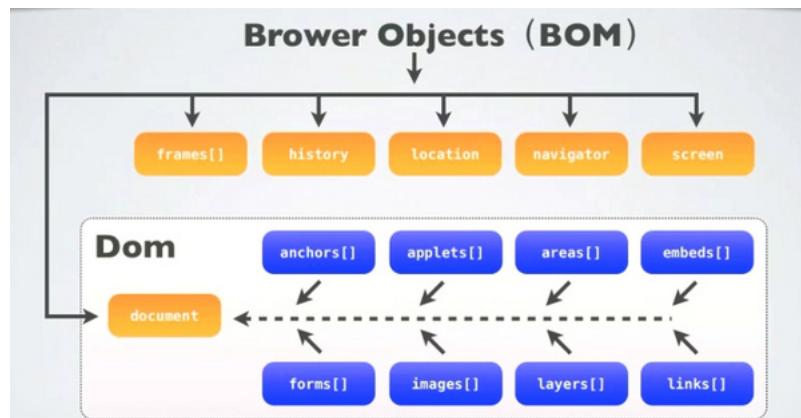
In a tabbed browser, such as Firefox, each tab contains its own window object (and if you're writing an extension, the browser window itself is a separate window too - see Working with windows in chrome code for more information). That is, the window object is not shared between tabs in the same window. Some methods, namely window.resizeTo and window.resizeBy apply to the whole window and not to the specific tab the window object belongs to. Generally, anything that can't reasonably pertain to a tab pertains to the window instead.



33.4: Windowwindow

33.1.32 BOMDOM

JavascriptBOMBrowser Object Model() BOMwindowdocumentwindow windowdocument-documentXHTML documentDOMDocument Object Model ??



33.5: BOMDOM

BOMDOM()BOMBOMDOM js DOMwindowWindowdocumentlocationnavigatorscreenhistoryframes Documentformslocationanchorsimageslinks window.documentDOMBOMwindow DOM-BOM

33.1.33 internalprotect internal

internal protected internal/,

33.1.34 IEnumerable<string>[]

33.1.35 foreachList<T>.ForEach

List<T>.ForEach ForEach method doesn't use the enumerator, it loops through the items with a for loop List<T>.ForEach which uses almost exactly the same characters in slightly different order. And yet the second version is harder to understand, harder to debug, and introduces closure semantics, thereby potentially changing object lifetimes in subtle ways.

33.1:

ViewData	ViewBag
Key/Value	dynamic
ASP.NET MVC 1	ASP.NET MVC3
ASP.NET 3.5 framework	Asp.net 4.0.net framework
ViewData	ViewBag
ViewBag	ViewData
ViewPage	ViewPage

When we provide two subtly different ways to do exactly the same thing, we produce confusion in the industry, we make it harder for people to read each others code, and so on. Sometimes the benefit added by having two different textual representations for one operation (like query expressions versus their underlying method call form, or + versus String.Concat) is so huge that its worth the potential confusion. But the compelling benefit of query expressions is their readability; this new form of foreach is certainly no more readable than the normal form and is arguably worse. List<T>.Foreach foreach3

33.1.36 HashTable Hashmap

C#Hashtable, Hashtable / /C#HashMap, HashMap Java 1.2 Map interface

33.1.37 3Web

WEBHTTP)

WEB/ CGIPHP/ASP URLHTTPURL

(Action) MVCWEB WEBStruts Webwork(Java) Ruby on Rails(Ruby), Zend Framework(PHP) URL(controller)(action)
action/HTTP

Component GUI .NET HTML OnClick PHP HTTP HTTP

GUI Delphi Java Swing HTML IDE

33.1.38 ViewBag ViewData

ViewData

ViewBag

33.1.39

Array O(1)

Array (T[])

ArrayList Array unboxed ArrayList Add object boxing ArrayList

Linked list (LinkedList<T>)

List<T> Resizable array list (List<T>)

Stack (Stack<T>)

LIFO Last In First Out Queue (Queue<T>)

FIFO First In First Out Hash table (Dictionary<K,T>)

Key-Value Tree-based dictionary (SortedDictionary<K,T>)

Key-Value Key Hash table based set (HashSet<T>)

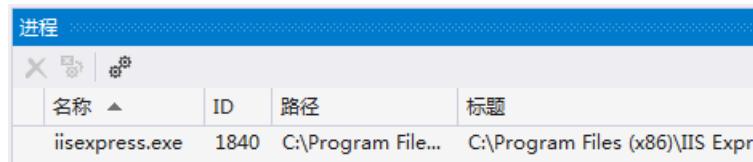
Tree based set (SortedSet<T>)

33.1.40 (Process)(Thread)

CPU CPU

-
-
-

Visual Studio Visual Studio(-<->) Ctrl+D(Debug)+P(Process) ??



33.6: ASP.NET MVC

ID(PID)1840 WindwosiisexpressID1840 Visual Studio(-<->) Ctrl+D(Debug)+T(Thread)
??

46 CPU CPU 3232Windows4GB232 0x000000000xFFFFFFFFF (Thread)CPU

	ID	托管 ID	类别	名称
▲ 进程 ID: 1840 (46 线程)				
	6060	0	主线程	主线程
	6556	0	工作线程	ntdll.dll!_DbgUiRemoteBreakin@40
	7284	0	工作线程	nativrd2.dll!NOTIFICATION_THREAD::ThreadProc()
	7352	0	工作线程	ntdll.dll!_TppWaiterpThread@40
	7396	0	工作线程	w3tp.dll!THREAD_MANAGER::ThreadManagerThread()
	7400	0	工作线程	w3tp.dll!THREAD_MANAGER::ThreadManagerThread()
	7404	0	工作线程	w3tp.dll!THREAD_MANAGER::ThreadManagerThread()
	7408	0	工作线程	w3tp.dll!THREAD_MANAGER::ThreadManagerThread()
	7412	0	工作线程	ntdll.dll!_TppWorkerThread@40

33.7: ASP.NET MVC

33.1.41 Formonclick/submit/onsubmit

1) onclick: Y();

2) onsubmit: X();

3) submit();

onclickreturn falseonsubmit onsubmitreturn false

onsubmit: You can override this event by returning false in the event handler. Use this capability to validate data on the client side to prevent invalid data from being submitted to the server. If the event handler is called by the onsubmit attribute of the form object, the code must explicitly request the return value using the return function, and the event handler must provide an explicit return value for each possible code path in the event handler function. The submit method does not invoke the onsubmit event handler.

submit: The submit method does not invoke the onsubmit event handler. Call the onsubmit event handler directly. When using Microsoft? Internet Explorer 5.5 and later, you can call the fireEvent method with a value of onsubmit in the sEvent parameter.

33.1.42 Model, ORM, DAOActive Record

DAO DAOJ2EEDAO J2EEAPI DAL Dao dao

ORM ORMORMDAO JAVAHibernate PHPORM JOINORMSQL

33.1.43 TCP

TCP TCPclientserver serverclientserver serverclientclose clientcloseserverclient client/server

TCP clientserverserverclient Clientserver

TCP/IPTCP

33.1.44 HTTP

HTTP1.1HTTP persistent connection TCPRST

HTTPConnection: Keep-aliveHTTP1.0 HTTP1.1 RFC2616 HTTP1.1HTTP HTTPConnection: closeHTTP HTTP1.0Keep-alive -;Keep-alive Keep-alive-; HTTP1.0Keep-alive Nginx patchNginxHTTP1.1& NginxHTTP1.0&

HTTPKeep-Alive HTTPGET TCPTCPGETGETTCP HTTPConnection: Keep-alive webTCP

33.1.45 ()

(Strong Name) WindowsDLL Hell .NetCOMDLL HellGuidCOM COMCOM GuidCOM .NetStrong NameGAC .NetNameVersionCulturePublicToken NameVersionCulture PublicTokenRSA PublicToken RSA/.Net/ GACMSDN Project.DLL.EXE GAC

33.1.46 InvokeBeginInvoke

* Control.Invoke (Delegate) :

* Control.BeginInvoke (Delegate) :

InvokeRequired InvokeBeginInvokeEndInvokeCreateGraphics CreateGraphics (invoke)

InvokeBeginInvokeEndInvoke

* ControlInvokeBeginInvoke UI Control.InvokeControl.BeginInvoke UI

* InvokeBeginInvoke BeginInvoke

33.1.47 ActivexOLECOMOCXDLL

ActiveXOLE COM/DCOM ComponentObject Rules Object 1 2 3COMComponent Object Module /DCOM Distributed COMCORBACommon Object Request Broker Architecture COMCORBA COM CORBA ActiveXOLE COM OLECOMActiveX OLE ActiveX COMCOM OLEActiveXCOM ActiveXOLEOLEOLEWindows Clipboard Dynamic Data ExchangeDDE Object Linking and EmbeddedOLE OLEMicromsoftOLE2 COM COMOLECOMOLE OLECOM COM COMOLE OLE2COM COM Microsoft COMMicromsoftOLE COM OLE MicrosoftOLE OLECOMMicromsoft Internet1996Microsoft ActiveXActiveX COMOLE ActiveXCOMActiveX

OLEOLE ActiveX ActiveXOLECOM COM COM C++JavaCOM COM COMC++JavaVB
 DLLCOM DLL COMOLE WebCOM COMActiveX OSCOMWindowsWindows NTAPICOM-
 COM COM COM DCOMCORBAORB ActiveXOLECOM/DCOM

Activex,OLE,COMOleActivexCOM OCX DLL ActivexOCXDLL COMActiveXDLL DLL
 activexoleocxcomcom dllActivexOLECOMOCXdllexeocx/vbx dllcomdllapidll .net .netcomcomac-
 tivex) apiwindows kernel api .net .net comcom hell

33.1.48 HadoopSpark

HadoopApache Spark Hadoop:

HadoopSpark

HadoopHDFSMapReduce SparkHadoopMapReduce

SparkHadoop HadoopHDFS, SparkHadoop

MapReduce:

12Map Reduce SparkMapReduce

SparkMapReduceMapReduce: Booz Allen HamiltonKirk Borne

Spark BornSparkMapReduce10100

MapReduce

Spark

Spark

Hadoop

Spark(RDD: Resilient Distributed Dataset) RDDBorne

33.1.49 BB-B+B*

B,B

BB B

BBB B B-B+,B+B-

****B***** B+B+

****B+****

1. ** linear searchOn On On binary searchbinary tree search ** * **

**2.

B+**

B-TreeB+Tree 1 B+ B+ B + B + K K B+ ceil(m/2) m 2B+
B+ **B-** B+ **B-**

B-TreeB+Tree B-/+Tree I/OI/O I/O I/OB-/+Tree I/O I/O page 4k

B-/+Tree **h =**

** I/O**B- Tree nodeI/O B-Treeh-1I/OOh=OlogmNm100h3 B-Tree **h**I/OOhB-Tree

****MySQLB-TreeB+Tree****

MySQL (<http://lib.csdn.net/base/14>) B-Tree Hash Fulltext R-Tree B-Tree B-Tree MySQL Archive B-Tree Archive MySQL 5.1 AUTO_INCREMENT MySQL B-Tree B-Tree MySQL B-Tree Balance Tree Tree Leaf Node() Leaf Node B-Tree MySQL B-Tree Innodb B-Tree B+Tree B-Tree Leaf Node Leaf Node LeafNode Leaf Node

Binary Search TreeBalanced Binary Search Tree (Red-Black Tree)B-tree/B+-tree/ B*-tree** *(B Tree) O(log2N) I/O - B tree(B)B-treeRudolf Bayer, Edward M. McCreight(1970)Organization and Maintenance of Large Ordered Indices [wikipediahttp://en.wikipedia.org/wiki/B-treeB-tree](http://en.wikipedia.org/wiki/B-treeB-tree)

33.1.50 ocx

OCX Object Linking and Embedding (OLE) Control eXtension ocx .exe.dll PE Visual Basic Delphi EditBoxGridImageBoxTimer caption VB VC

33.1.51

Object-oriented programmingOOP

Object Oriented DesignOOD ,Common LispPythonC++Objective-CSmalltalkDelphiJavaSwiftC#PerlRuby PHP.

1 2 3

1 2

33.1.52 Why is Dictionary preferred over HashTable

DictionaryHashTable DictionaryHashTable

33.1.53 dllCOM

1 dllVCextern "C" COMinterface, 2 DLLDLL, , COM DLLEXE 3) COMDLL:1. dllgetobjectclass, 2. dllregisterserver, 3. dllunregisterserver, 4. dllunloadnow. Com COMWINDOWS COMDLLEXEOCXactivexCOM ACTIVEDEXDLL DLLACTIVECOM DLLDLL COMCOM . ActiveX ,flash,flash. ACTIVECOM ActiveX Web ActiveX

33.1.54 Func<T, TResult>, Func<T>

Func<T, TResult>, func Action<T>

Funcnfunc

33.1.55 LINQ

LINQ LINQ XML SQL ADO.NET .NET LINQ LINQ .NET LINQC#

LINQ .NET 3.5

.NET 2.0LINQ XML

LINQ

LINQ LINQ

LINQ XML LINQ

LINQLINQ

XML

.NET 2.0LINQ

SQL LINQ

LINQ LINQ LINQ

SQL XML LINQ

Linq To SqssqlstringADO.NETSQL Server. sql.Linq To SQL sql serverLinq To SQL Linq To Sql Linq To Sql codeLinq To Sql

33.1.56 c#

C#intcharfloatstruct enumclassdelegate C#

33.2

/

//

/

33.2.1 Idea

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