Introduction to Quartz

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12 Nov. 1997
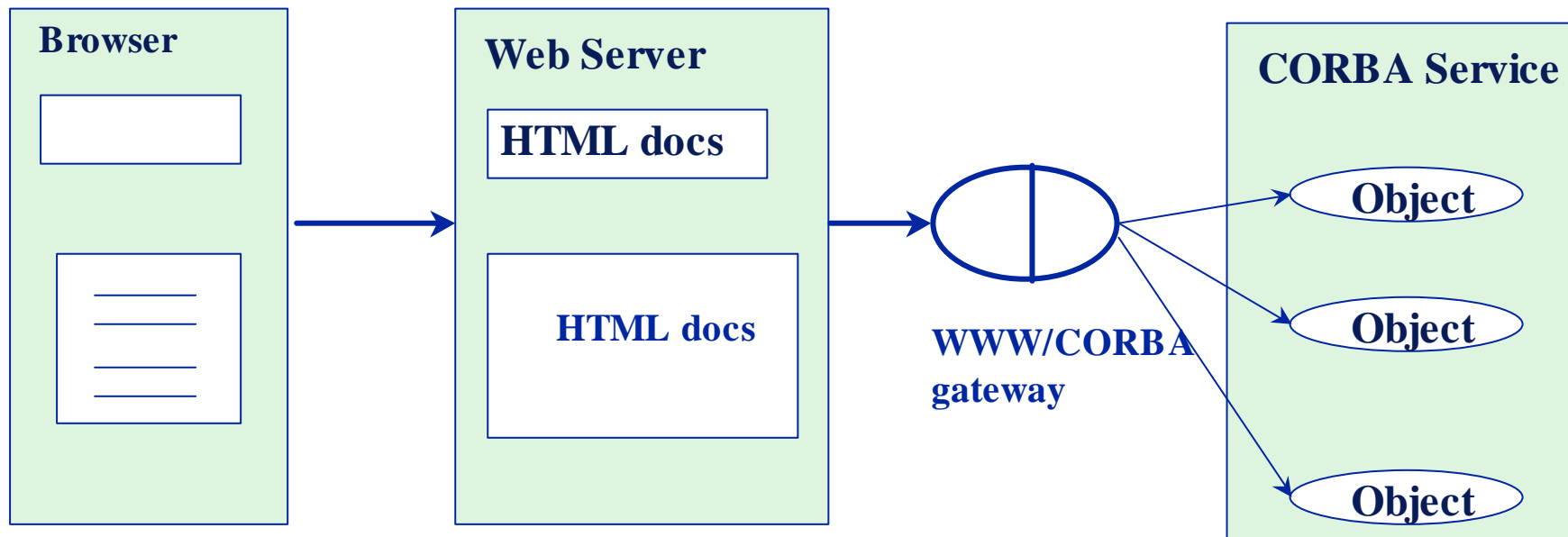
Idea of Quartz

- Make CORBA services
  - available widely and easily
  - accessible from desktops and consumer equipment
  - simple to use
- Combining email, WWW and object technology
  - allow CORBA objects to be accessed from Web
  - use email and WWW for service distribution
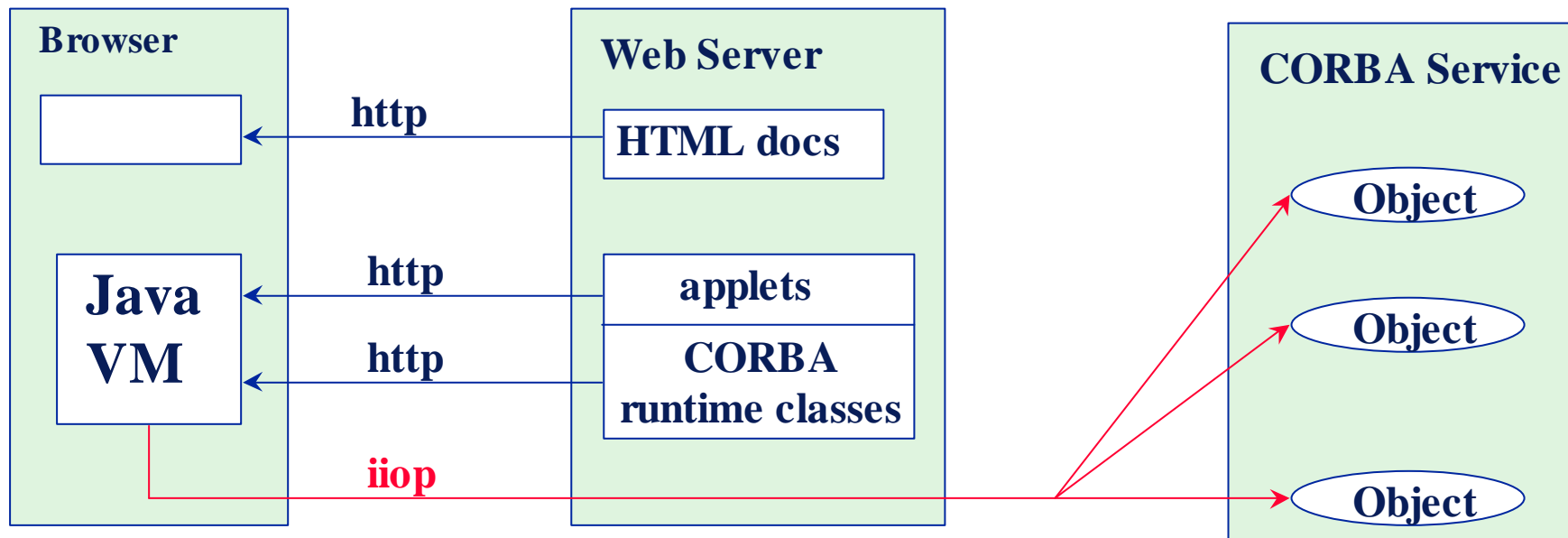 - use Web browser as user interface

CGI Approach

- Interface for external programs to HTTP server
- Define the format of the data stream between Web server & gateway
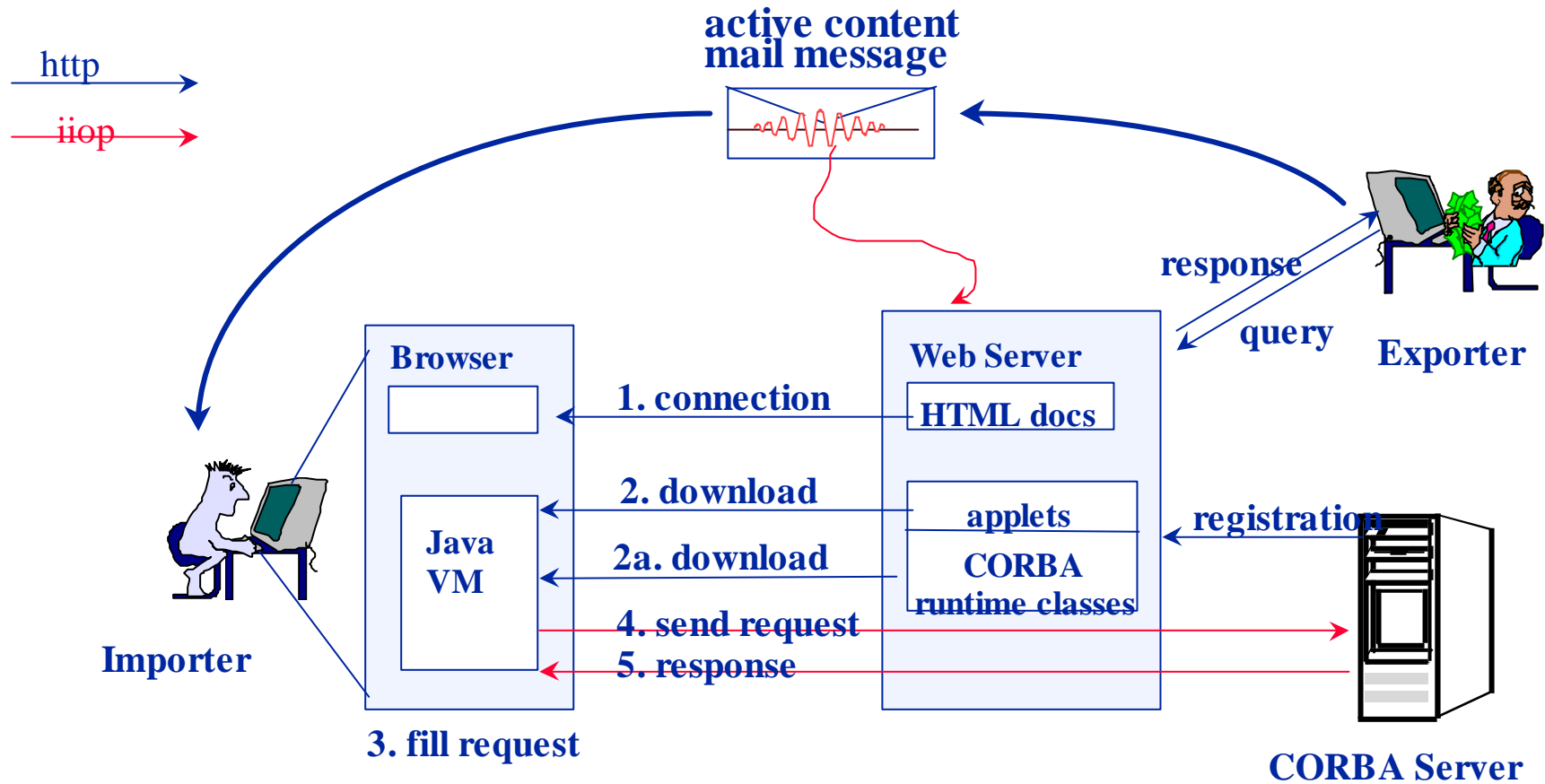- Define the environment variables to the gateway

Browser

Web Server

HTML docs

HTML docs

WWW/CORBA gateway

CORBA Service

Object

Object

Object

Java as the Connection

- CORBA clients written in Java
- CORBA runtime classes implemented in Java
- Java applets can be "iiop-enabled" on the fly
- No pre-installed components

Browser

Web Server

CORBA Service

http

HTML docs

Object

Java VM

http

applets

Object

http

CORBA runtime classes

iiop

Object

Scenario

**active content
mail message**

http

iiop

response

query

Exporter

Browser

1. connection

HTML docs

2. download

applets

registration

**Java
VM**

2a. download

**CORBA
runtime classes**

4. send request

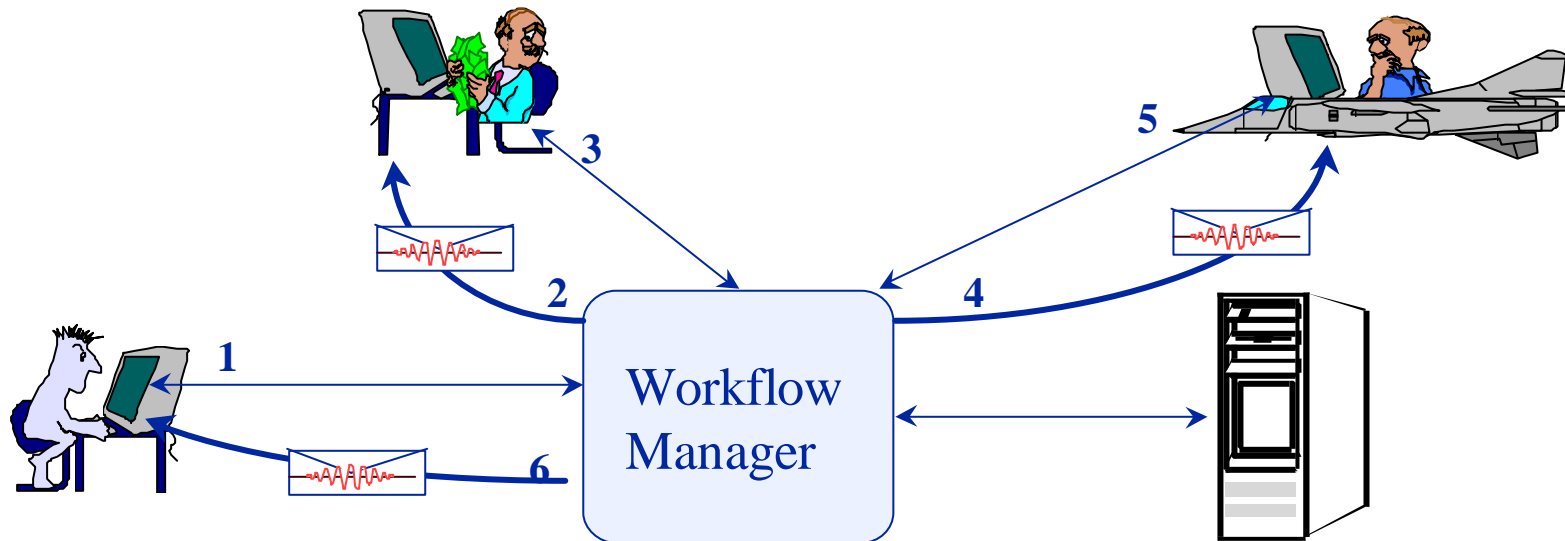**5. response**

Importer
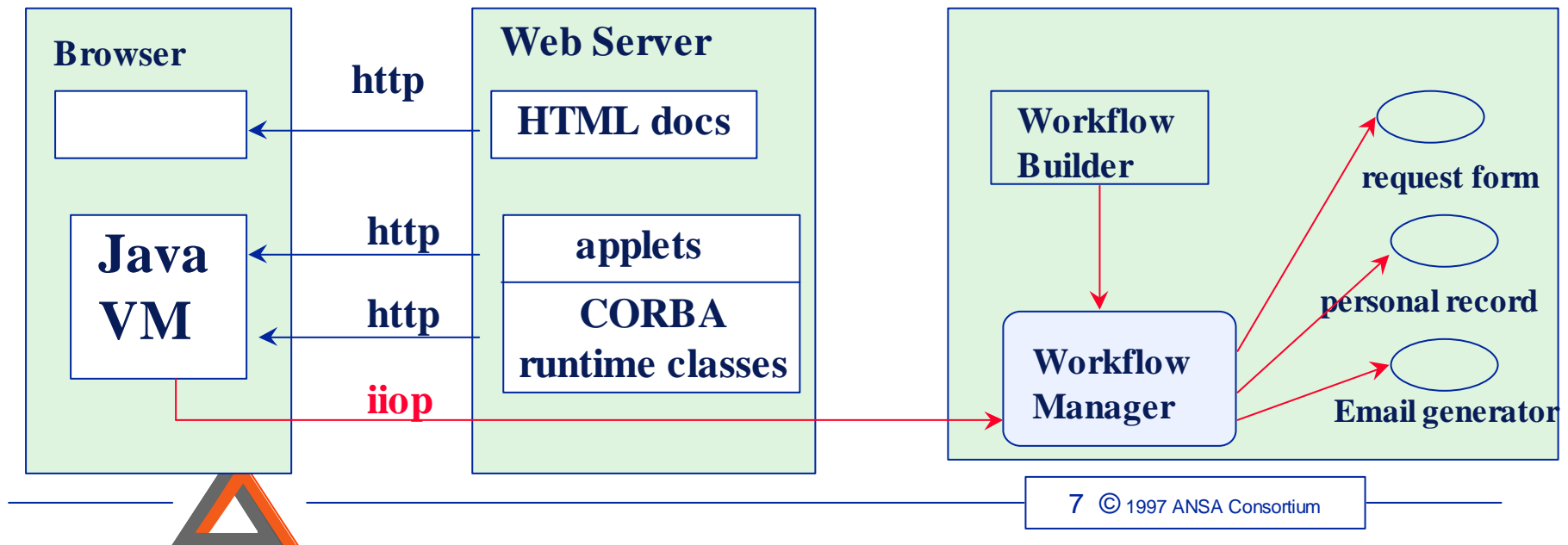
3. fill request

CORBA Server

Example: Holiday Request

- Employees: submit request (workstations)
- Secretary: check available holiday time (PC)
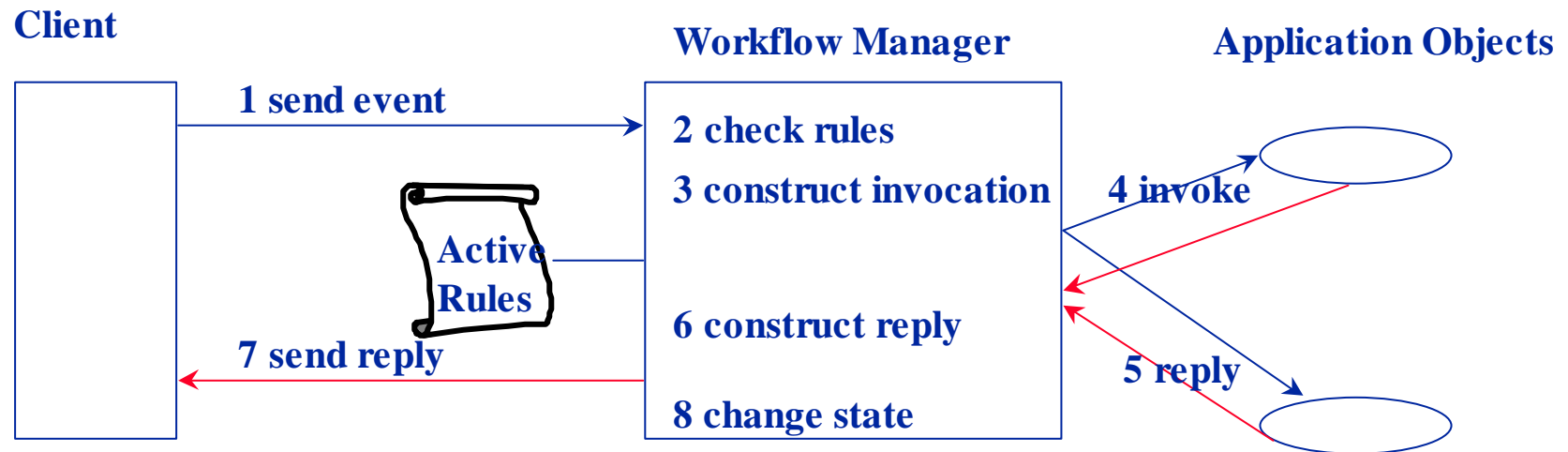- Manager: make decision (notebook)

Workflow Manager

The Architecture

- **Workflow manager**
  - object invocation based on an event-action table
- **Workflow builder**
  - define an event-action table for an application
- **Application objects**
- **Web clients**

Browser		Web Server			

Browser

Web Server

http

HTML docs

Java VM

http

applets

http

CORBA runtime classes

iiop

Workflow Builder

Workflow Manager

request form

personal record

Email generator

Workflow Manager

- A reusable component: independent from particular applications
- Monitor and control the process of a workflow according to the specified active rules

Client　　　　　　　　　　　**Workflow Manager**　　　　**Application Objects**

1 send event

2 check rules

3 construct invocation　　**4 invoke**

Active Rules

6 construct reply

7 send reply　　　　　　　　　　　　　　　　　　**5 reply**

8 change state

Benefits

- Accessible from different sites and different platforms
  - workstations, PCs, and notebooks

- Low cost connection and installation
  - email, Web infrastructure, and Java interpreter

- Simple user interface
  - Web browser

- Easy access to related information
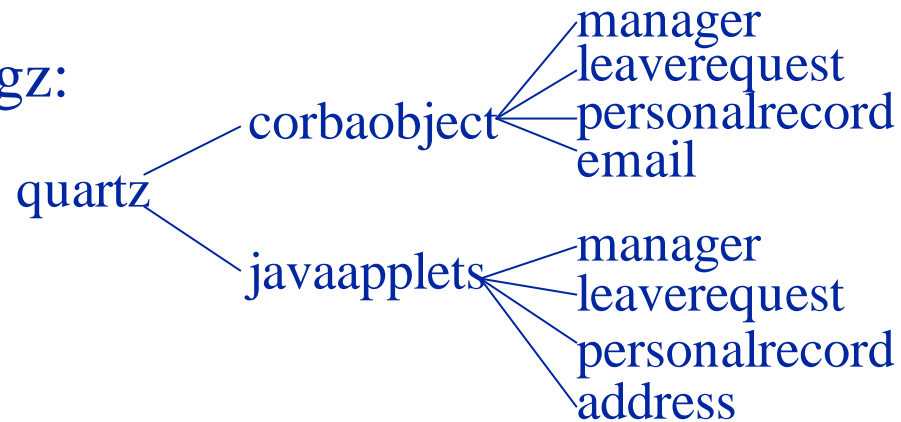 - on-line help, and related events

Deliverable

- Architecture report
  - architectural features and design decisions (APM.1765)
- Reusable object components
  - workflow builder
  - workflow manager
- Demonstration application
  - an electronic leave request application system
    - CGI version
    - Java version
- Download: OL/prototype/quartz
  - Quartz-InstallGuide-01.txt
  - quartz.server.01.tar.gz
  - quartz.web.01.tar.gz

File Architecture

■ quartz.server.01.tar.gz:

```
quartz
    corbaobject
        manager
        leaverequest
        personalrecord
        email
    javaapplets
        manager
        leaverequest
        personalrecord
        address
```

■ quartz.web.01.tar.gz:

```
quartz
    docs
    demos
        java
            classes
                manager
                personalrecord
                address
            Java htmls
        CGI htmls
```