

# Web 3

## Lesson 13: Context Listener

# PREVIOUSLY IN WEB 3...

## CONTROLLER

```
private HandlerFactory handlerFactory;
```

```
public void init() throws ServletException {
```

```
    super.init();
```

```
    ...
```

```
    try {
```

```
        ShopService service = new ShopService(...);
```

```
        InputStream input = context.getResourceAsStream("/WEB-INF/handler.xml");
```

```
        Properties properties = new Properties();
```

```
        properties.loadFromXML(input);
```

```
        handlerFactory = new HandlerFactory(properties, service);
```

```
    } catch (Exception ex) {
```

```
        ...
```

```
    }
```

```
}
```

*hardcoded*




# BETTER

```
private HandlerFactory handlerFactory;  
  
public void init() throws ServletException {  
    super.init();  
    ...  
    try {  
        ShopService service = new ShopService(...);
```

```
        String fileName = context.getInitParameter("controllerpropertyfile");  
        InputStream input = context.getResourceAsStream("/WEB-INF/" + fileName);  
        Properties properties = new Properties();  
        properties.loadFromXML(input);
```

```
        handlerFactory = new HandlerFactory(properties, service);  
    } catch (Exception ex) {  
        ...  
    }  
}
```

define the name of  
the file  
as a property  
in web.xml



EVEN BETTER ...

# SERVLETCONTEXTLISTENER

- interface
  - receives notification **events**
  - about **ServletContext** lifecycle **changes**
- annotated with @WebListener

# SERVLETCONTEXTLISTENER

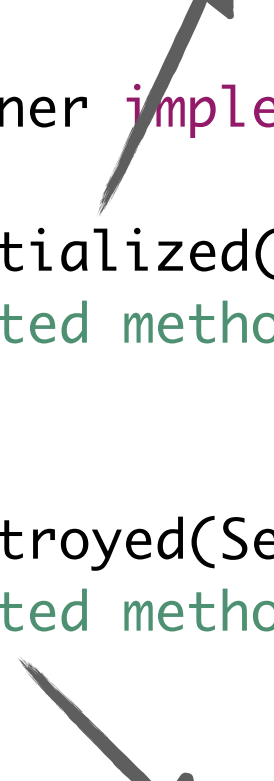
triggered when the web application is starting

```
@WebListener
public class ContextListener implements ServletContextListener {

    public void contextInitialized(ServletContextEvent sce) {
        // TODO Auto-generated method stub
    }

    public void contextDestroyed(ServletContextEvent sce) {
        // TODO Auto-generated method stub
    }

}
```



triggered when the ServletContext is about to be shut down

# SERVLETCONTEXTLISTENER

annotation



@WebListener

implement interface

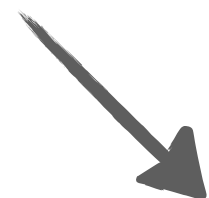


```
public class ContextListener implements ServletContextListener {
```

```
    public void contextInitialized(ServletContextEvent sce) {  
        // TODO Auto-generated method stub  
    }
```

```
    public void contextDestroyed(ServletContextEvent sce) {  
        // TODO Auto-generated method stub  
    }
```

```
}
```



implement methods

# READ PROPERTIES

## CLASS CONTEXTLISTENER.JAVA

annotation



@WebListener

implement interface



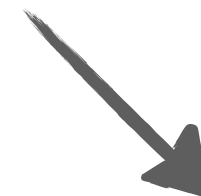
```
public class ContextListener implements ServletContextListener {
```

```
    public void contextInitialized(ServletContextEvent sce) {  
        // TODO Auto-generated method stub  
    }
```

```
    public void contextDestroyed(ServletContextEvent sce) {  
        // TODO Auto-generated method stub  
    }
```

```
}
```

implement methods




EVEN BETTER ...

# CONTEXTLISTENER


```
public void contextInitialized(ServletContextEvent sce) {
    ServletContext context = sce.getServletContext();
    try {
        Properties properties = new Properties();
        Enumeration<String> parameterNames = context.getInitParameterNames();
        while (parameterNames.hasMoreElements()){
            String propertyName = parameterNames.nextElement();
            properties.setProperty(propertyName, context.getInitParameter(propertyName));
        }
        ShopService service = new ShopService (properties);

        String fileName = context.getInitParameter("controllerpropertyfile");
        InputStream input = context.getResourceAsStream("/WEB-INF/" + fileName);
        Properties properties = new Properties();
        properties.loadFromXML(input);
        handlerFactory = new HandlerFactory(properties, service);
        context.setAttribute("handlerFactory", handlerFactory);
    } catch (Exception ex) { ... }
}
```

read  
db properties,  
...



read  
handler  
properties





# MEANWHILE IN THE CONTROLLER

```
private HandlerFactory handlerFactory;  
  
public void init() throws ServletException {  
    super.init();  
    try {  
        ServletContext context = getServletContext();  
        handlerFactory = (HandlerFactory)context.getAttribute("handlerFactory");  
    } catch (Exception ex) {  
        ...  
    }  
}
```

```
<web-app>  
<context-param>  
...  
</context-param>  
...  
</web-app>
```

web.xml

contextListener

```
<web-app>  
<context-param>  
...  
</context-param>  
...  
</web-app>
```

web.xml

servletContext

contextListener

```
<web-app>  
<context-param>  
...  
</context-param>  
...  
</web-app>
```

web.xml

properties

servletContext

contextListener

```
<web-app>
<context-param>
...
</context-param>
...
</web-app>
```

web.xml

properties

shop

servletContext

contextListener

```
<web-app>
<context-param>
...
</context-param>
...
</web-app>
```

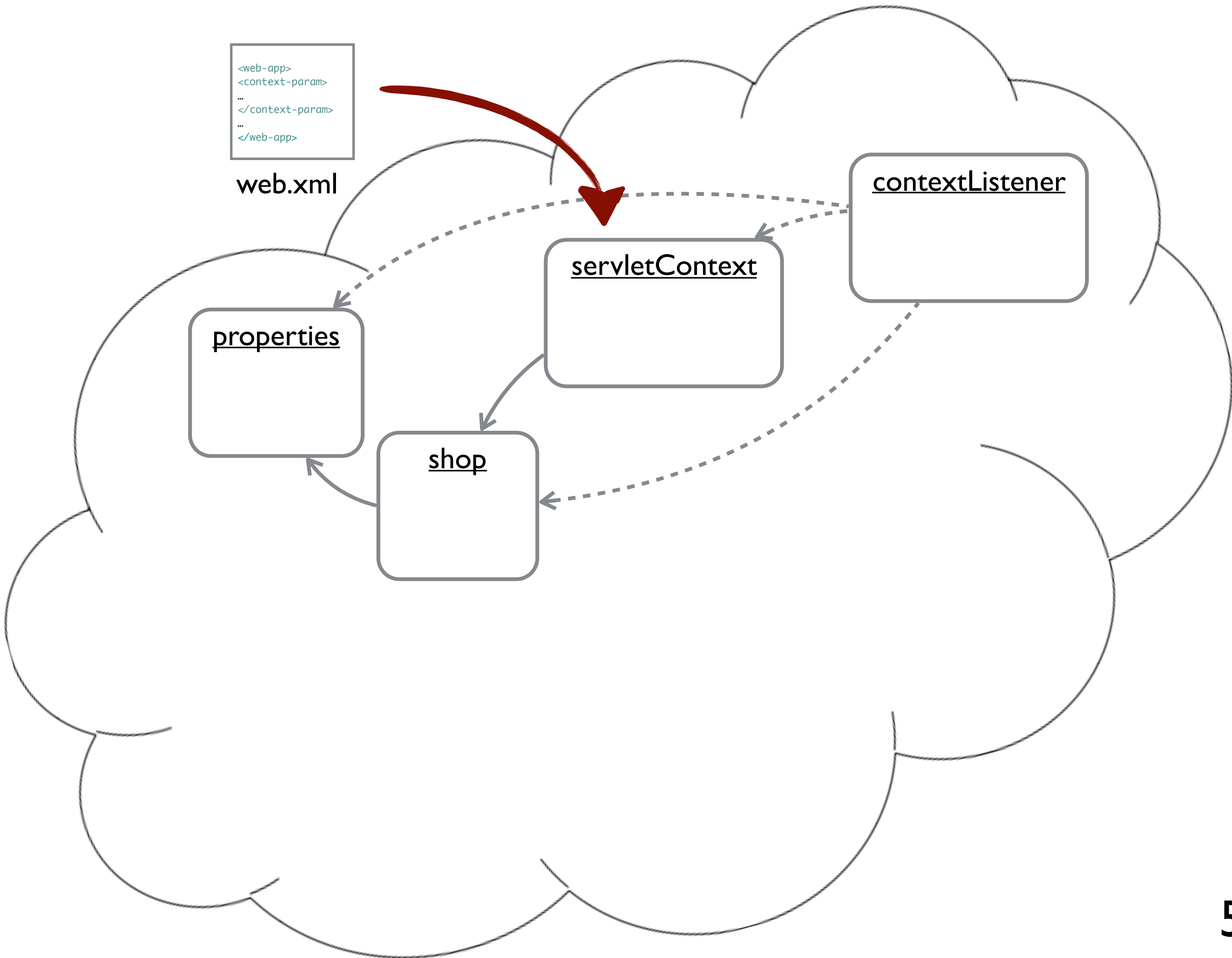
web.xml

properties

shop

servletContext

contextListener



```
<web-app>
<context-param>
...
</context-param>
...
</web-app>
```

web.xml

properties

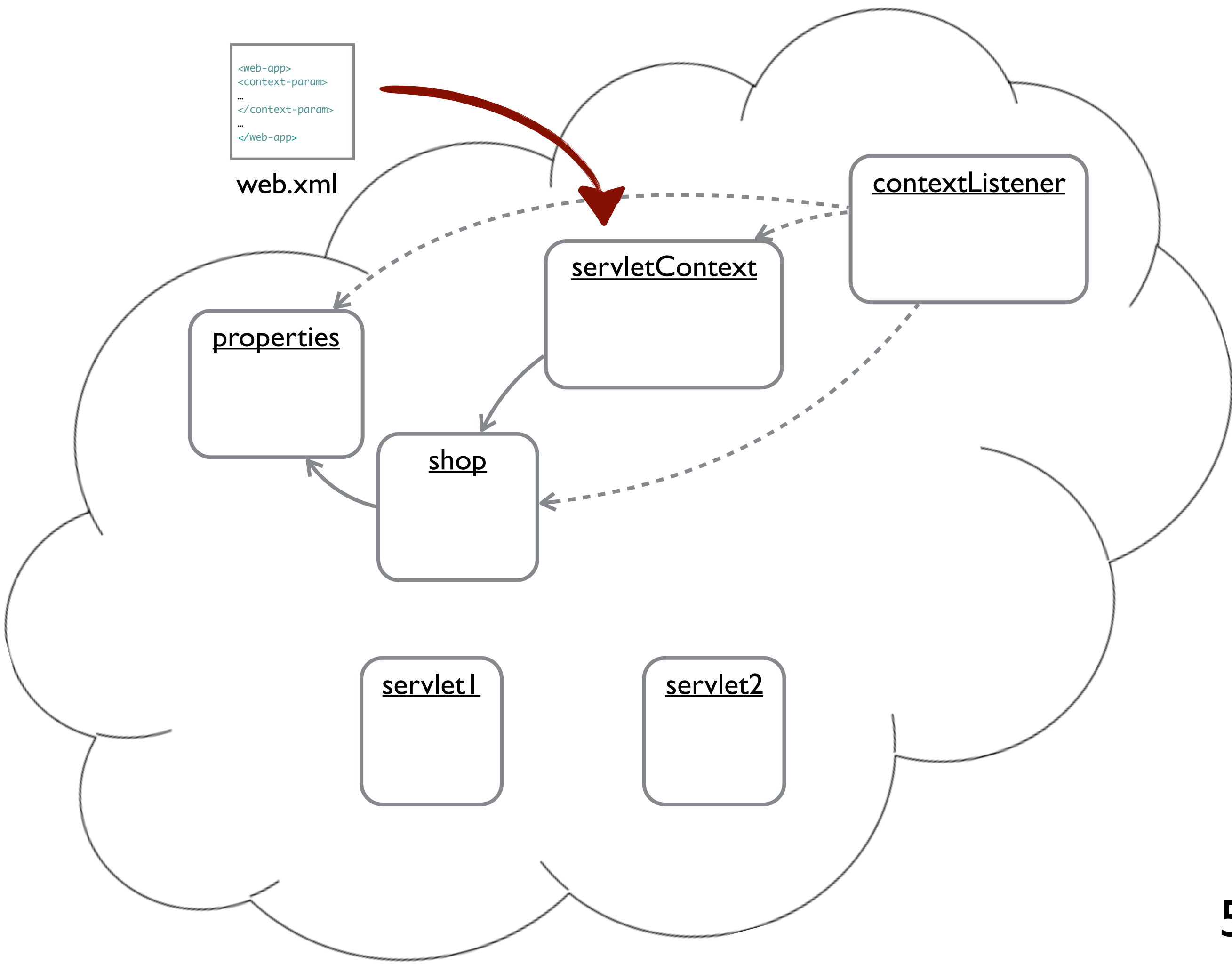
shop

servlet1

servletContext

servlet2

contextListener



```
<web-app>
<context-param>
...
</context-param>
...
</web-app>
```

web.xml

properties

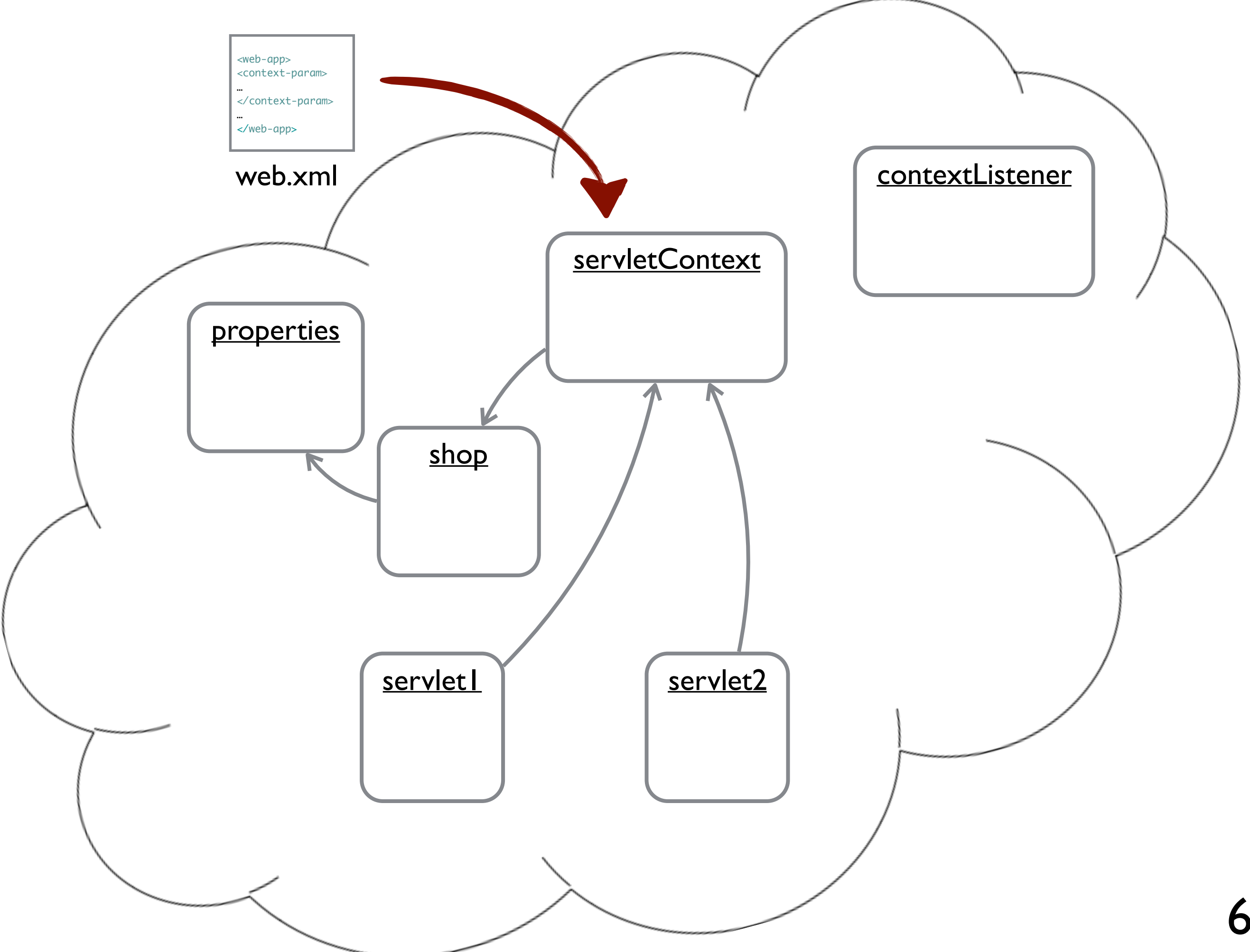
shop

servlet1

servletContext

servlet2

contextListener





```
<web-app>
<context-param>
...
</context-param>
...
</web-app>
```

web.xml

servletContext

contextListener

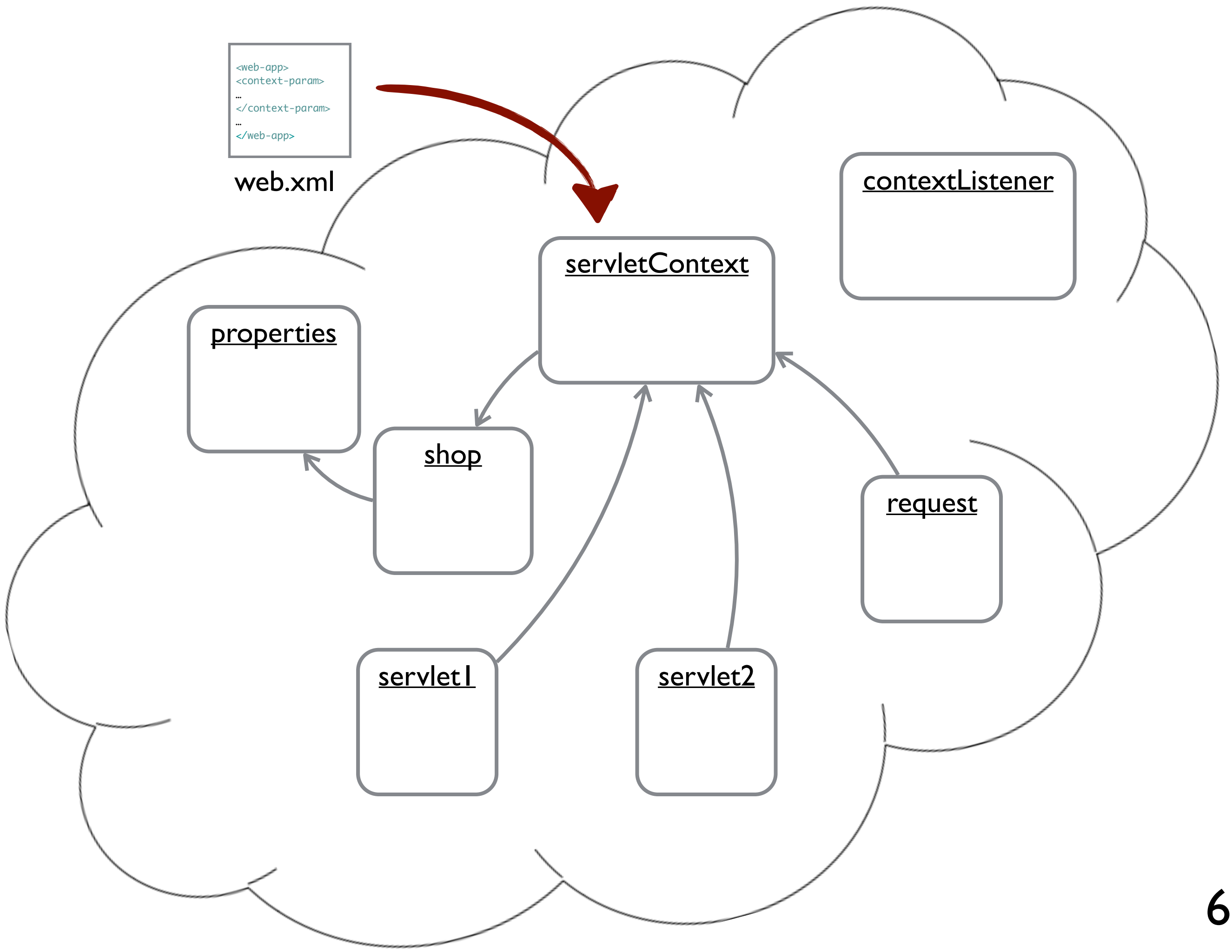
properties

shop

request

servlet1

servlet2



?