Next Generation Web Application – Static HTML + Web Service

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Abstract

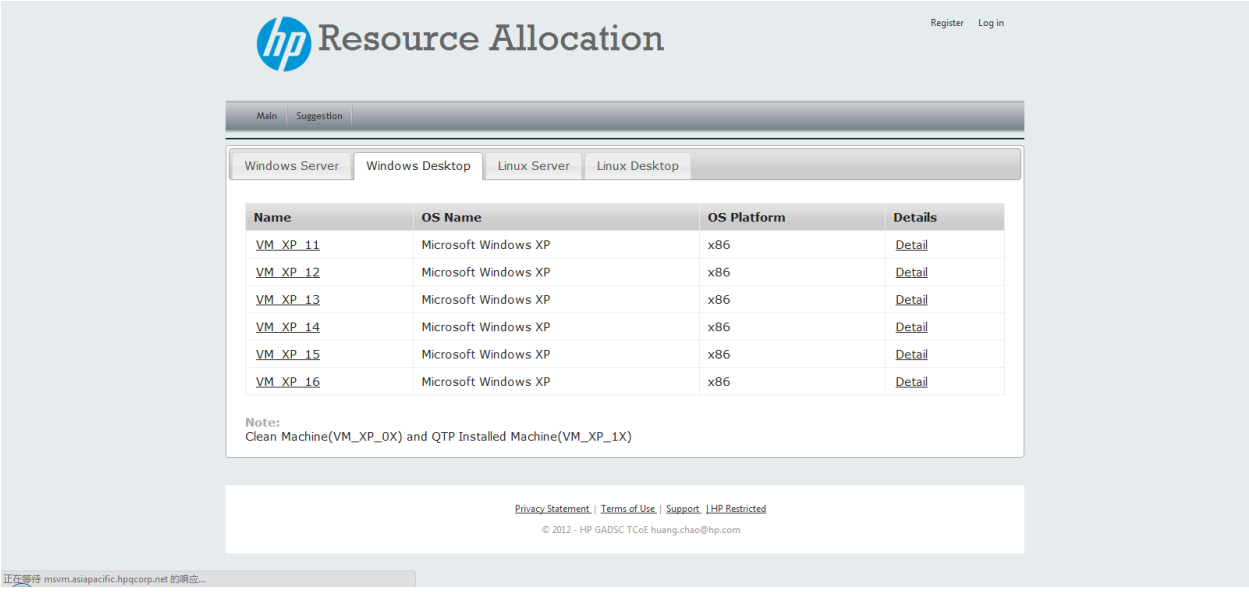
The dynamic page has been making many successful solutions. In NGWA(Next Generation Web Application), the dynamic page will be completely abandonment. The dynamic effects of this implementation will use Web Service, HTML5 and AJAX. Web development engineer and Background development engineer will complete separation. This solution not only improves web site performance, but also makes the internal cross-project integration easily.

Problem statement

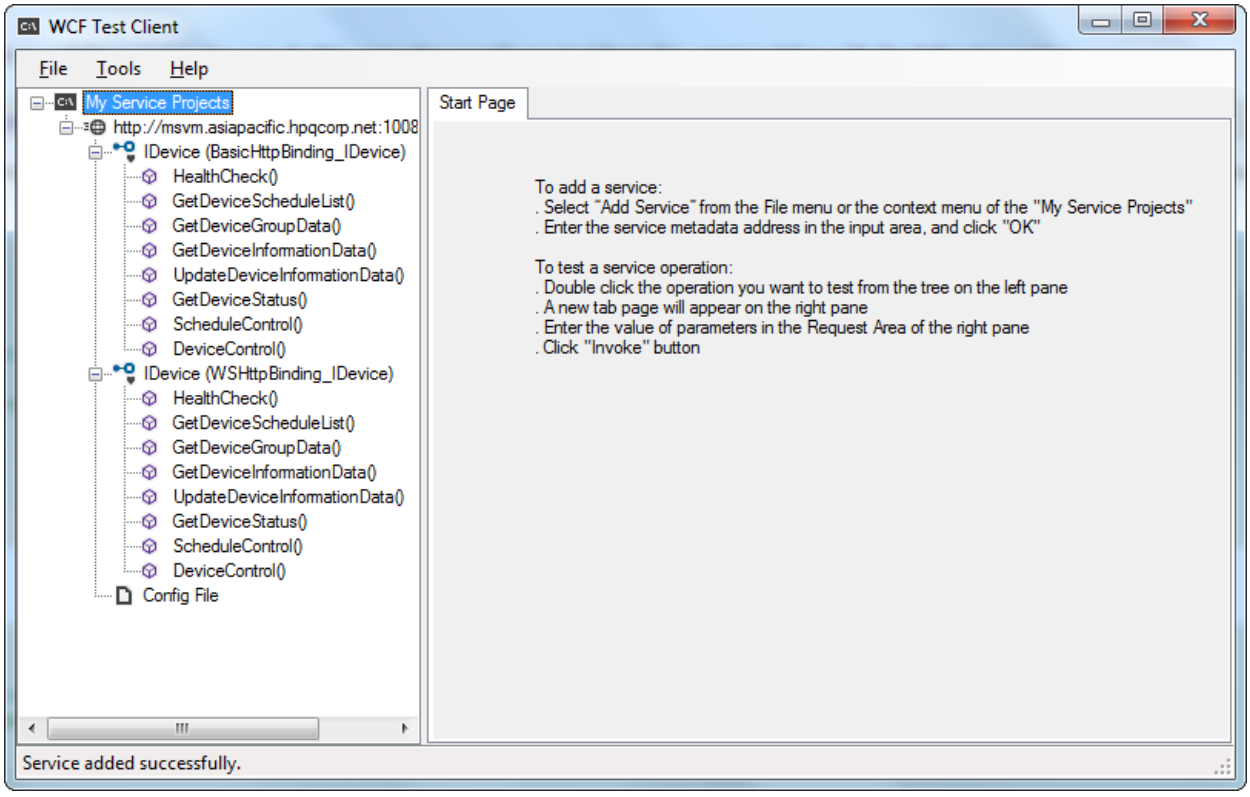
With the rise of smart device and the implement of HTML5 in the major browsers, the web site will face more and more different devices and user data. The web server stress and complex development tasks will make everyone crazy. Therefore, we propose this solution to deal with more and more complex situations.

Our solution

We published one set of business logic using WCF technology which realized two communication protocols, the one is REST which is main service another is SOAP.
The authorization is controlled by us.
Publish REST APIs to web developer who will call these APIs by AJAX, and then using JavaScript control DOM to make it dynamic. We are using JQUERY to make JavaScript development easier, as well as the JQUERYUI to ease web UI development to enrich the web application.
As shown in the following screenshot:



Publishing SOAP APIs to developers who can use standard SOAP protocol to develop new project or merge old project.
The following figure as part of this project open service API:



This solution can be implemented in most of the web site, especially for the website that may have high peak load, like “12306.cn”, or has high data volume, like “twitter.com”.

Evidence the solution works

We have setup the Virtual Machine Management System by using this solution and it achieved its purpose.

Competitive approaches

Compare with ASP, JSP and PHP, our solution no longer depends on script language parser, through standard web service to publish service. Web application use RESTful style, which is stateless style, to get and post information. Because of stateless, web service can save lots resources. We can use cookie or custom context if we must face context. The published service APIs can be easily used by third-party developer who can develop various mobile device applications.

Current status

This solution is used internally to dynamic assign virtual machine. All of the features can be realized by this solution.

Next steps

We are going to find the weakness what we still unknown and trying to find a better security solution.

References

Site Address: http://msvm.asiapacific.hpqcorp.net:10081/pages/main.html