



<http://www.flickr.com/photos/djvirus/3382788789/>

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<http://twitter.com/thomykay>

# You . Background

---

- ☐ Developer
- ☐ Tester
- ☐ Product Owner
- ☐ Administrator
- ☐ Devop



- ☐ Developer

---

# Me . Background



# Administration.Samples

Do you know what happens if you change one of the values?

Which setting has the most impact to my system?

Does it support IPV6?

The screenshot shows the 'EnterpriseLink Cluster Server Configuration' web interface. The browser window title is 'EnterpriseLink Cluster Server Configuration - Microsoft Internet Explorer'. The address bar shows 'C:\Temp\elcs-bin\elcs.html'. The interface is divided into several sections:

- EnterpriseLink Cluster Server Configuration**: This section contains various settings for the cluster server. Key fields include:
  - Cluster Server at host: 127.0.0.1, port: 4125, nodes: (link)
  - P Address: 127.0.0.1, Listen Port: 4125
  - Adapter: (empty), Subnet Mask: (empty)
  - Load Balancing: ☒ uniform, ☐ session, ☐ response time
  - Session ID: ☒ enterpriselink cookie, ☐ ip addr, ☐ other cookie
  - Session Marker: str/
  - EnterpriseLink Project Prefix: (empty)
  - Licensing: ☐ use license server, License Key: 804B417F6460635249E6E
  - Logging Level: Errors (dropdown), monitor (button), Log File: C:\Temp\elcs-bin\cluster.log
- Cluster Server Communications**: This section contains settings for cluster communications.
  - Broadcast Network: 255.255.255.255, Broadcast Port: 3344
  - Broadcast Setting: 200, Broadcast Session: 100 sec
  - Heartbeat: 5 sec, Fail Over: 25 sec
  - Primary Monitor: 5 sec
- Web Server Communications**: This section contains settings for web server communications.
  - Check URL: /elcs/loc, Check Interval: 60 sec
  - On Connection Failure: ☐ online, ☐ quiesce, ☒ offline
  - Check Pattern: (empty), Connect Timeout: 800
  - Check Action: offline if not matched (dropdown)
- Browser Communications**: This section contains settings for browser communications.
  - Session Timeout: 1800 sec, Session Check: 1800 sec
- Web Server Nodes**: This section contains a table of web server nodes. The table has columns for Host, Port, Configured, Online, Currently, and Last Heard From. The first row shows 'localhost' on port '80' with 'Configured' and 'Online' status.
- Cluster Server Peers**: This section contains a table of cluster server peers. The table has columns for Host, Port, Configured, Online, Currently, and Last Heard From. The first row shows 'localhost' on port '80' with 'Configured' and 'Online' status.

# Administration.Samples

**Severity Configuration**  
Administration > Settings > Severity Configuration

Severity level changes will only apply to the newly generated alarms. Existing alarms will remain unchanged.

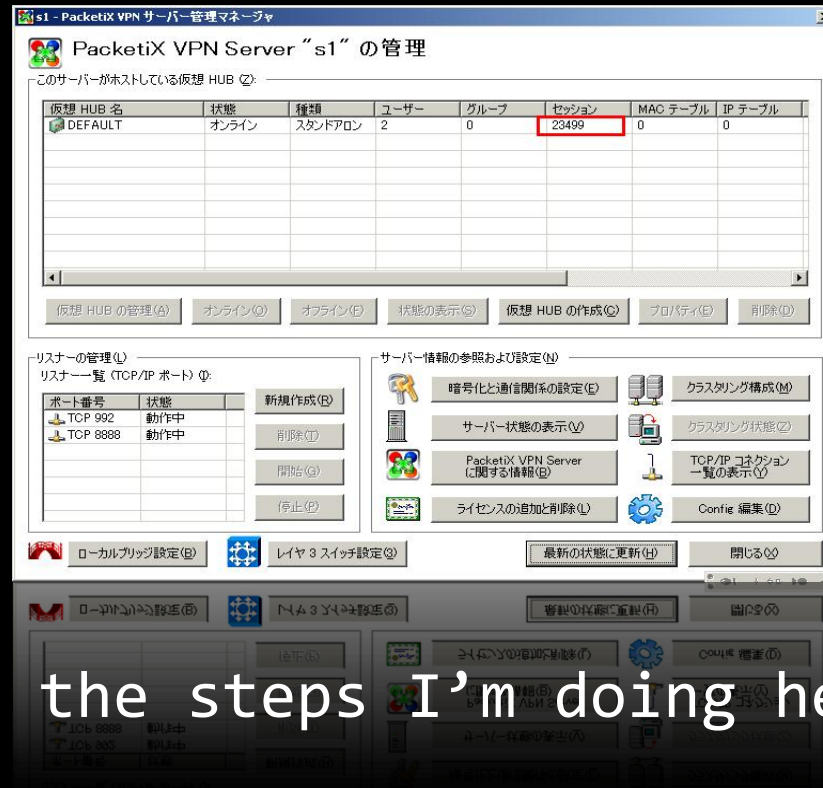
Alarm Condition	Alarm Category	Configured Severity
<input type="checkbox"/> AP Authorization Failure	Access Points	▲
<input type="checkbox"/> AP Detected Duplicate IP	Security	▲
<input type="checkbox"/> AP IP fallback	Access Points	●
<input type="checkbox"/> AP associated with controller	Access Points	1
<input type="checkbox"/> AP attempted to join Controller with licensed AP count exceeded	Controllers	▲
<input type="checkbox"/> AP big nav DOS attack	Security	▲
<input type="checkbox"/> AP contained as rogue	Access Points	▲
<input type="checkbox"/> AP disassociated from controller	Access Points	▲
<input type="checkbox"/> AP functionality license expired	Controllers	▲
<input type="checkbox"/> AP has no radios	Access Points	▲
<input type="checkbox"/> AP impersonation detected	Security	▲
<input type="checkbox"/> AP maximum rogue count exceeded	Access Points	▲
<input type="checkbox"/> AP reboot reason	Access Points	1
<input type="checkbox"/> AP regulatory domain mismatch	Access Points	▲
<input type="checkbox"/> Access point crash	Access Points	1
<input type="checkbox"/> Access point not supported	Controllers	1
<input type="checkbox"/> Adhoc Rogue auto contained	Security	▼
<input type="checkbox"/> Adhoc Rogue detected	Adhoc Rogue	●
<input type="checkbox"/> Adhoc Rogue detected contained	Adhoc Rogue	●
<input type="checkbox"/> Adhoc Rogue detected on network	Adhoc Rogue	▲
<input type="checkbox"/> Air Quality Traps	Performance	●
<input type="checkbox"/> Alarm table auto cleanup done	WCS	1
<input type="checkbox"/> Attempt to use an unlicensed Controller feature	Controllers	▲
<input type="checkbox"/> Audit status difference	WCS	●
<input type="checkbox"/> Authentication failure reported by controller	Security	●
<input type="checkbox"/> Autonomous AP Admin Status Down	Access Points	1
<input type="checkbox"/> Autonomous AP Link Down	Access Points	▲
<input type="checkbox"/> Autonomous AP Oper Status Down	Access Points	▲
<input type="checkbox"/> CPU RX Multicast queue full	Controllers	▲
<input type="checkbox"/> Client Associated to Diagnostic Channel	Clients	1
<input type="checkbox"/> Client Traps are disabled on controllers	WCS	●
<input type="checkbox"/> Client WEP key decryption error	Security	●
<input type="checkbox"/> Client WPA MIC error counter activated	Security	▲
<input type="checkbox"/> Client associated failure with AP	Clients	1
<input type="checkbox"/> Client associated to AP	Clients	1
<input type="checkbox"/> Client authenticated	Clients	1
<input type="checkbox"/> Client authentication failure	Clients	1
<input type="checkbox"/> Client deauthenticated from AP	Clients	1
<input type="checkbox"/> Client decrypt error occurred	Security	●
<input type="checkbox"/> Client disassociated from AP	Clients	1
<input type="checkbox"/> Client excluded	Security	●
<input type="checkbox"/> Cold start trap from controller	Controllers	1
<input type="checkbox"/> Configuration backup failed	Controllers	◆
<input type="checkbox"/> Configuration backup succeeded	Controllers	1
<input type="checkbox"/> Configuration saved	Controllers	1
<input type="checkbox"/> Controller Detected Duplicate IP	Security	▲
<input type="checkbox"/> Controller down	Controllers	▲
<input type="checkbox"/> Country code changes	Controllers	1
<input type="checkbox"/> Enforcement on config group failed	WCS	▲
<input type="checkbox"/> Enforcement on config group succeeded	WCS	●

How would you replicate the list of settings on a second system?

How to get a diff between 2 systems?

How to do it on 50 systems?

# Administration.Samples



Can I combine the steps I'm doing here with another system?

I need an additional action in that context – how to do it?

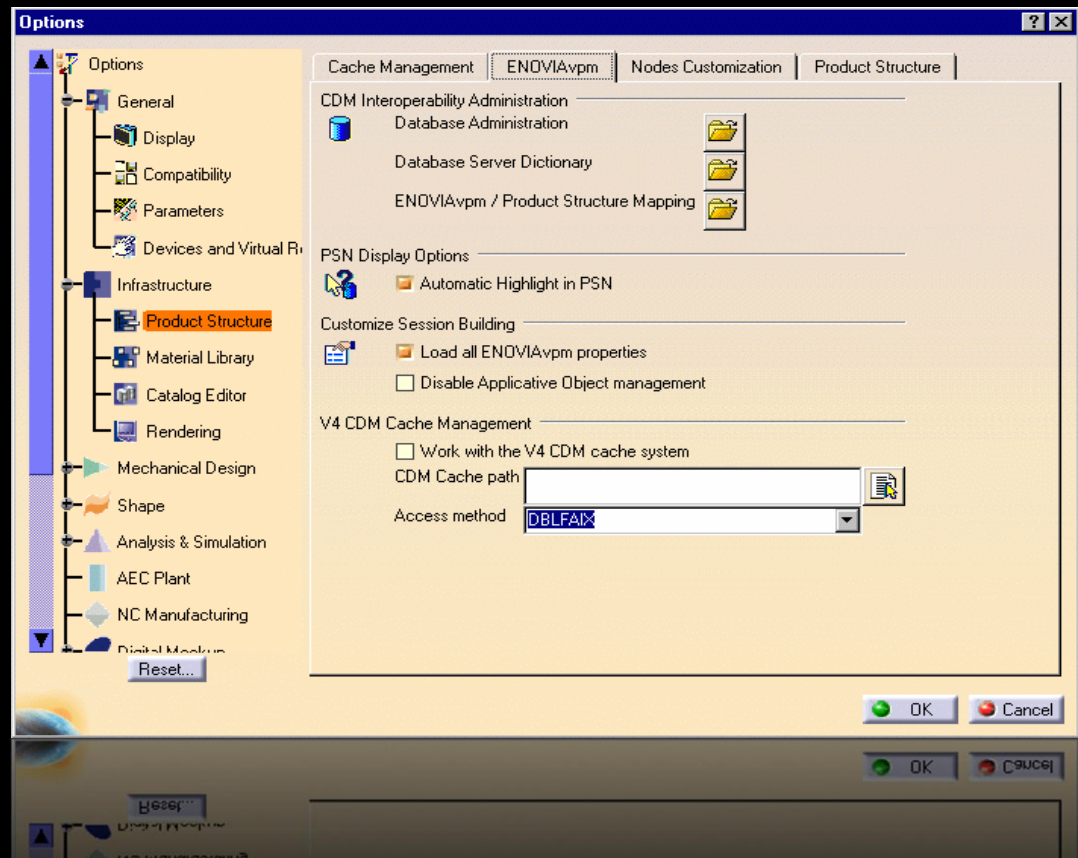
Do I really need to enter my 200 entries here?

# Administration.Samples

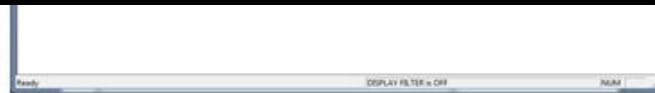
Which settings did I change?

How can I undo the changes?

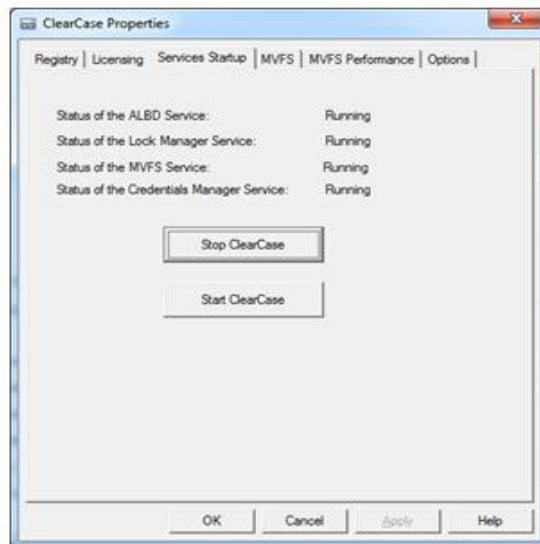
What happens if I click OK?



# Administration.Samples



Lastly please stop and start ClearCase from the ClearCase control panel under the services tab



Support:

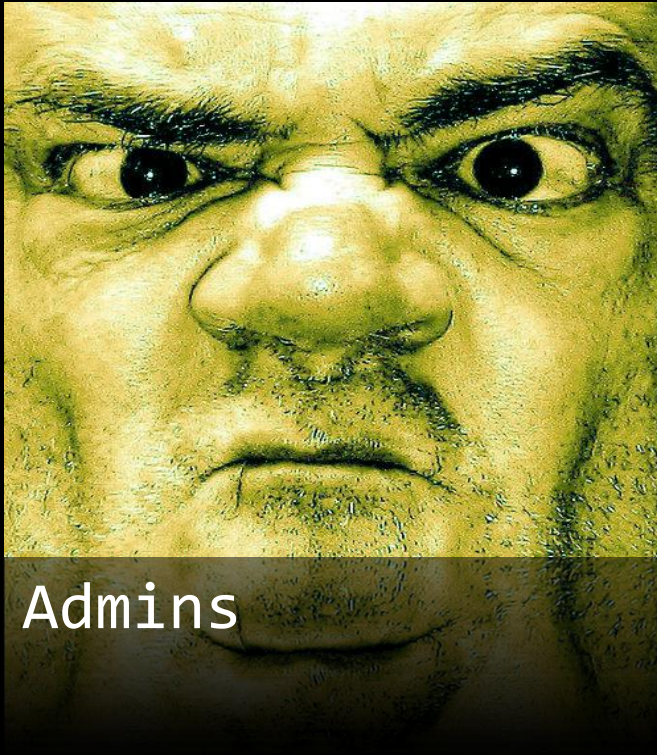
[submit service call](#)

click on the disk to save this path to your Qualification Shortcuts

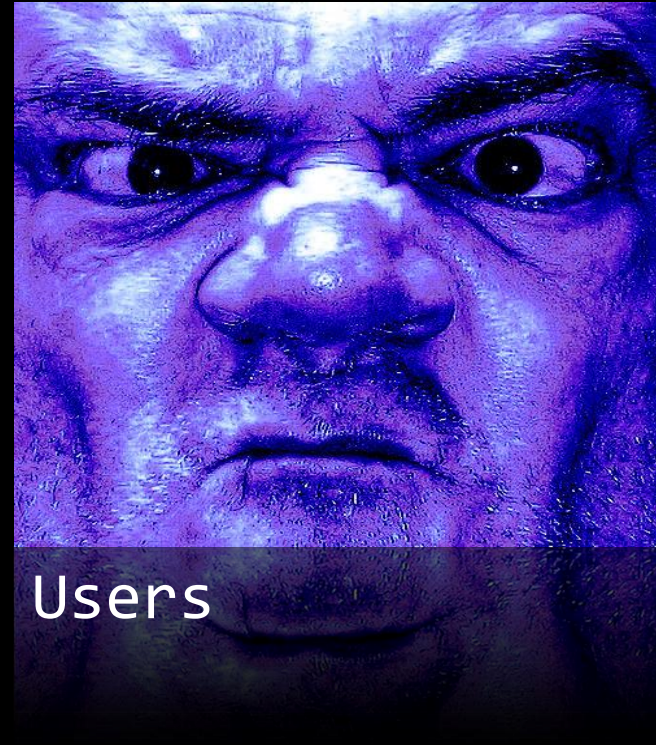
if this is not working please [call ...](#)



# Admin.CurrentState.What



Admins



Users

-> Next -> Next ... yadda yadda ... I agree -> Next -> Next -> Next -> Install... -> Finish

-> If it looks like this (100 ClearCase, 80 Multisite) then all is ok..

if this is not working please call ...



# Admin.CurrentState.What

---



- ✓ Scattered Management Landscape
- ✓ Can't be automated, doesn't scale
- ✓ Development delivers the wrong tools to Operations
- ✓ No or outdated documentation for management features

Windows PowerShell

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PS>

**Über 70 Millionen Deutsche  
benutzen keine Konsole**

**Klick dich nicht weg!**



Eine Initiative des Bundesamtes für Tastaturbenutzung

bash@shell:~\$ █

**Über 70 Millionen Deutsche  
benutzen keine Konsole**

**Klick dich nicht weg!**



Eine Initiative des Bundesamtes für Tastaturbenutzung



# Admin.CurrentState.Why

- ✓ ...because we always did it this way
- ✓ Product Owners are domain experts (hopefully), but not admins
- ✓ Customer value is seen to narrowed
- ✓ Dev and Operations don't talk
- ✓ Operations is 10 years too late in agile



# To : Dev, Tester, ProductOwner

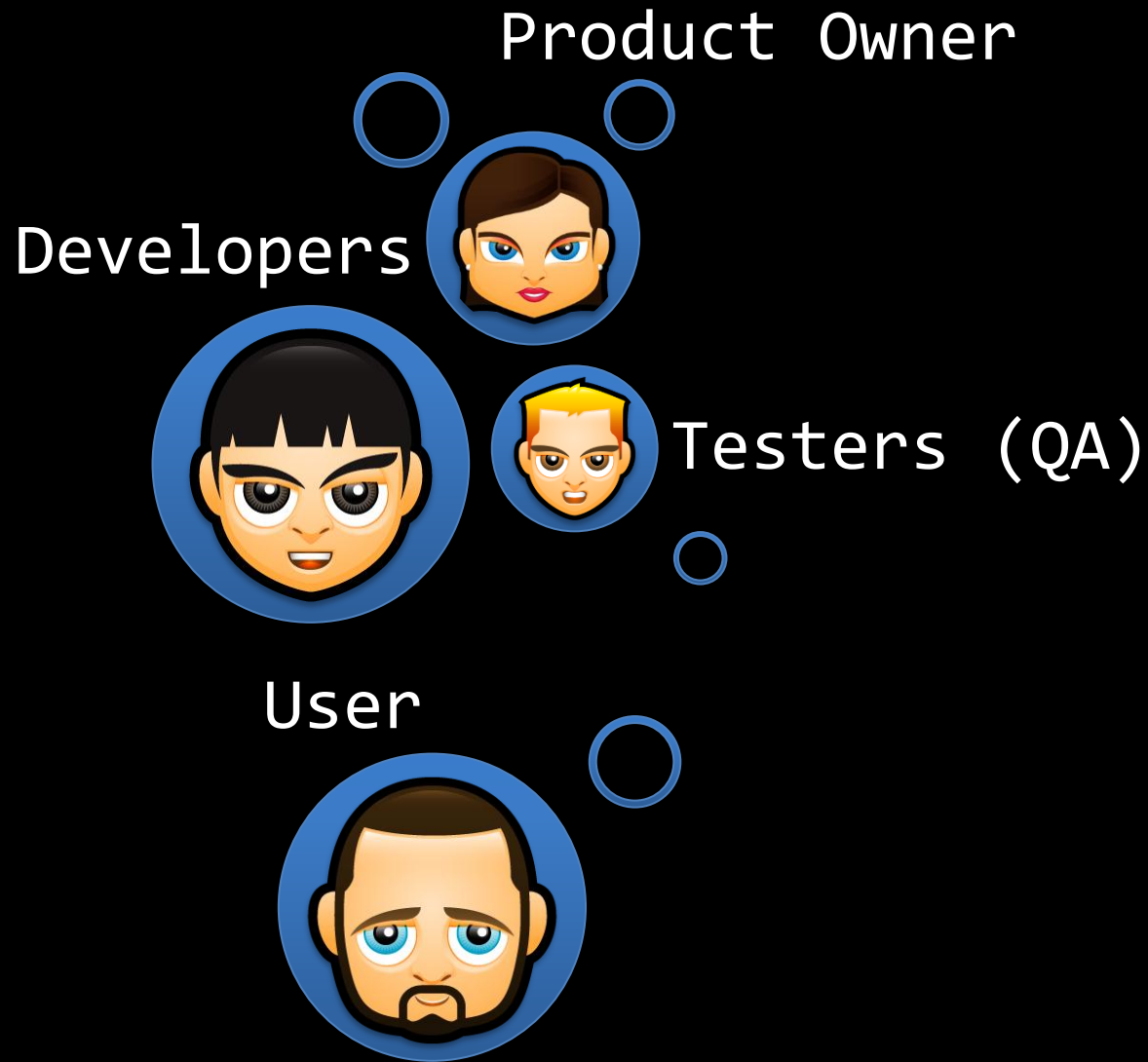
## Subject: Know the Admin Space

---

- ✓ Which parts in the SW lifecycle are subject to administrative tasks?
- ✓ How does administration fit into the SW value chain?
- ✓ Do you care for the whole lifecycle?
- ✓ Isn't it IT that does more and more purchasing decisions?

# Admin. Geography

---

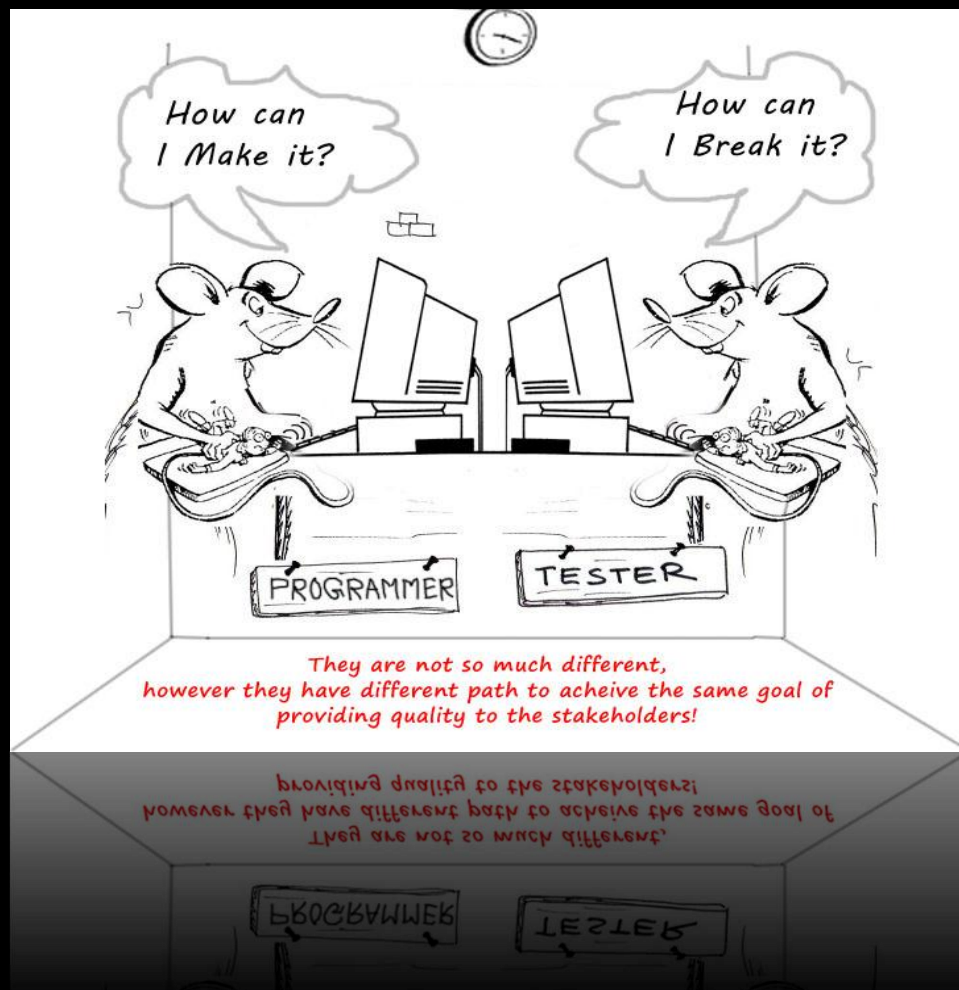




# Admin.Geography



# Admin.Roles.Involved



- ✓ How can I sell it?
- ✓ How can I support it?
- ✓ How can I run it?

# Admin.Roles.Involved

---

## Developers

- Setup, Teardown for Integration Tests
- Development Environment, Debugging

## Testers

- Setup, Teardown for Integration Tests
- Smoke Tests, specific configs/states

## Consultants

- (re)configure, extend, integrate, migrations

## User/Customer

- Application Configuration
- Verification, Validation (IQ,OQ,PQ)

## Phone Support

- Inventory, Analysis, Troubleshooting

## Field Eng.

- Install, migrate, configure the system

## Administrator

- everything...
-



# Admin.Topologies

---

## Small local setup

- Self Service for users, in app configuration, wizard style troubleshooters

## Workgroup setup

- Still much user involvement
- Local user support for the whole system

## Local Enterprise

- Enterprise IT hosted (backend)
- Local user support on department level
- Remote vendor support

## Distributed Enterprise

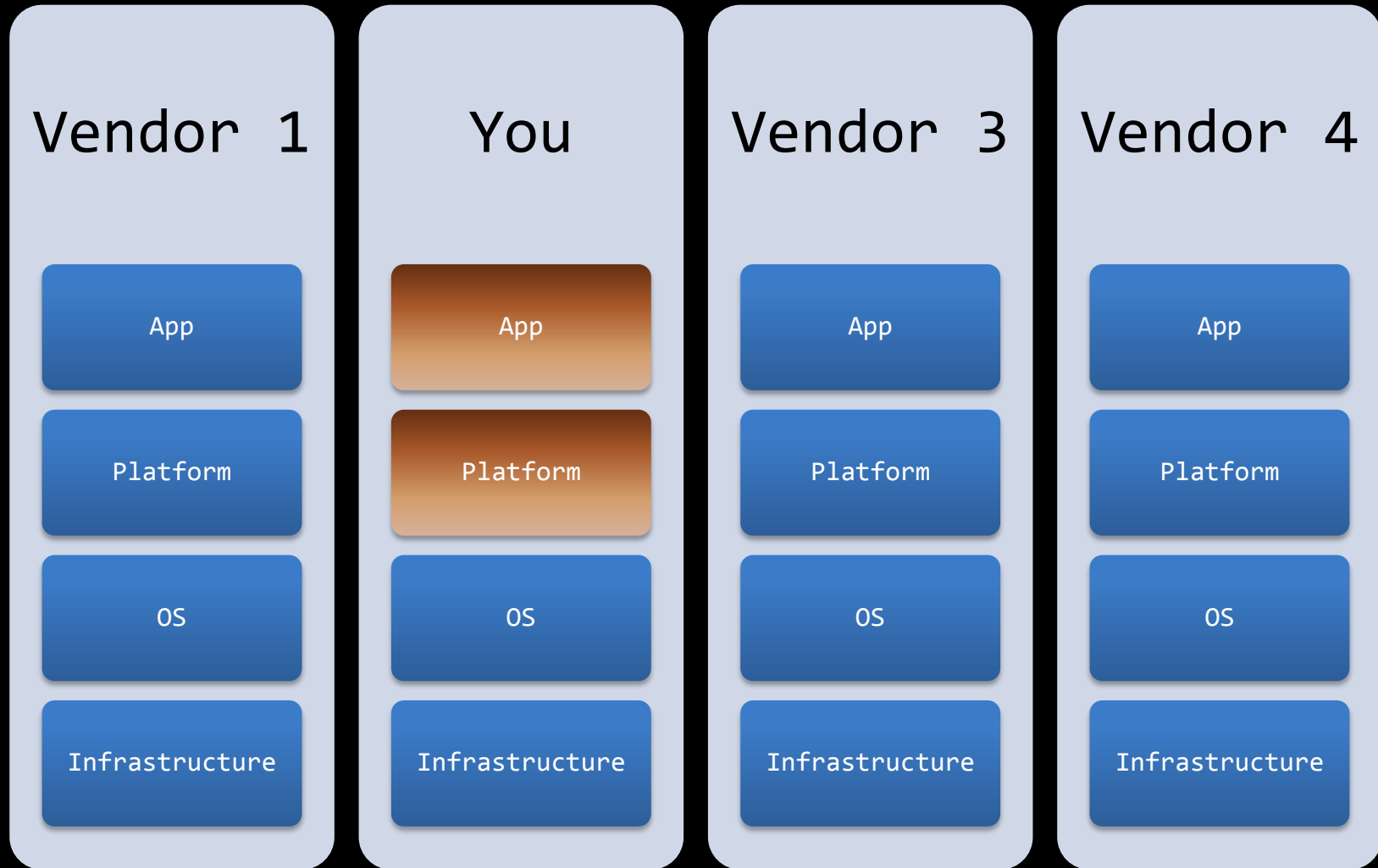
- Global IT hosted, DB Hosting external
- Local user support
- Remote vendor support

## SaaS

- Vendor IT
  - Local user support on tenant/department level
-

# Admin.Dimensions

---





- ✓ More complicated stacks lead to more challenges in security.
- ✓ Anonymous might say Hello!
- ✓ What is your attack surface?
- ✓ Compliance requirements in Finance, Pharma etc. will not go away!

# Admin.Trends.Cloud|Virtualization

---

- ✓ Virtualization/IaaS (host)
  - > automation needed
- ✓ PaaS (build)
  - > more division of labor -> need for (de)composable admin tools
- ✓ SaaS (consume)
  - > app level administration, multi tenancy





# Admin.Trends.Development

---



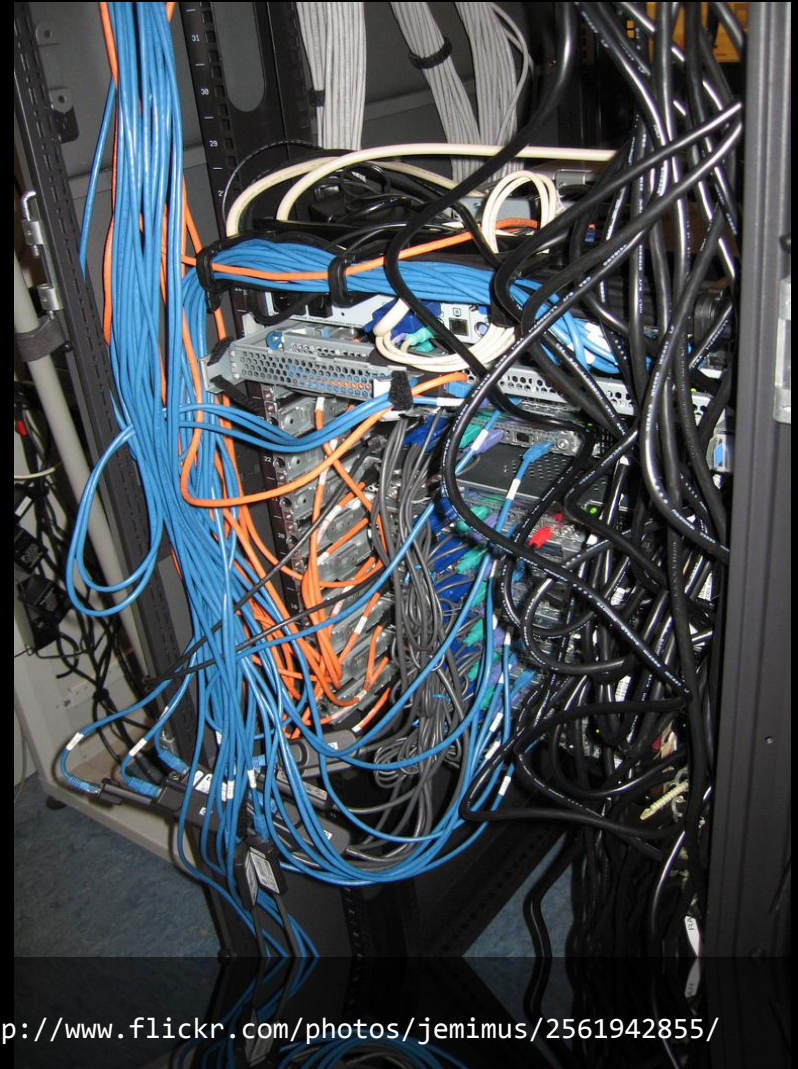
- ✓ Funny new frameworks and systems every other year
  - ✓ Higher Technology Stacks
  - ✓ Faster release cycles, no better migrations(?)
  - ✓ More integrations required, more external systems involved.
-

# To : Dev, Tester, ProductOwner

## Subject: Know the Admin Mindset

---

- ✓ `_NOT_` interested in the bells and whistles of your app
- ✓ (more and more) techies (like you!)
- ✓ is lazy (like you!)
- ✓ thinks in backups (and recovery!), logs, network...



“Web interfaces and GUI tools are nice and can be considered the icing on the cake.”





“A true manageable application allows for consistent and repeatable actions in an easy to maintain structure...”





DON'T make the administrative  
interface a GUI.  
System administrators need a command-  
line tool for constructing  
repeatable processes.

BOOGIE  
REPEAT

Procedures are best documented by providing commands that we can copy and paste from the procedure document to the command line. We cannot achieve the same repeatability when the instructions are: "Checkmark the 3rd and 5th options, but not the 2nd option, then click OK."



Sysadmins  
do not want  
a GUI that  
requires 25  
clicks for  
each new  
user.

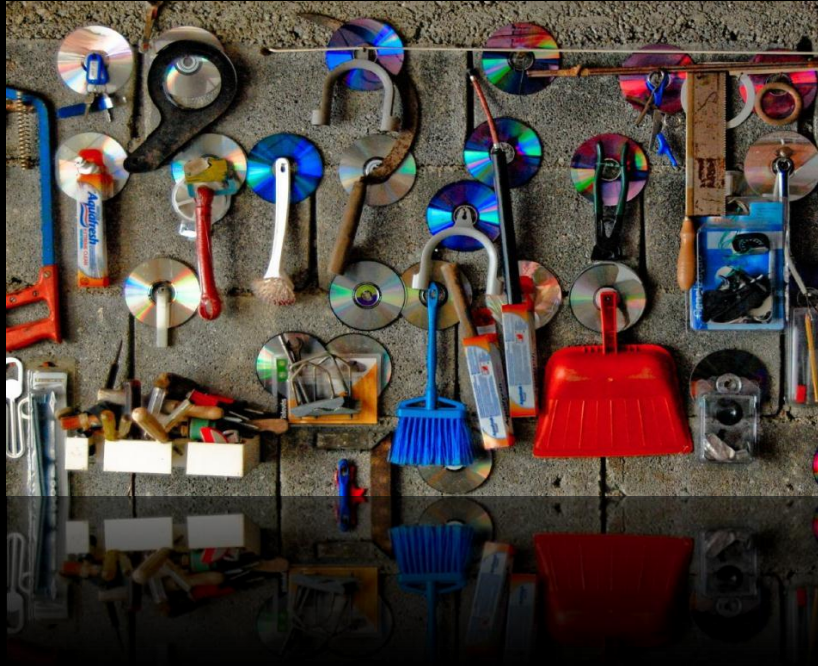




# To : Developers, Testers

## Subject: Know the Admin Tools

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- ✓ System test scenarios and production systems - testable with the same tools?
- ✓ Is setting up a production environment so different?
- ✓ Think about how to integrate into their toolset and extend it.



# Admin.Tools.PlSqlDeveloper

Edit table EMP

General Columns Keys Checks Indexes Privileges Partitions

Type owner:  Name:

Name	Virtual	Type	Nullable	Default/Expr.	Storage	Comments
EMPNO	<input type="checkbox"/>	NUMBER(4)	<input type="checkbox"/>			The 4-digit number of the employee
ENAME	<input type="checkbox"/>	VARCHAR2(10)	<input checked="" type="checkbox"/>			The last name of the employee
JOB	<input type="checkbox"/>	VARCHAR2(9)	<input checked="" type="checkbox"/>	'CLERK'		The job of the employee
MGR	<input type="checkbox"/>	NUMBER(4)	<input checked="" type="checkbox"/>			The employee number of the manager
HIREDATE	<input type="checkbox"/>	DATE	<input checked="" type="checkbox"/>	trunc(sysdate)		The date on which the employee was hired
SAL	<input type="checkbox"/>	NUMBER(7,2)	<input checked="" type="checkbox"/>			The salary of the employee
COMM	<input type="checkbox"/>	NUMBER(7,2)	<input checked="" type="checkbox"/>			The commission of the employee
DEPTNO	<input type="checkbox"/>	NUMBER(2)	<input checked="" type="checkbox"/>			The 2-digit number of the department
EMAIL	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	ename    '@acme.com'		The e-mail address of the employee
*	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			

Apply Refresh Close Help Query... View SQL

scott@o111

scott@o111

Apply Refresh Close Help Query...

Edit table EMP

```
1 -- Add/modify columns
2 alter table EMP modify ENAME not null;
3 alter table EMP modify JOB not null;
4 -- Add comments to the table
5 comment on table EMP
6 is 'An employee, working in a department';
```

Apply Refresh Close Help Query... View SQL

# Admin.Tools.OracleEnterpriseManager

Oracle Enterprise Manager - Create User

General Roles System Privileges Object Privileges Quotas Consumer Groups Switching Privileges Proxy Users

\* Name: SAPNA

Profile: DEFAULT

Authentication: External

For External choice, the role is authorized by the operating system network, or other external source.

Default Tablespace: USERS

Temporary Tablespace: TEMP

Status: ☐ Locked ☒ Unlocked

Show SQL Cancel OK

Oracle Enterprise Manager 10g Database Control

Setup Preferences Help Logout

Database

Database Instance: OMFDATA > Users > Create User

Logged in As SYS

Show SQL

Return

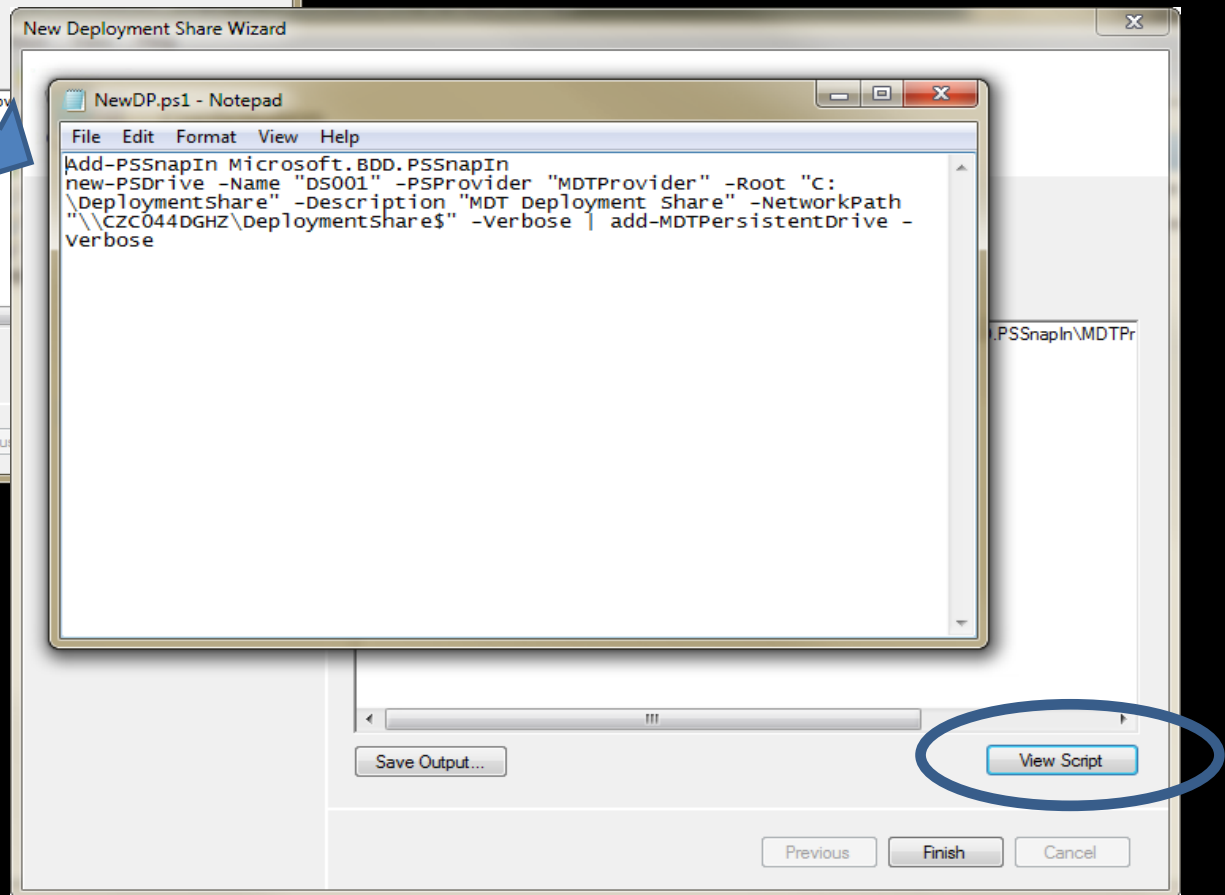
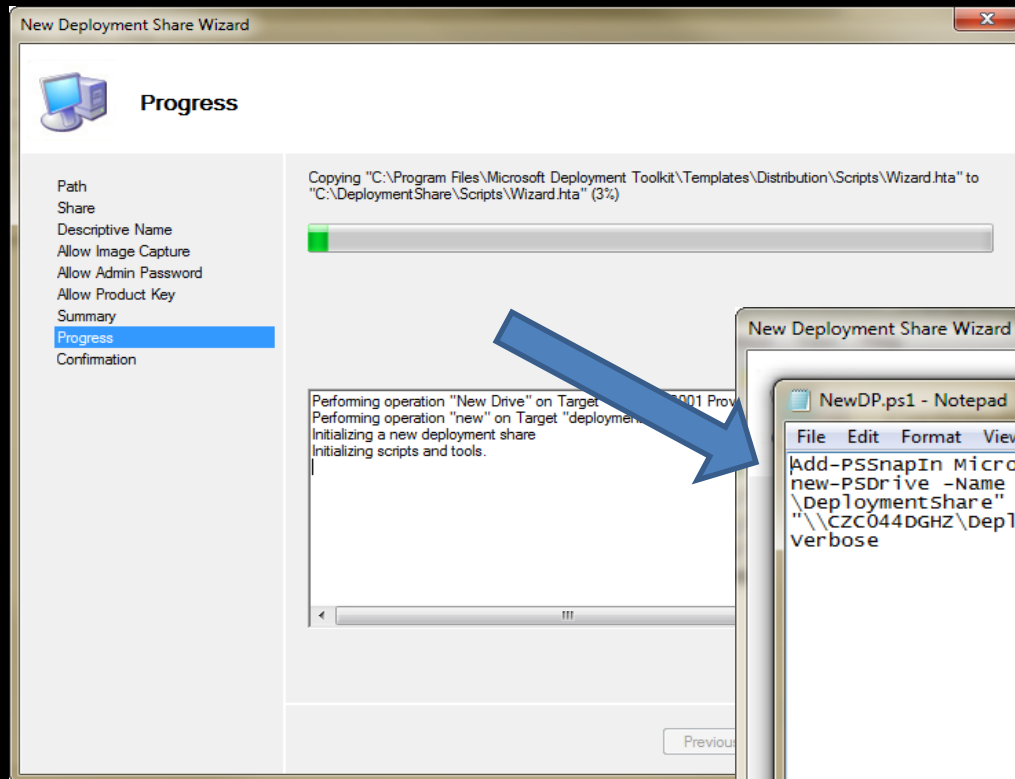
```
CREATE USER "SAPNA" PROFILE "DEFAULT" IDENTIFIED EXTERNALLY DEFAULT
TABLESPACE "USERS" TEMPORARY TABLESPACE "TEMP" ACCOUNT UNLOCK
GRANT "CONNECT" TO "SAPNA"
```

Return

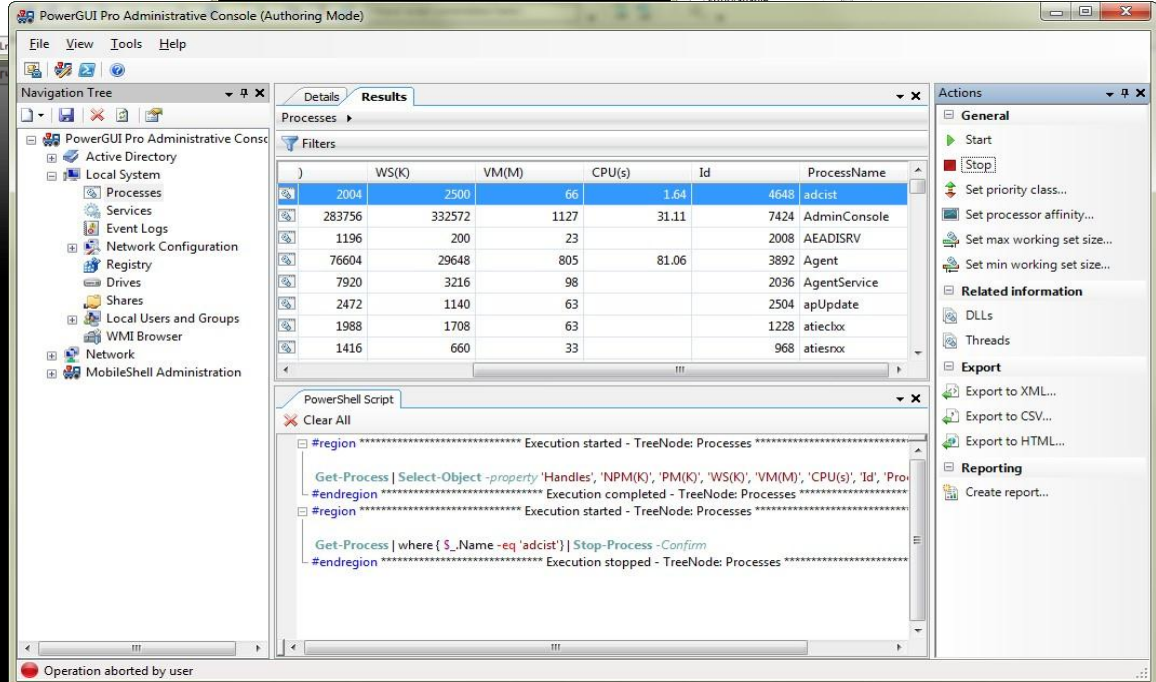
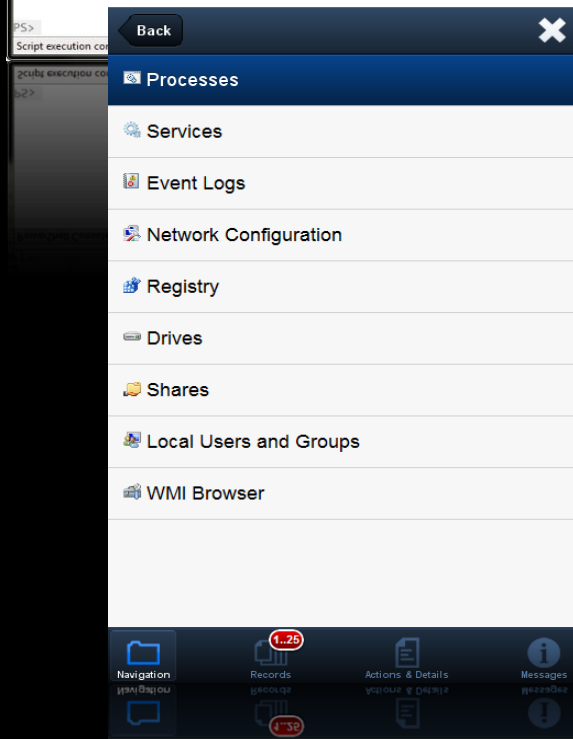
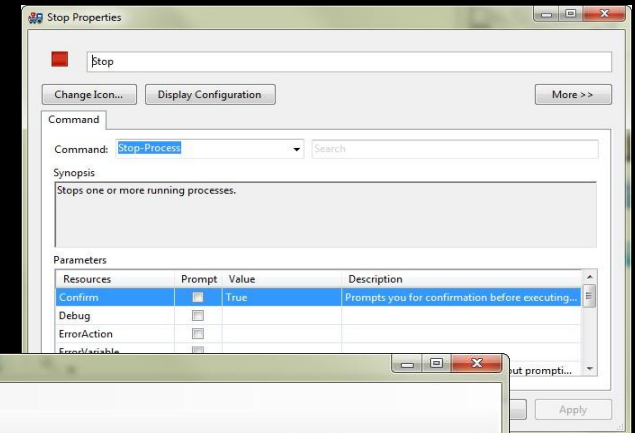
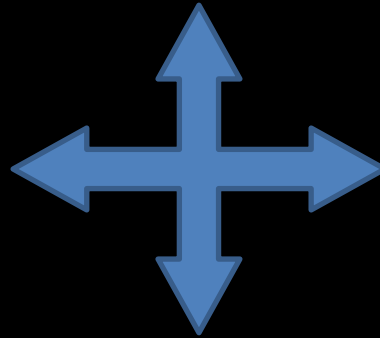
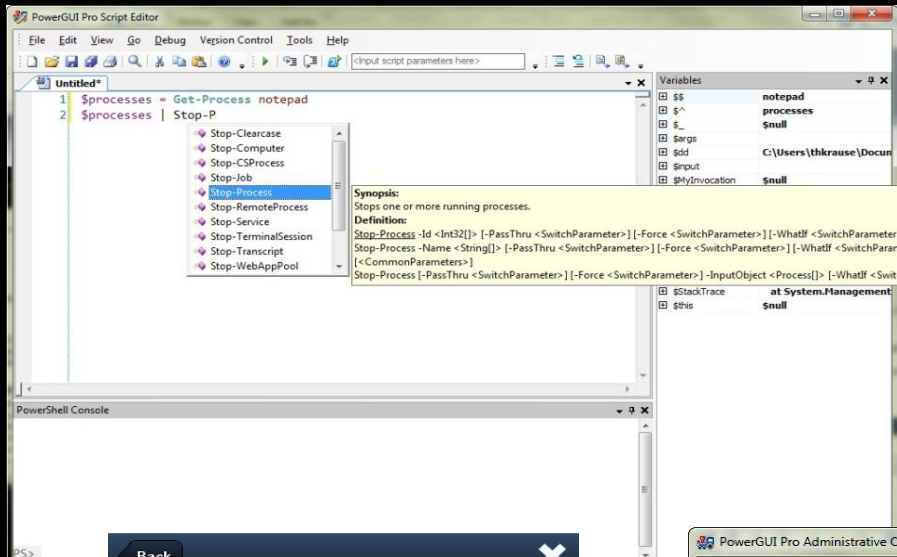
Database | Setup | Preferences | Help | Logout

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About Oracle Enterprise Manager 10g Database Control

# Admin.Tools.Mdt2012

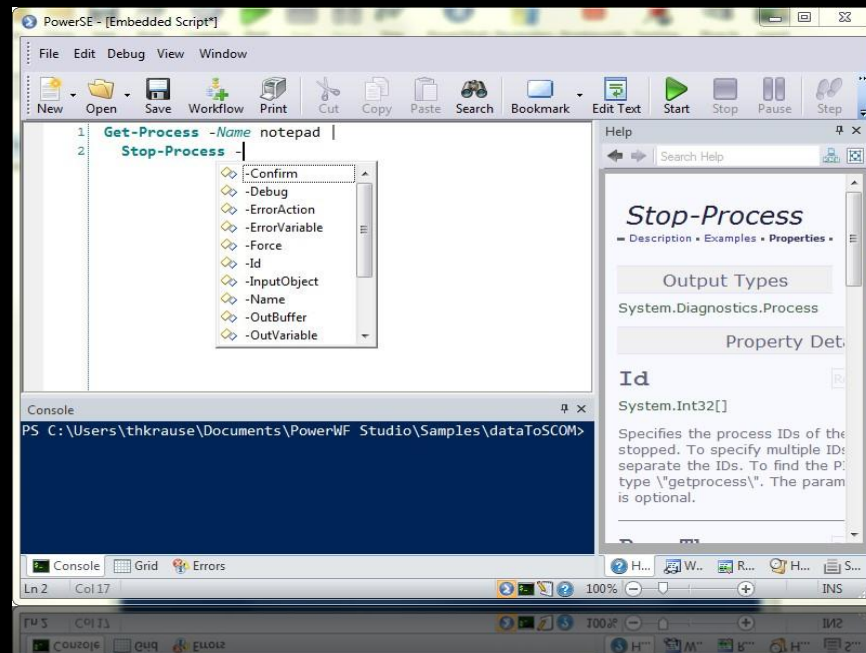
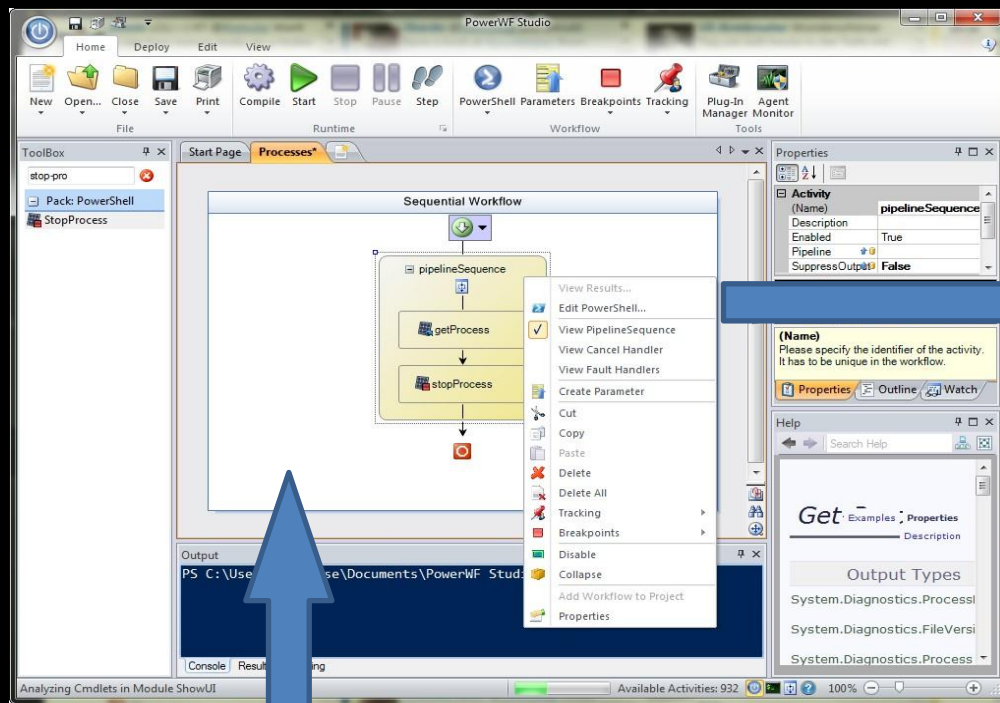


# Admin.Tools.PowerGui





# Admin.Tools.PowerWF

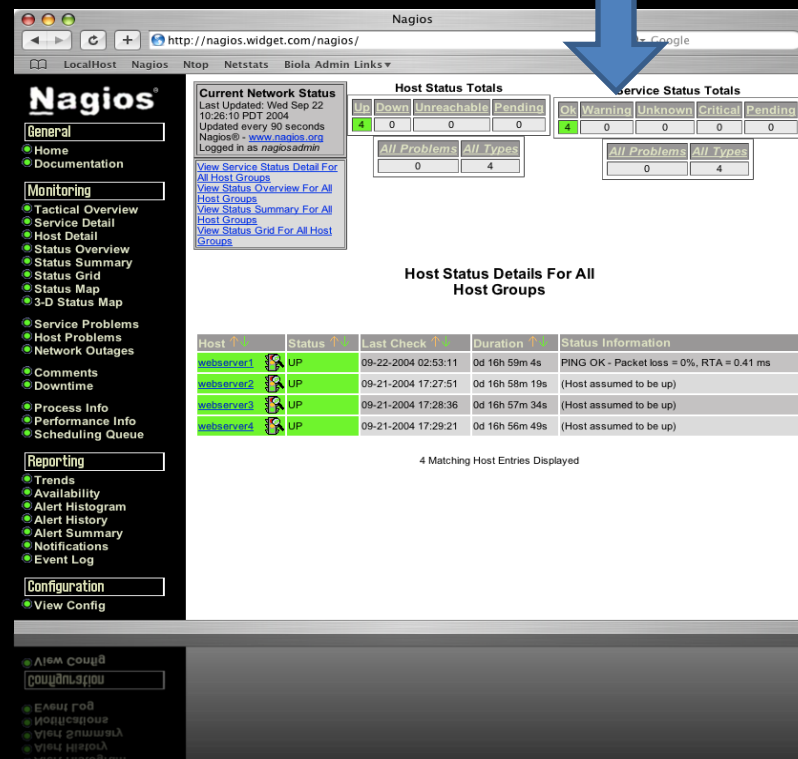


# Admin.Tools.Monitoring



```
# Service definition
define service{
    use                               generic-service      ; Name of service template

    hostgroup_name                    http-servers-dept22
    service_description                HTTP
    is_volatile                        0
    check_period                       24x7
    max_check_attempts                 3
    normal_check_interval               3
    retry_check_interval                1
    contact_groups                     admins,http-admins-dept22
    notification_interval              30
    notification_period                24x7
    notification_options                w,u,c,r
    check_command                      check_http
}
```



The screenshot shows the Nagios web interface at <http://nagios.widget.com/nagios/>. A blue arrow points from the service definition code above to the "Service Status Totals" table in the interface.

**Current Network Status**  
Last Updated: Wed Sep 22 10:26:10 PDT 2004  
Updated every 90 seconds  
Nagios® - [www.nagios.org](http://www.nagios.org)  
Logged in as nagiosadmin

**Host Status Totals**

Up	Down	Unreachable	Pending
4	0	0	0

**Service Status Totals**

Ok	Warning	Unknown	Critical	Pending
4	0	0	0	0

**Host Status Details For All Host Groups**

Host	Status	Last Check	Duration	Status Information
webserv1	UP	09-22-2004 02:53:11	0d 16h 59m 4s	PING OK - Packet loss = 0%, RTA = 0.41 ms
webserv2	UP	09-21-2004 17:27:51	0d 16h 58m 19s	(Host assumed to be up)
webserv3	UP	09-21-2004 17:28:36	0d 16h 57m 34s	(Host assumed to be up)
webserv4	UP	09-21-2004 17:29:21	0d 16h 56m 49s	(Host assumed to be up)

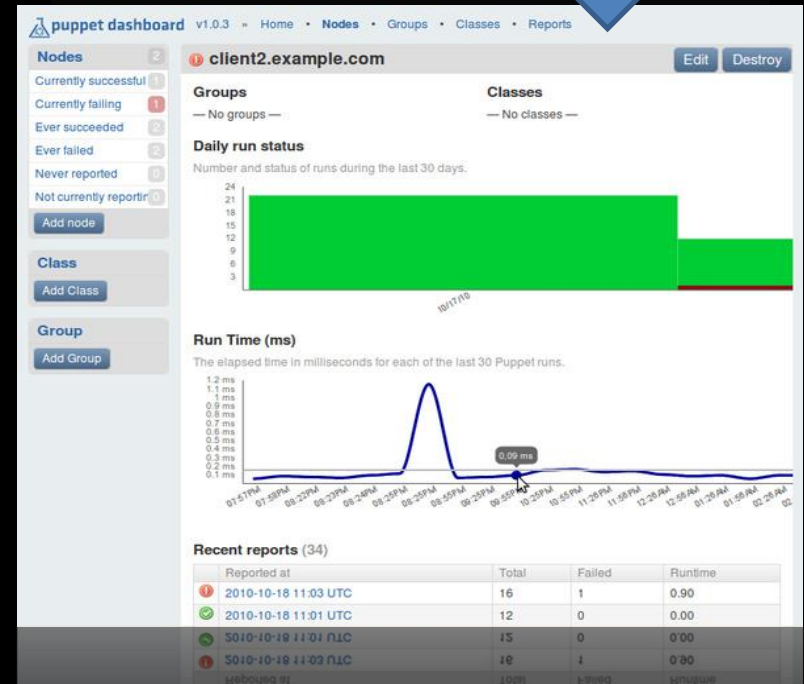
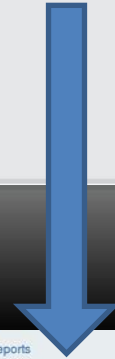
4 Matching Host Entries Displayed

# Admin.Tools.Configuration



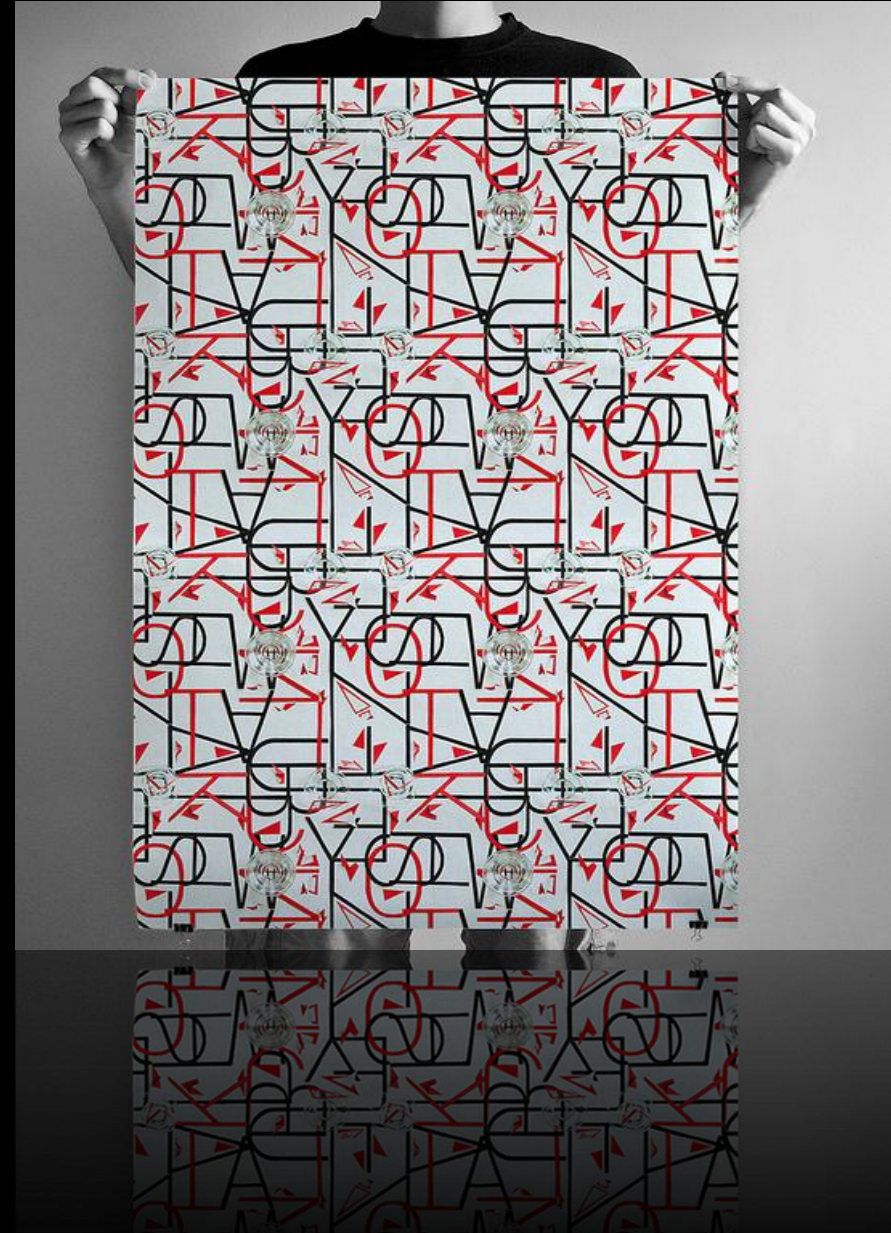
Chef

```
package { 'openssh-server':  
  ensure => installed,  
}  
  
file { ['/etc/ssh/sshd_config':  
  source => 'puppet:///modules/sshd/sshd_config',  
  owner  => 'root',  
  group  => 'root',  
  mode   => '640',  
  notify => Service['sshd'], # sshd will restart whenever you  
                           edit this file.  
  require => Package['openssh-server'],  
}]  
  
service { 'sshd':  
  ensure => running,  
  enable => true,  
  hasstatus => true,  
  hasrestart => true,  
}
```



# Admin.Tools.Patterns

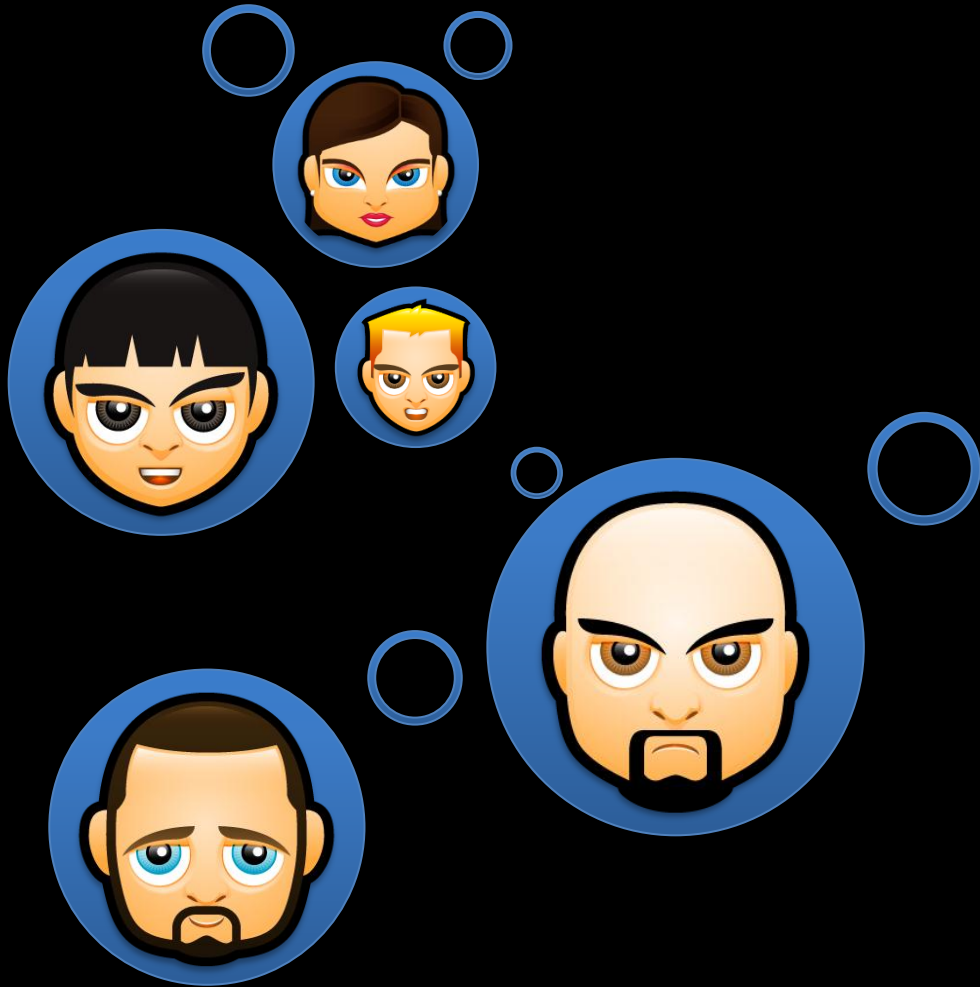
- ✓ Show before/after execution
- ✓ 2 way - text/graphical
- ✓ (text based) languages create systems or flows
- ✓ Python, Ruby, PowerShell, Groovy, Bash
- ✓ Designed for consistency, extensibility, scriptability





# All.Practices.Collaboration

---

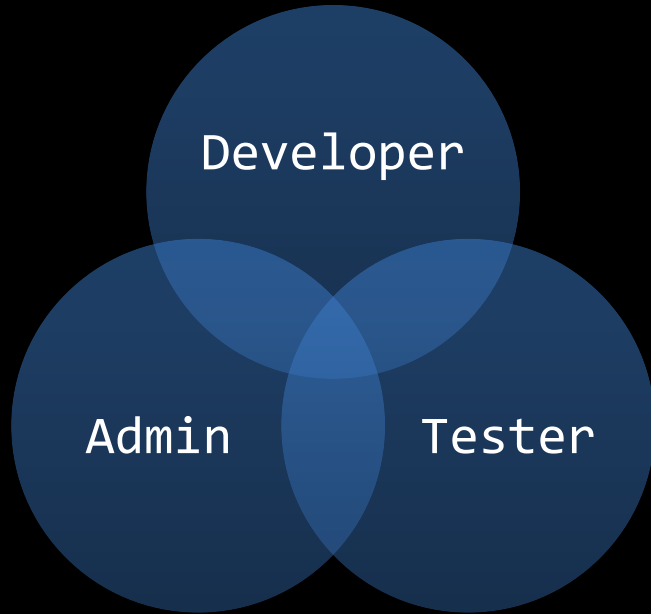


- ✓ Bring the admin closer to the team.
- ✓ in design phase,  
in dev phase,  
in operation phase
- ✓ Benefit from his experiences, skills and mindset.

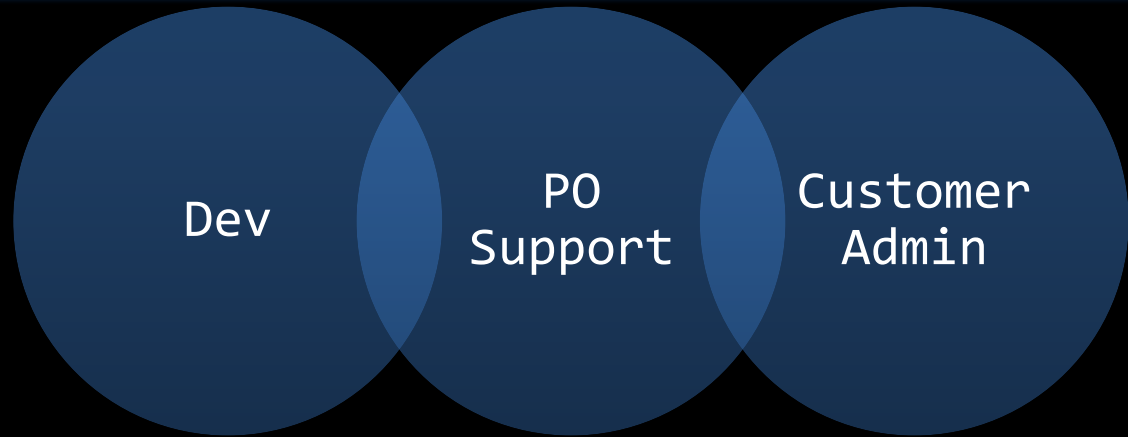


# All.Practices.Collaboration

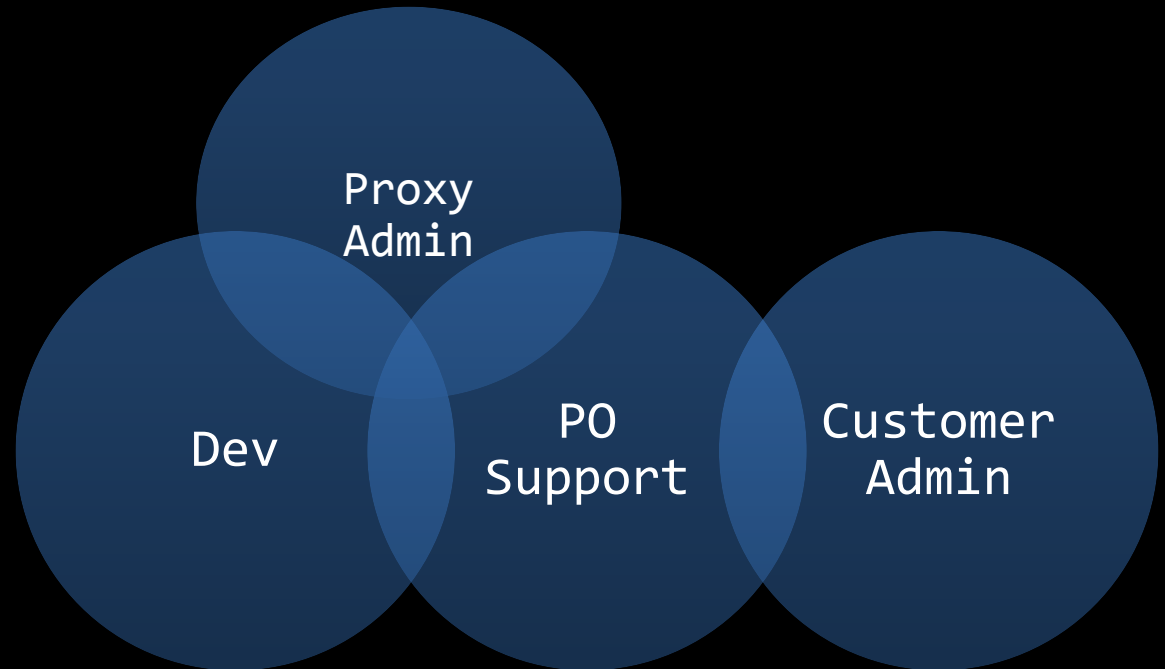
---



One Team Approach



Situation for COTS, MOTS



Will it blend?

# To : Developers

## Subject: Call to Action

---

- ✓ Now it's getting complicated..
- ✓ Uncut from <http://queue.acm.org/detail.cfm?id=1921361>

A Plea to Software  
Vendors from Sysadmins -  
10 Do's and Don'ts



# To : Developers

## Subject: Call to Action

---

- ✓ DO have a "silent install" option.
- ✓ DON'T make the administrative interface a GUI.
- ✓ DO have a configuration file that is an ASCII file, not a binary blob.
- ✓ DO include a clearly defined method to restore all user data, a single user's data, and individual items

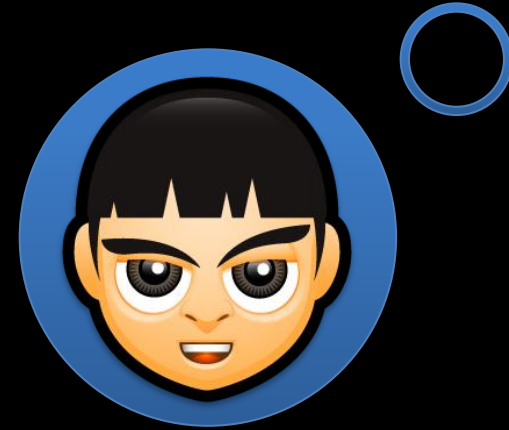


# To : Developers

## Subject: Call to Action

---

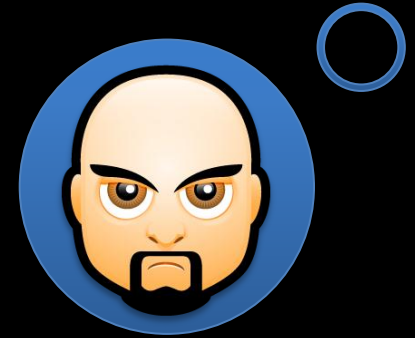
- ✓ DO instrument the system so that we can monitor more than just, “Is it up or down?”
- ✓ DO tell us about security issues.
- ✓ DON'T scribble all over the disk.
- ✓ DO publish documentation electronically on your Web site.



To : Administrators  
Subject: Call to Action

---

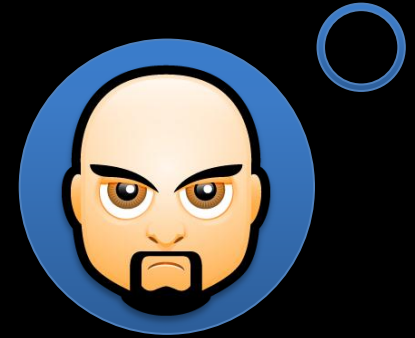
- ✓ Realize that developers CAN change the system
- ✓ Realize that you are a customer (or part of the team)
- ✓ Share your experiences with the system, pain points, the tools you're using, the way you monitor and troubleshoot





To : Administrators  
Subject: Call to Action

---



- ✓ Demand better documentation.
  - ✓ Talk to Developers!
  - ✓ Demand proper administrative interfaces. Explain, what you need and why.
  - ✓ Unify systems management across apps and layers!  
Automate, test, code!  
-> Infrastructure as code
-

# Ah, you know all that?

---

sysadmins as wannabe coders

Agile reinvented                      Just another hype...

elitist club of European sysadmins

Another day, another manifest

obsolete with the cloud

## DEVOPS

Bridging the gap between projects and operations by  
using Agile techniques in development, project  
management and system administration.

# To : Product Owners

## Subject: Call to Action

---

- ✓ See the (customer) administrator as a second user of your system. He uses the management features.
- ✓ If you're not comfortable with the admin domain involve admins, devs, testers.
- ✓ Do more "As an administrator I want to.."
- ✓ Balance new features to the cost in operation.



# Session.Recap

---

- ✓ @ProductOwners: The admin can help you to let your product shine – or fail. Act accordingly.
- ✓ @Admin: Wanna work with better manageable systems? Get involved.
- ✓ @Developers: There is someone on the other side of the wall who speaks your language...

# Session.Questions



<http://www.flickr.com/photos/anaxila/349931518/>

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