

# Lotusphere2012

Business. Made Social.

Websphere In 5 Minutes

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## Agenda

- Websphere Infrastructure
- Cells, Nodes and Profiles
- Working with WAS - the ISC
- Managing WAS Servers
- Reviewing and Configuring Logs
- Summary



## Websphere Infrastructure - Simplified

- Some things are simplified
- Some things are different depending on application and deployment
- This is to help you understand and plan



## What might you expect to find that's not immediately apparent

- Mail services or routing
  - You define an SMTP server to send mail to
  - POP3 and IMAP can be configured
- A local directory for authentication or security
  - There are various options for user repositories and registries but Websphere doesn't have a user directory built in
  - You use an external LDAP server for authentication in most Lotus implementations and in Sametime 8.5
- An HTTP server
  - Although it comes with IBM HTTP Server to be installed on top as a web interface
- The Lotus Sametime Community Server



## What you might expect that's not there at all

- A live console
- A list of servers with their running status
- A single place to 'start' everything

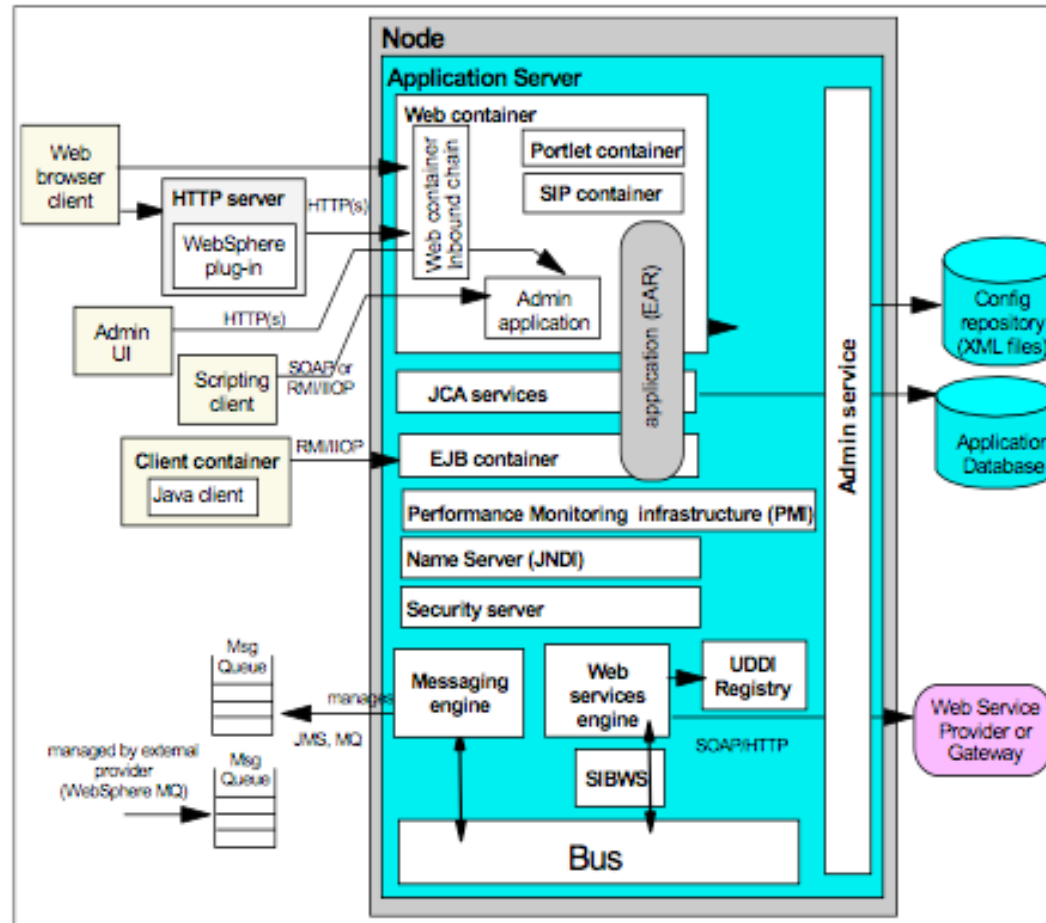


## WAS Server and what it does

- Application Server for Java applications
- Manages and Secures the application
- Provides an environment in which to run multiple applications in isolation from each other
- Configuration details held in XML files on the file system (the “Configuration Repository”)

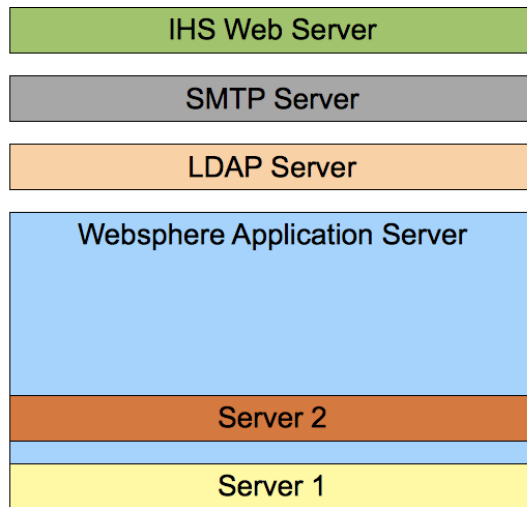


# WAS Infrastructure





# WAS Infrastructure - The Simple Version

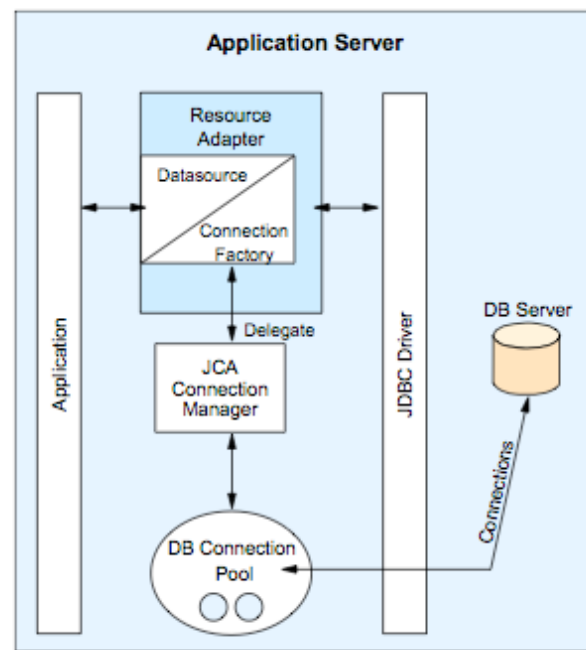


- Each application server managed by Websphere
- Uses an external database source that can also be managed externally
  - DB2 for Sametime 8.5
- Services do not talk to each other by default
- All configuration information is held in disk based XML files



## WAS DB component

- DB2 for most Lotus applications and for Sametime 8.5
- although in general it can use Oracle, SQL or countless other DB application servers using JDBC drivers





## Cells and Nodes

- Each Websphere Server is installed in a Node
- Each Node must exist within a Cell
- A single Cell can contain multiple separate WAS servers in different Nodes
- Each server is isolated from the other within the Cell
- Clustering is done at a Node level within a Cell



## Deployment Manager and Profiles

- The deployment manager within a Cell contains the configuration for all nodes in that cell
- Also responsible for Websphere authentication and security
- Uses each server's nodeagent to update the Node
  - Each Node takes its configuration from its deployment manager and stores it in its profile
  - If you change the cell configuration you have to reload the deployment manager
  - If you cluster then the deployment manager in the cell services all nodes in the cluster regardless of where they are located



## Node Agents

- Starts and stops each server
  - If the server is a deployed cluster node it doesn't have its own Node agent
- Synchronizes between deployment manager and the server



## Servers

- The server is a java process performing a function / application
  - Proxy Server
  - Meeting Server
  - Meeting HTTP Proxy
  - Sametime System Console
- Every server runs on its own discrete port
  - None of them run on port 80 or 443, you need a proxy for that

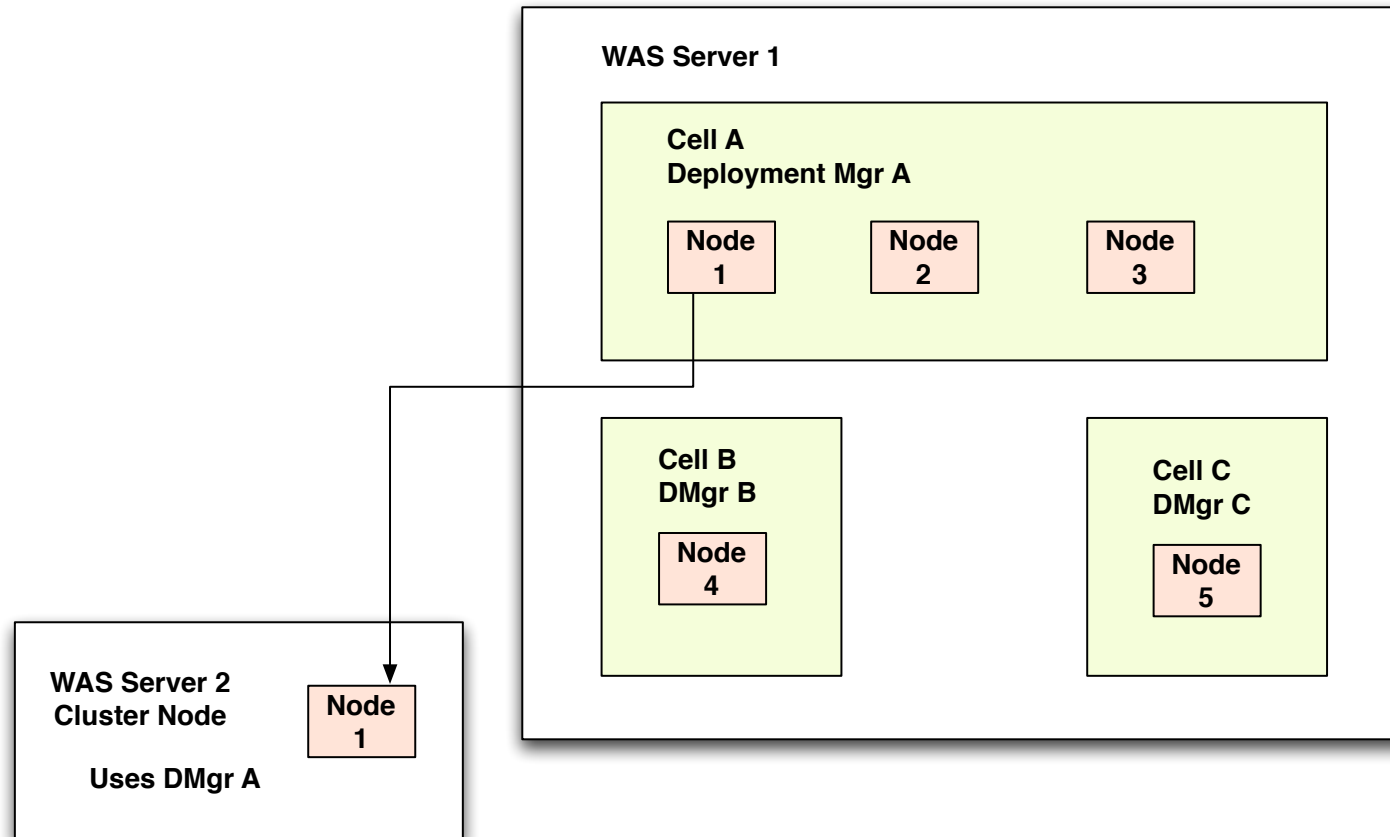


## Network Deployment

- Servers can be deployed via Network Deployment whereby a central Websphere server handles the configuration of multiple nodes and distributes them to different hardware
- This is only useful if all your nodes are using the same version of Websphere
- This can't be used for managing the infrastructure of several Lotus products as each currently uses a different version of Websphere



# Websphere Cells and Nodes





## Working with Websphere



## Servers and Files

- If you don't know what servers you have then look in the profiles directory under 'Appserver'
- If you don't know what Nodes are installed under those servers then navigate to the directory itself and its 'bin' subdirectory and type
  - serverstatus -all
  - you will be prompted for the WAS credentials you chose during installation and then told what servers are enabled in that Cell and if they are running
    - You can pass the credentials on the command line using the parameters –username xxx –password xxx



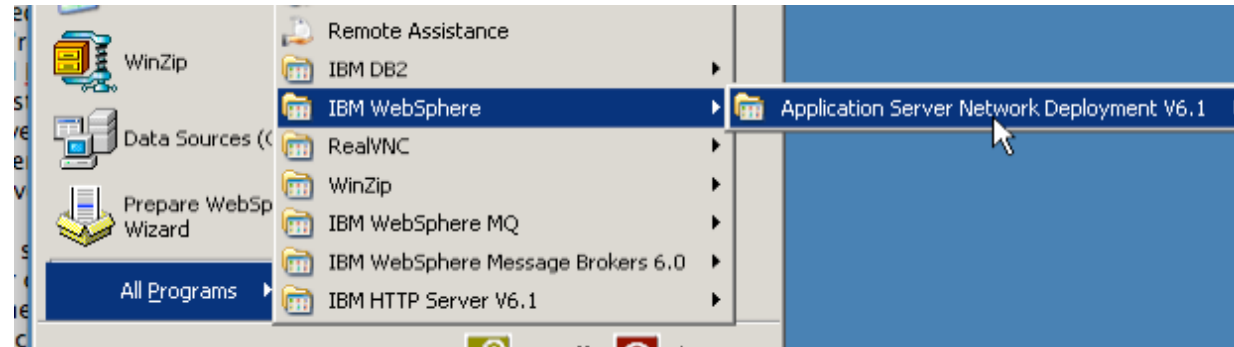
## WAS Authentication component

- Local Operating System Repository
- LDAP Server
- Federated Repositories
- Custom Repository
- Only one authentication type can be used
  - Federated repositories allow you to have multiple types configured
  - Each repository must use different credentials to bind with since credentials must be unique across the consolidation of all repositories

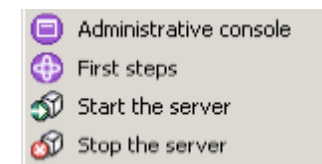
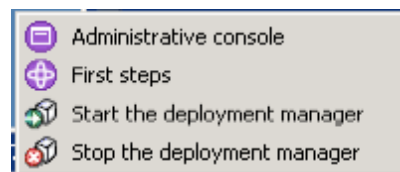
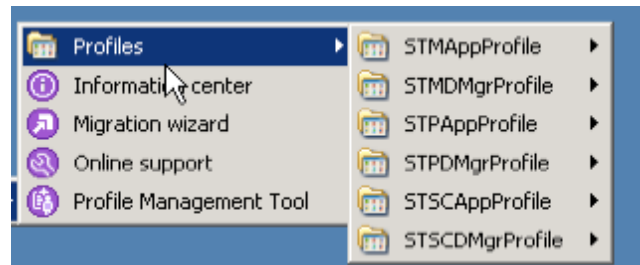


# WAS Starting and Stopping Servers

- Drill down
- and drill down
- and finally .....



or





## WAS Starting and Stopping Servers - the OTHER way

- `<websphereprogramdirectory>\appserver\profiles\<profile>\bin`
  - location of files to perform automated start and stop tasks
- Since WAS can and does run several different server applications each defined in their own isolated space you have to specify which instance you want to start or stop
- `startserver <servername>`
  - `startserver dmgr` - starts the deployment manager server in the profile you are 'sat' in
  - `stopserver nodeagent`
  - `stopserver STConsoleServer` will only work from within the `STSCAMgrProfile\bin` directory as this is where the server resides



## WAS Administration Interface

- Integrated Solutions Console
- Runs securely on 9043 by default
- virtual host redirection for /ibm/console
  - `http://stadv.turtleweb.com:9060/ibm/console`
  - secure: `https://stadv.turtleweb.com:9043/ibm/console`
- The default credentials for administration are those configured when you first install the server
  - Don't lose these!



# WAS Administration Interface

- Login

Integrated Solutions Console

**Welcome, enter your information.**

User ID:

Password:



## Working within the ISC

- Changes you make are saved locally but need to be applied to the 'Master Repository' before taking effect
- For modifications you therefore have an 'apply' which makes the change locally and then 'save to master repository' which writes out the configuration to the relevant XML files
  - Next page tells you where to find those
- When you have modified the Master repository you will want to stop and start the Websphere server you changed



## Some XML Files Worth Knowing About

- It's worth knowing this stuff is there but don't worry too much about understanding the hierarchy at this point
- Under the Websphere install directory (Appserver) each of your profiles is listed
  - find 'profiles' and then the directory for your profile and in there is a config directory
  - if my profile is "STSCDMgrProfile" (the deployment manager for SSC)
  - and my cellnode 'sulu' then
    - <websphereprogramdir>\profiles\STSCDMgrProfile\config\cells\suluSSCCell
- In there you will find a folder for the cell you are working on named by the cellname you will also find a nodes directory containing documents for the node
  - The cellname will take the servername by default so name your server 8 chars or less
  - if XML documents in both the cell and node directories have the same name, the node documents take precedence. The most specific folder name wins!
    - server.xml
    - resources.xml
    - security.xml
    - variables.xml



## Websphere Troubleshooting

- Log files created on file system for each server instance
- <websphereprogramdir>\profiles\<yourprofile>\logs\<serverinstance>
  - startserver.log
  - stopserver.log
  - systemout.log
  - systemerr.log
  - For example the logs for the Meeting Server itself are in
    - c:\ibm\webspherebeta\appserver\profiles\<servername>MeetingPNProfile1\logs
    - \STMeetingServer
- Configuring additional trace output can be done via Integrated Solutions Console



## Websphere Troubleshooting

- Select the server whose logs you want to view
- Select the type of log to configure or view

### [Logging and Tracing](#) > server1

Use this page to select a system log to configure, or to specify a log detail level for components and groups of components. Use log levels to control which events are processed by Java logging.

#### General Properties

- [Diagnostic Trace](#)
- [JVM Logs](#)
- [Process Logs](#)
- [IBM Service Logs](#)
- [Change Log Detail Levels](#)



## Websphere Troubleshooting

- Each log configuration screen also shows you where the relevant logs are located
- Changes to 'Configuration' requires a server restart
- Changes to 'Runtime' happen live
  - JVM Logs

The screenshot shows the Websphere Configuration console interface. At the top, there are two tabs: 'Configuration' and 'Runtime', with 'Runtime' selected and circled in red. Below the tabs, the 'General Properties' section is visible. Under this section, there are two log configuration entries: 'System.out' and 'System.err'. The 'System.out' entry is circled in red. For each entry, there is a 'File Name' field containing a path and a 'View' button. The paths are: C:\PROGRA~1\IBM\WEBSPH~2\APPSER~1\profiles\ST\_Advanced\_Profile\logs\server1\SystemOut.log and C:\PROGRA~1\IBM\WEBSPH~2\APPSER~1\profiles\ST\_Advanced\_Profile\logs\server1\SystemErr.log. At the bottom of the console, there are buttons for 'Apply', 'OK', 'Reset', and 'Cancel'.



## Summary

- Think about which server elements you want to deploy and how much resource you want to give them
  - this applies to Sametime but also Connections
- Design a cluster if you might need it in the future, even if you only install a single node now
- Consider where you place your DB2 server, it could become the lynchpin for multiple applications
- LDAP is critical, don't be tempted to use a temporary /changing LDAP source
- You can add WAS servers as services under windows using the wasservice program
- Keeping server clocks synchronised across your WAS computers is critical especially in a cluster deployment
- Don't attempt an install with less than 50GB of free disk after the installers are copied over and extracted



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