IBM Websphere Application Server Profiles

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Introduction

This document provides information about various profiles available in IBM Websphere Application Server Network Deployment (referred as WAS ND from now on) and usage of these profiles. This document covers Application Server Profile, Custom Profile, Cell Profile, and various Management profiles – Administrative Agent, Deployment manager and Job Manager.

What is a Profile

A profile is a set of configuration files used to create application server runtimes. This set includes static product files as well configuration files used to prepare and control runtime environment.

Application Server Profile

This profile is used to create a standalone application server. The purpose of standalone server is to prepare a runtime environment which works independent to other application server instances and is managed independently using its own console. Although, this server profile (node) later can be added to deployment manager to become part of bigger deployment, but normally it is used to prepare standalone application deployment. When you create this profile, a default application server instance automatically gets created.

Following image shows an Application Server profile having a server and its independent console.

Administrator

Stand Alone Server A

OS (Linux)
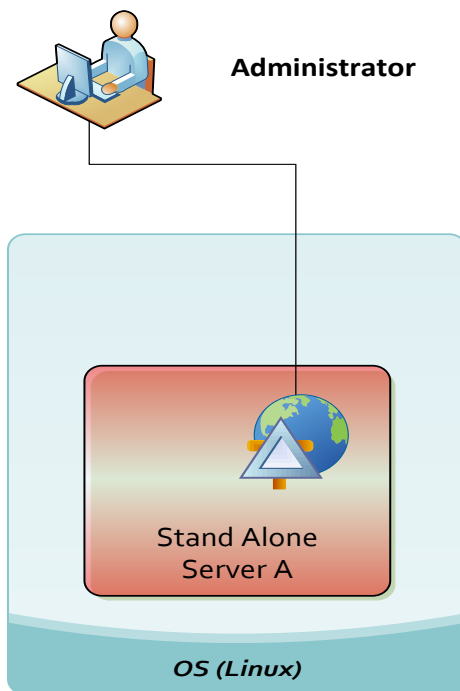
Custom Profile

This is the most used profile in WAS ND environments having large number of servers. This profile creates empty node and does not contains any console or application server. This is used to create bigger deployment containing large number of servers. You create multiple custom profiles and federate those to deployment manager to prepare clusters of application servers to host your applications. You

can view this profile as a node containing configuration files to create server runtime environments. As mentioned above these profiles do not contain any server or console so these must be added to deployment manager to prepare runtime environment. Although you can use command line WAS tools to create server instances for these profiles as well, but that is hardly ever done and for such requirements application server profile (described above) can be used.

Management Profiles –

There are 3 types of management profiles exist, for different management requirements.

Deployment Manager Profile

This is most used management profile. As mentioned in Custom Profile section, a custom profile must be added to deployment manager to setup bigger deployments containing multiple servers, and clusters.

A deployment manager is a special server used to manage a complete cell. You use it when your deployment spans multiple nodes, servers and you need a single place to manage all components and apply various features to all components or selective components of your deployment.

A deployment manager profile is created as a first step in any big deployment containing multiple servers, and clusters. When you create a deployment manager profile a management server gets created. This server is used to manage different nodes federated to it. Also, when you add/federate a node into deployment manager a special server called "node agent" is created at node which is being added, and is used by deployment manager to communicate and manage node and servers running on it.

Following figure shows 2 custom profile nodes and 1 deployment manager node –
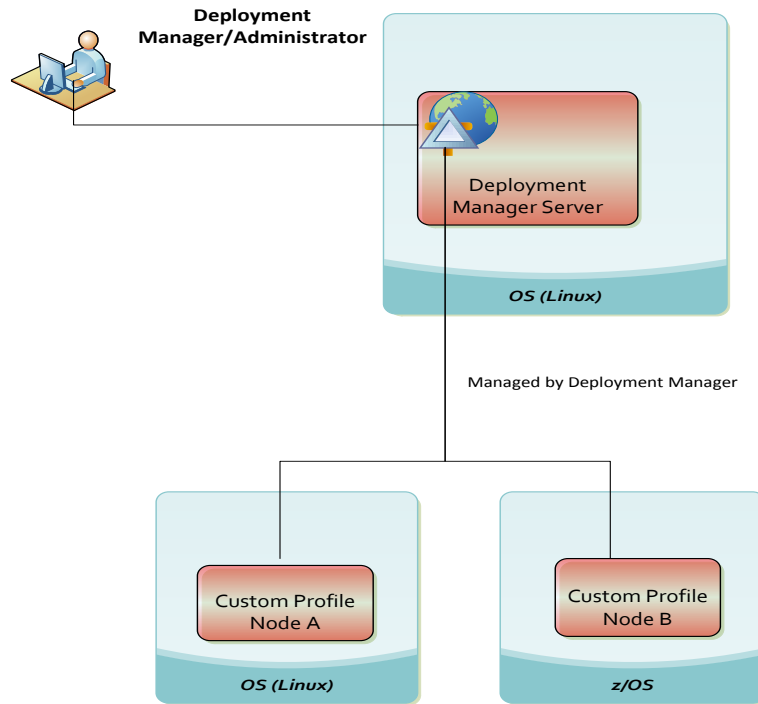
Administrative Agent Profile

This profile is rarely used. Its purpose is to manage multiple standalone application servers residing within an OS from a single console. If you have multiple standalone application servers installed on a machine and want to manage and control all servers from a single console, you create this profile. The management is limited to the servers residing within same OS instance where this profile is being created and limited to the functionality offered like you can start/stop servers from single console but can't deploy application to all or selected servers.

Following figure shows Admin agent and 2 application servers hosted on within same OS controlled by Admin agent.

Administrator

Administrative
Agent Server

Controlled by Admin Agent

Application
Sever A

Application
Sever B

OS (Linux)
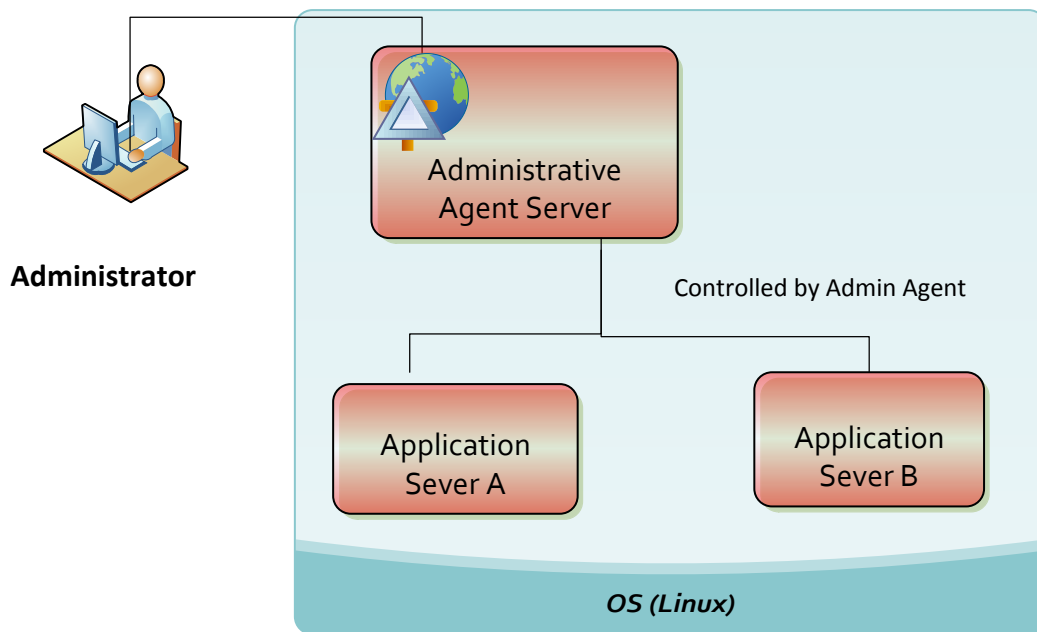
Job Manager Profile

This profile provides much higher management functionality. In deployments containing multiple standalone servers and multiple clusters, this profile can be used to manage all components using single console. Although, management features are limited to some set of commands which can be issued from the console as well creating schedule of jobs to manage servers, cluster, but it is very useful in really bigger deployments spanning multiple deployment managers, and standalone servers.

Following image shows a job manager profile server used by administrator which manages individual standalone application server, admin agent which in turn managing standalone application servers, as well this is also used to manage deployment manager which itself is managing other servers and/or clusters.
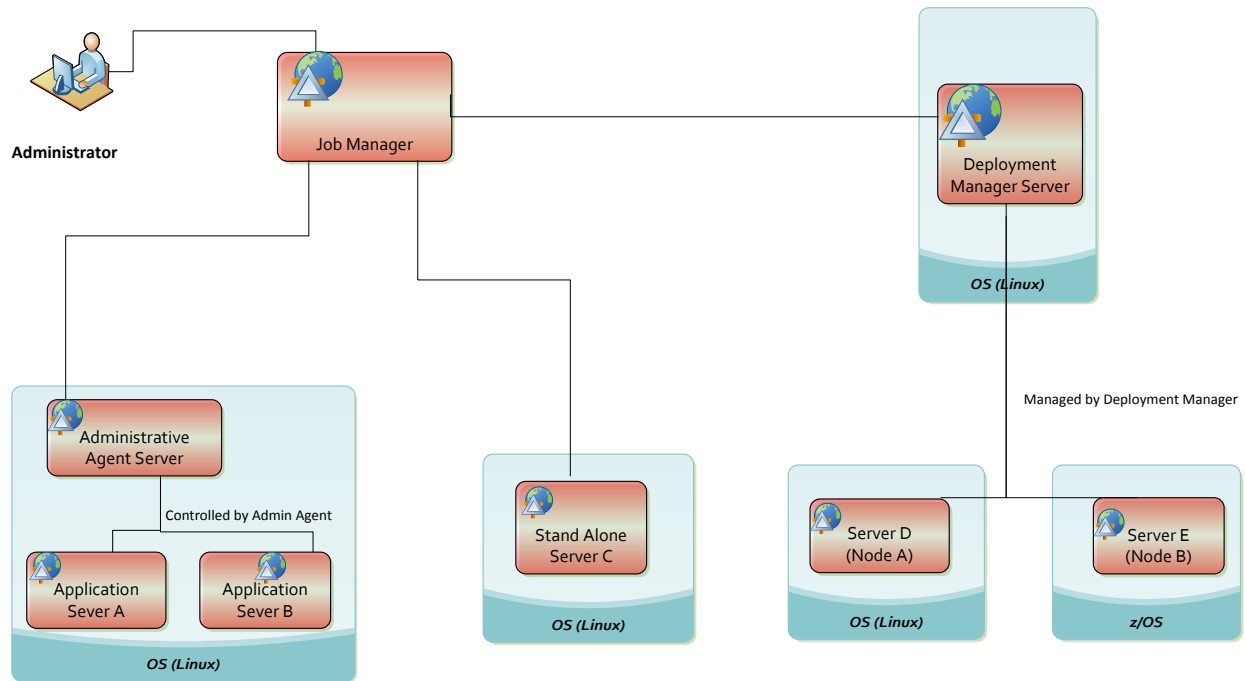
Cell Profile (Deployment manager and a Federated application server)

This profile is a combination of an application server and deployment manager. When you create this profile it creates a deployment manager and an application server in same host OS instance. Also application server is automatically federated to the deployment manager. Normally you create this profile for testing or evaluation of WAS ND features, though you can expand this by adding more nodes to its deployment manager which could be used for your production deployment.