

ALTAI Wireless Management System (AWMS)

Installation Guide for Windows Platform

AWMS Version 2.10.3

Date: 24-November-2010

Document version 1.0

Copyright © 2007 Altai Technologies Limited

ALL RIGHTS RESERVED.

Altai Technologies Limited

Unit 209, 2/F,
East Wing, Building 17,
Hong Kong Science Park,
Shatin, New Territories,
Hong Kong

Telephone: +852 3758 6000

Fax: +852 2607 4021

Web: www.altatechnologies.com

Customer Support Centre:

Email: support@altatechnologies.com

All specifications are subject to change without prior notice. Altai Technologies assumes no responsibilities for any inaccuracies in this document or for any obligation to update information in this document. This document is provided for information purposes only. Altai Technologies reserves the right to change, modify, transfer, or otherwise revise this publication without notice.

Table of Contents

1	INTRODUCTION.....	4
	Abbreviations and Acronyms.....	4
2	AWMS INTRODUCTION	5
3	PRE-INSTALLATION	6
3.1	SYSTEM CONFIGURATION REQUIREMENTS.....	6
3.2	THIRD-PARTY APPLICATION REQUIREMENTS	6
4	AWMS NEW INSTALLATION.....	7
4.1	UN-INSTALL PREVIOUS MYSQL SERVER	7
4.2	INSTALL MICROSOFT .NET FRAMEWORK 2.0.....	8
4.3	INSTALL MYSQL VERSOIN 5.0.18	10
4.4	INSTALL CENTRAL CONTROL SERVER AND PROXY SERVER IN THE SAME COMPUTER	21
4.5	INSTALL CENTRAL CONTROL SERVER AND PROXY SERVER IN SPERATE COMPUTERS.....	40
4.5.1	CENTRAL CONTROL SERVER (CCS) INSTALLATION.....	40
4.5.2	PROXY SERVER (PX) INSTALLATION.....	42
4.6	SET COMPATIBILITY MODE OF CENTRAL CONTROL SERVER.....	43
5	AWMS UPGRADE	47
6	LAUNCH AWMS SERVERS AND CLIENT.....	54
6.1	IMPORTING LICENCE FILE	54
6.2	START AWMS CCS AND PROXY	56
6.3	START AWMS CLIENT.....	58
7	ADVANCED CONFIGURATION FOR AWMS INSTALLATION.....	59
7.1	REMOTE MANAGEMENT THORUHG INTERNAL NETWORK	59
7.1.1	BIND IP ADDRESSES FOR PROXY SERVER	60
7.1.2	BIND AN IP ADDRESS FOR AWMS CCS	61
7.1.3	BIND AWMS CCC TO A PARTICULAR AWMS CCS	61
7.2	REMOTE MANAGEMENT THROUGH INTERNET NETWORK	62
7.2.1	BIND IP ADDRESSES AND PORTS FOR PROXY SERVER	63
7.2.2	BIND AN IP ADDRESS AND PORTS FOR AWMS CCS	63
8	PORT MANAGEMENT FOR AWMS INSTALLATION.....	64
8.1	PORT NUMBER MODIFICATION FOR MYSQL.....	64
8.2	PORT NUMBER MODIFICATION FOR FIRMWARE MANAGEMENT	64

1 INTRODUCTION

This installation guide takes you go though the steps of installing AWMS Central Control Server, Proxy Server, and Central Control Client GUI.

Abbreviations and Acronyms

ALTAI	Altai Technologies Limited
AWMS	Altai Wireless Management System
CCC	Central Control Desktop Client
CCS	Central Control Server
GUI	Graphical User Interface
NE	Network Element – the network elements that AWMS handles currently are all APs. Therefore the terms “AP” and “NE” are used interchangeably.
PX	Proxy

2 AWMS INTRODUCTION

AWMS is composed of three subsystems, Central Control Server, Proxy and Central Control Desktop Client. The three subsystems can be installed in the same host or they can be installed separately in different hosts depending on the deployment scenarios.

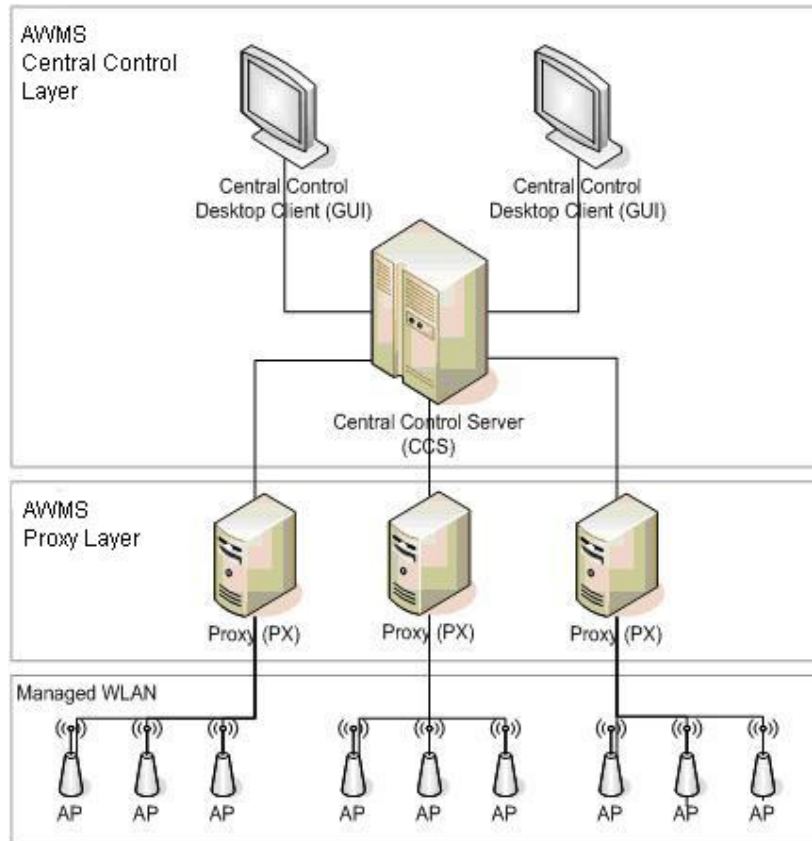


Figure 1 AWMS Architecture

This installation guide demonstrates the installation procedures of the 3 subsystems into the same host.

3 PRE-INSTALLATION

3.1 SYSTEM CONFIGURATION REQUIREMENTS

The table below shows the maximum number of the AWMS components to support 500 NEs.

System capacity	
Number of NE supported:	Max.: 500
Number of Proxy per AWMS Server:	Max.: 4
Number of NE per Proxy:	Max.: 200
Number of concurrent AWMS user supported:	Max.: 4

Table 1 System Capacity

All AWMS components can be installed in a single server for a small network management system with not more than 100 NEs. For a large network deployment, each component should be installed in separate servers.

The table below lists the basic hardware / software requirements of each AWMS component for a network with not more than 100 NEs. Please make sure the requirements are met before continuing the installation.

For the other configuration, please refer to “TPS06-034_rev1.4_AWMS_Configuration_Spec”.

AWMS Components	Hardware/Software Requirements
Central Control Server (including MySQL Server)	2u server, Intel Dual Core Xeon 5000 Series Processor, 2.33GHz, 2 GB RAM, 80 GB disk space, 100M Ethernet NIC card Windows server 2003 Std Edition Microsoft .Net Framework 2.0 MySQL 5.0.18 JDK 1.5.0_20
Proxy Server	(integrated in CCS)
Central Control Client (CCC)	(integrated in CCS)

Table 2 AWMS Requirements

3.2 THIRD-PARTY APPLICATION REQUIREMENTS

AWMS requires the following third-party applications to be installed to operate properly. These applications are not included in the AWMS license. Some of them need to be acquired and installed separately from the AWMS package.

- MySQL 5.0.18
- JDK 1.5.0_20
- Microsoft .Net Framework 2.0

4 AWMS NEW INSTALLATION

This part is applicable for AWMS new installation. If previous AWMS (e.g. version 2.10.0) is installed in your server, you only need to upgrade it. For the upgrading steps, please go to Section 5.

4.1 UN-INSTALL PREVIOUS MYSQL SERVER

If previous MySQL Server (e.g. version 4.0) is installed in your server, you **MUST un-install** it before installing MySQL version 5.0.18.

The following steps demonstrate how to remove MySQL version 4.0.

Step 1: Run a command prompt in Windows and enter “mysqld-nt --remove” under the directory “bin” of the MySQL Server. The following is an example of MySQL Server version 4.0.

```
C:\Program Files\MySQL\MySQL Server 4.0\bin>net stop mysql
The MySQL service is stopping..
The MySQL service was stopped successfully.
C:\Program Files\MySQL\MySQL Server 4.0\bin>mysqld-nt --remove
Service successfully removed.
```

If MySQL was not already installed as a service you will see

```
C:\Program Files\MySQL\MySQL Server 4.0\bin>mysqld-nt --remove
The service doesn't exist!
```

Step 2: Go to Control Panel -> Add or Remove Programs to uninstall the MySQL Server. Figure 2 shows the icon in Windows XP.

Step 3: Restart your computer.

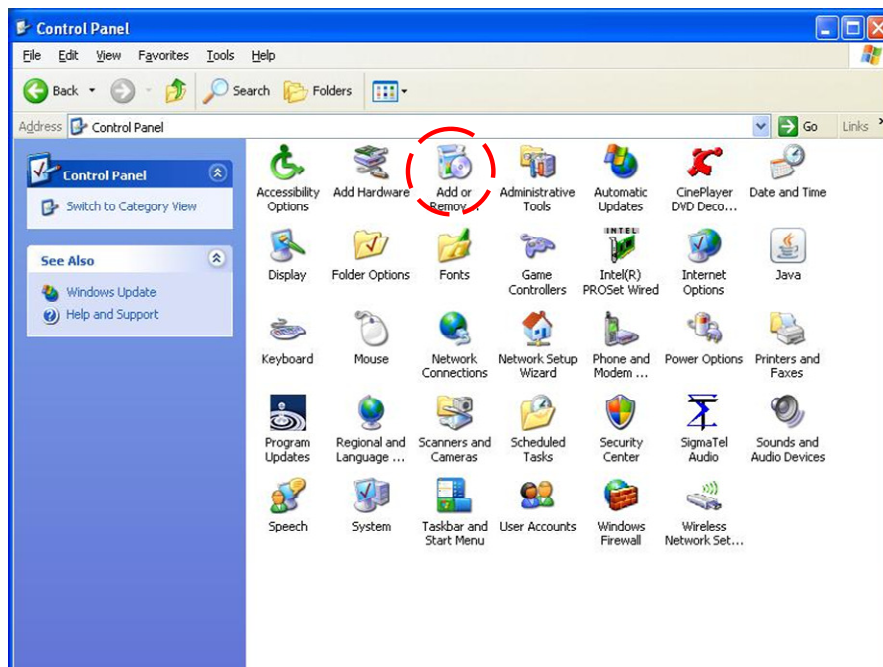


Figure 2 Add or Remove Programs in Windows XP

4.2 INSTALL MICROSOFT .NET FRAMEWORK 2.0

Please follow the below steps to install Microsoft .Net Framework 2.0.

Remark:

You can find the setup file in awms_installer_v2.10.3\files\conf\installers\dotnetfxsetup.exe.

Step 1: Double-click the file dotnetfx2setup.exe and click “Next” to start installation.

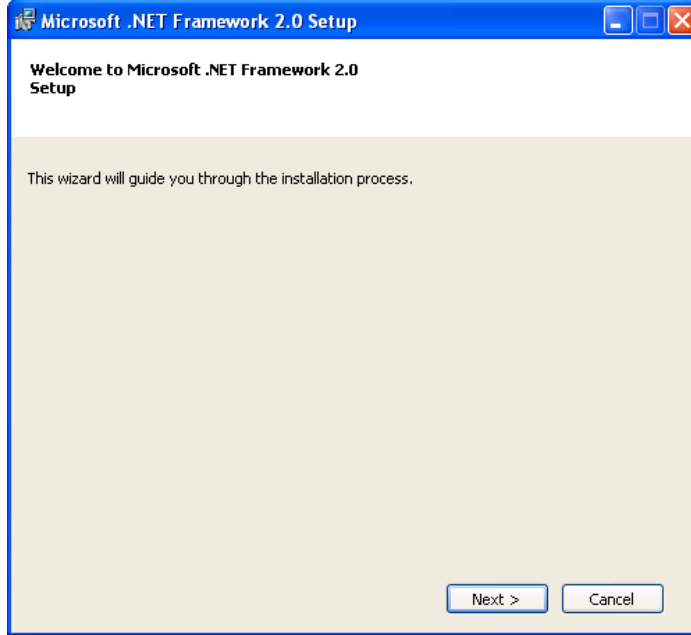


Figure 3 Microsoft .Net Framework 2.0 Setup Window

Step 2: The End-User License Agreement window shows up. Please read the license agreement carefully and if you accept the mentioned terms, choose “**I Accept the terms of the License Agreement**” and click “**Install >**”.

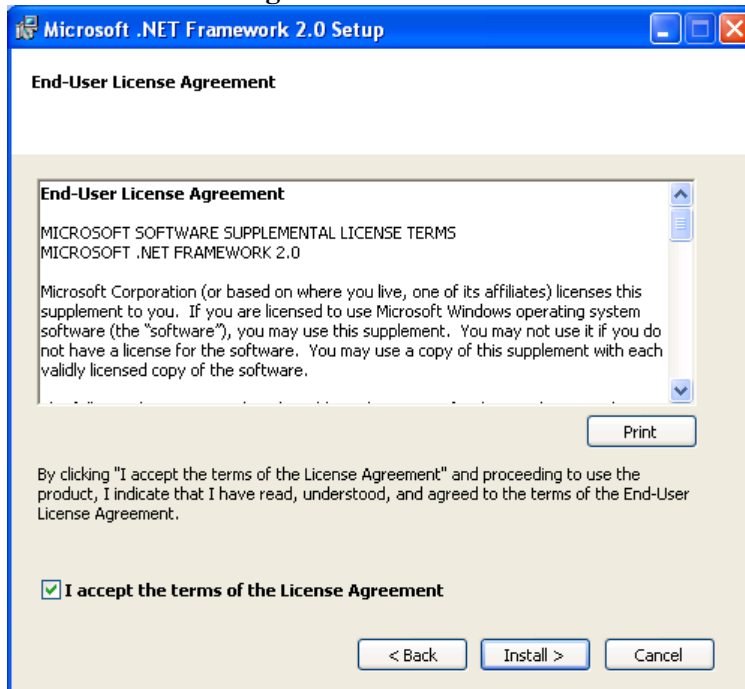


Figure 4 Microsoft .Net Framework 2.0 License Agreement Window

The Microsoft .Net Framework 2.0 is installing.

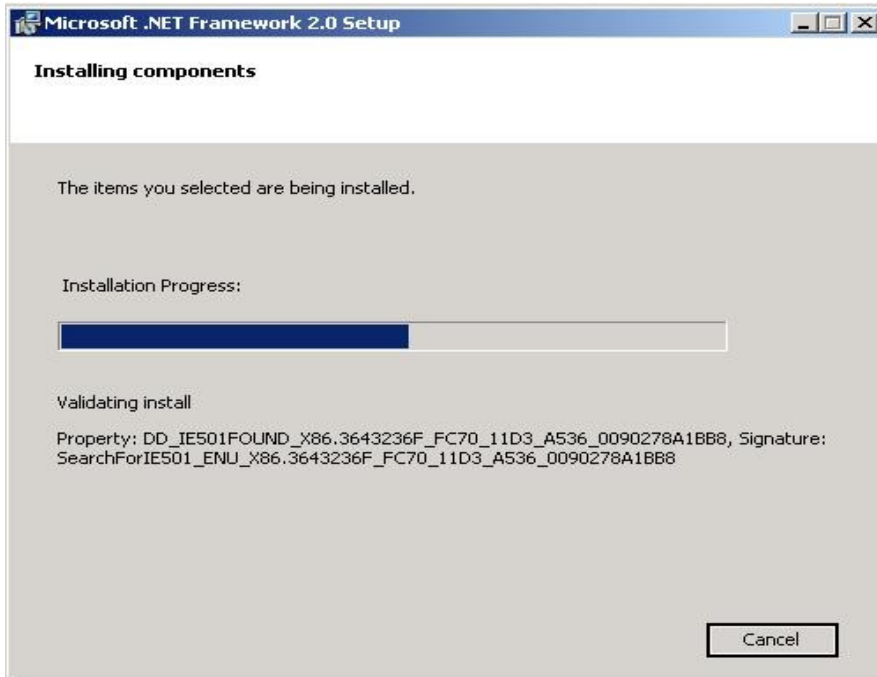


Figure 5 Microsoft .Net Framework 2.0 Installation Progress

Step 3: Click “**Finish**” to complete the installation.

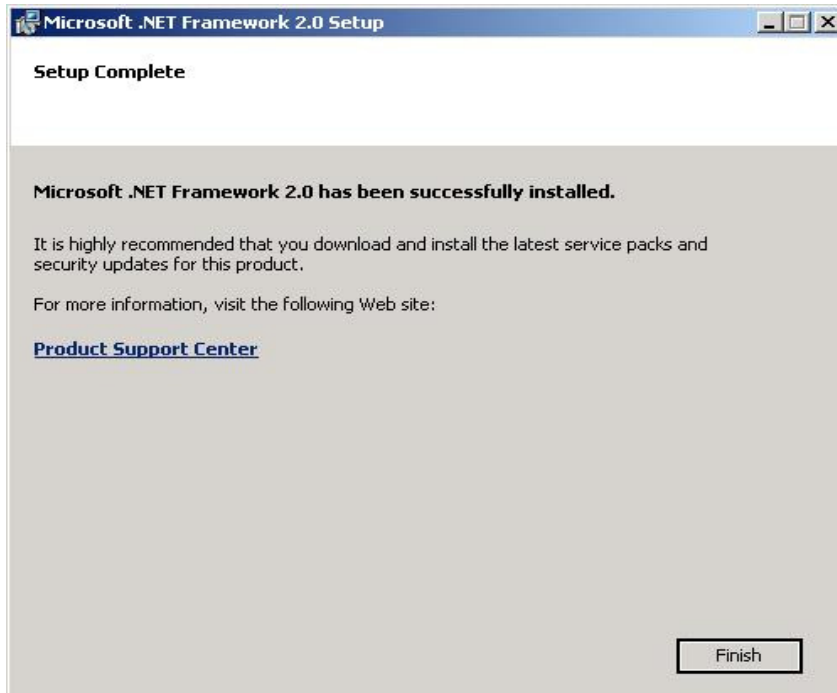


Figure 6 Completion of Microsoft .Net Framework 2.0 Installation

4.3 INSTALL MYSQL VERSOIN 5.0.18

Please follow the below steps to install MySQL Server version 5.0.18.

Remark:

You can find the setup file in `awms_installer_v2.10.3\files\conf\installers\mysql-5.0.18-win32.exe`.

Step 1: Double-click the file `mysql-5.0.18-win32.exe`. The MySQL Setup Wizard prompts up and click “Next >”.



Figure 7 MySQL Setup Wizard

Step 2: Choose “Typical” for setup type and click “Next >”.



Figure 8 MySQL Setup Type

Step 3: Click “Install”, MySQL Server is being installed.



Figure 9 MySQL Installation

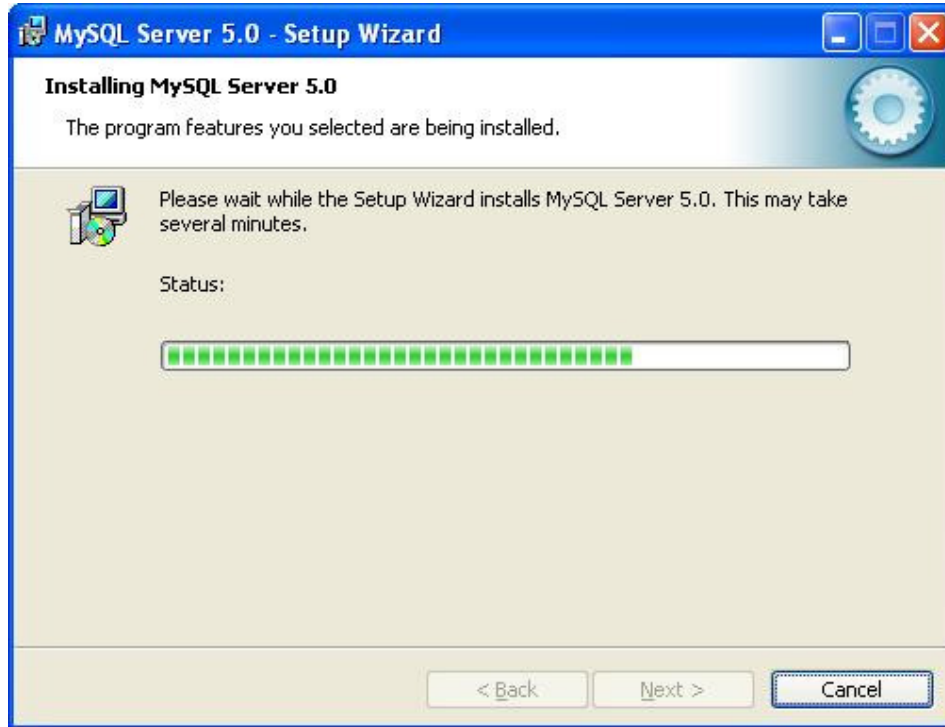


Figure 10 MySQL Setup Wizard with installation progress

Step 4: Click "Next >".

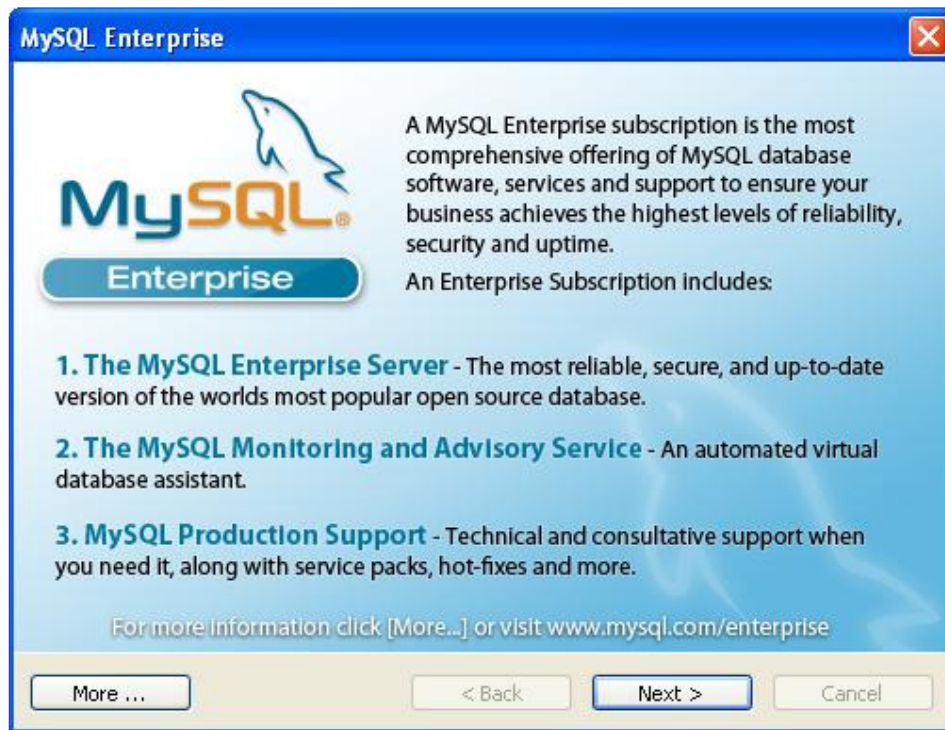


Figure 11 Introduction of MySQL Enterprise

Step 5: Click “Next >”.

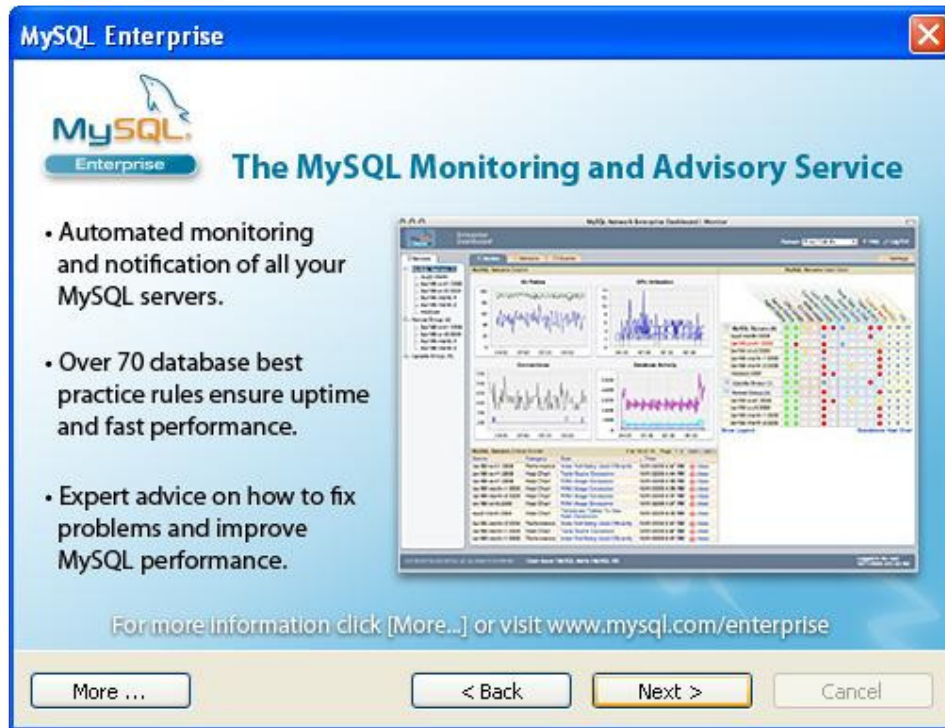


Figure 12 Introduction of MySQL Enterprise

Step 6: The installation completes. By default “**Configure the MySQL Server now**” is checked. Simply click “**Finish**” for database configuration.



Figure 13 Configuration of MySQL Server

Step 7: MySQL Server Instance Configuration Wizard prompts up. Click “Next >”.



Figure 14 MySQL Server Instance Configuration Wizard

Step 8: Choose “Detailed Configuration” for the configuration type and click “Next >”.

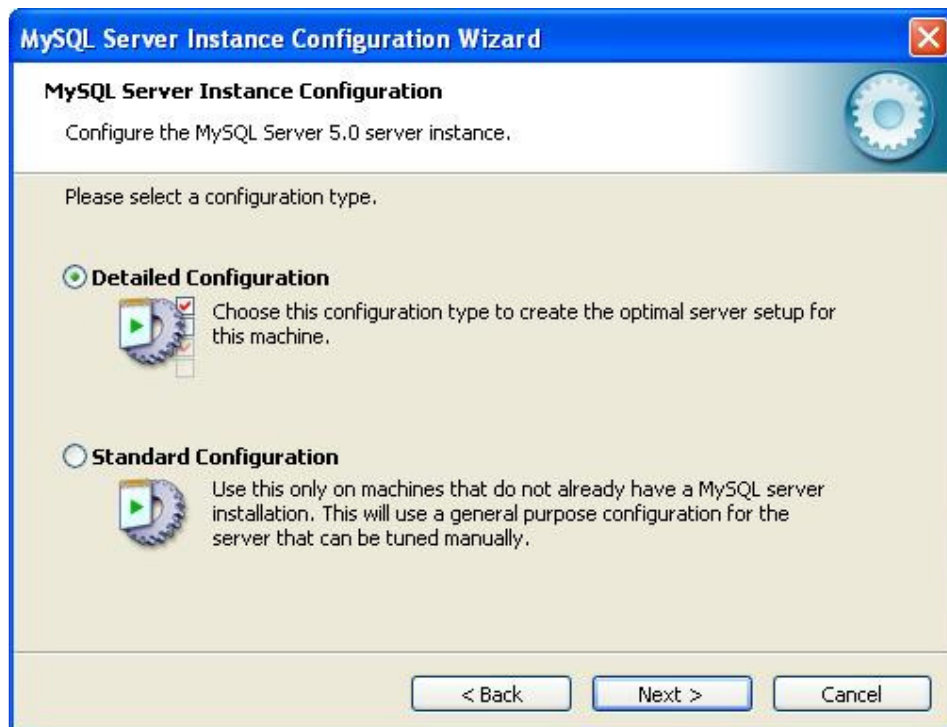


Figure 15 Options of MySQL Server Configuration Type

Step 9: Choose “**Server Machine**” for server type and click “**Next >**”.

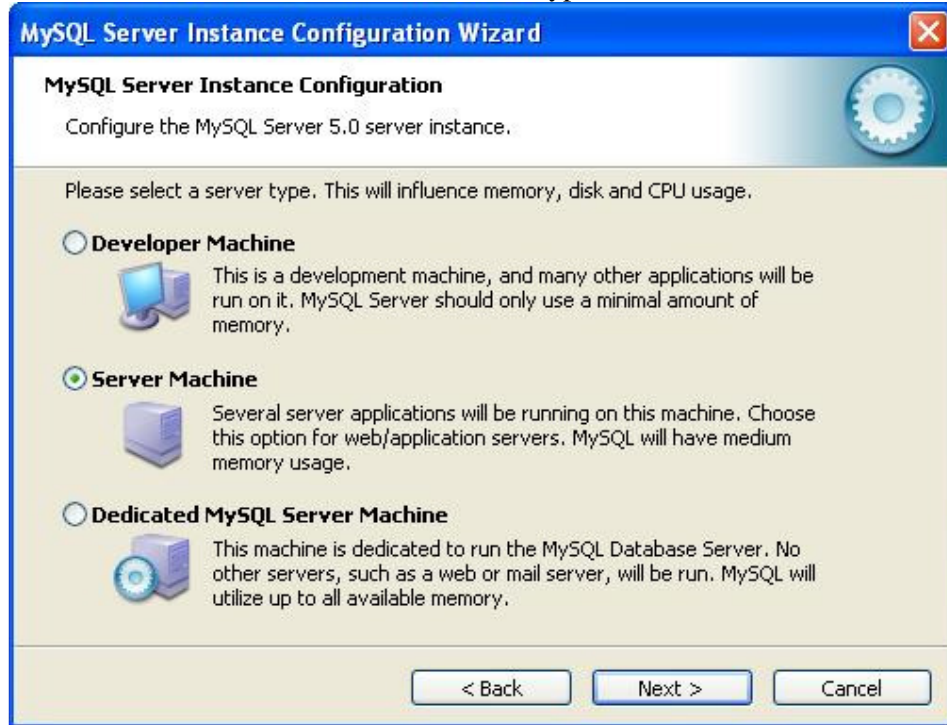


Figure 16 Options of MySQL Server Type for Configuration

Step 10: Select “**Multifunctional Database**” for database usage and click “**Next >**”.



Figure 17 Options of MySQL Server Database Usage

Step 11: Choose the drive and directory to put the InnoDB datafile. You can use the default path. Click “Next >”.

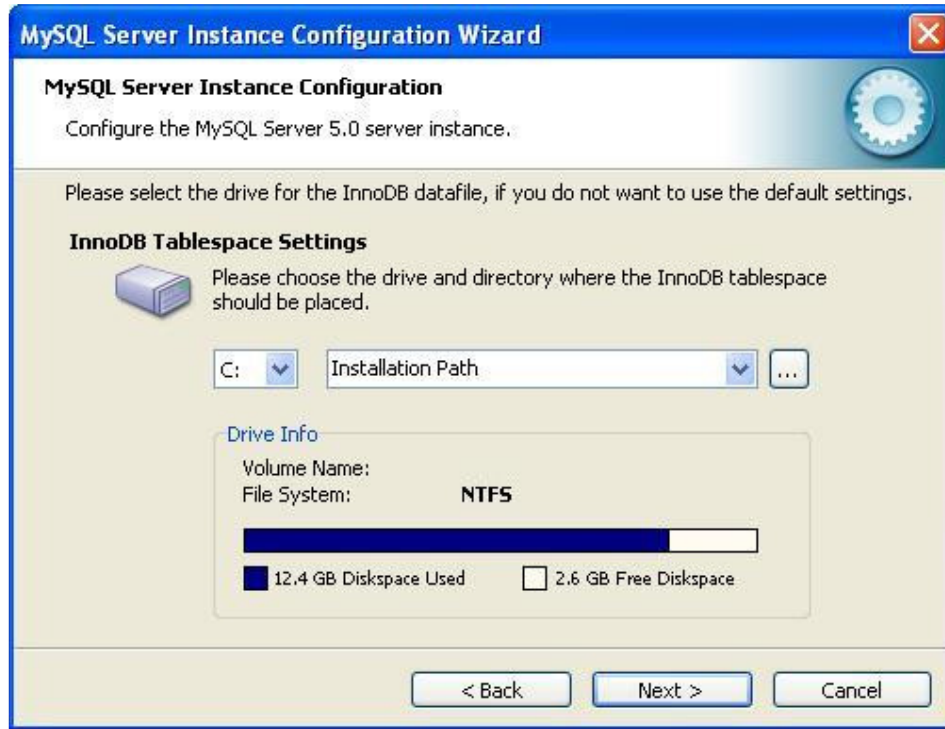


Figure 18 InnoDB Datafile Path for MySQL Server

Step 12: Set the number of concurrent connections to the MySQL Server. Choose “Manual Setting” and it is recommended to change the number to 100. Click “Next >”.

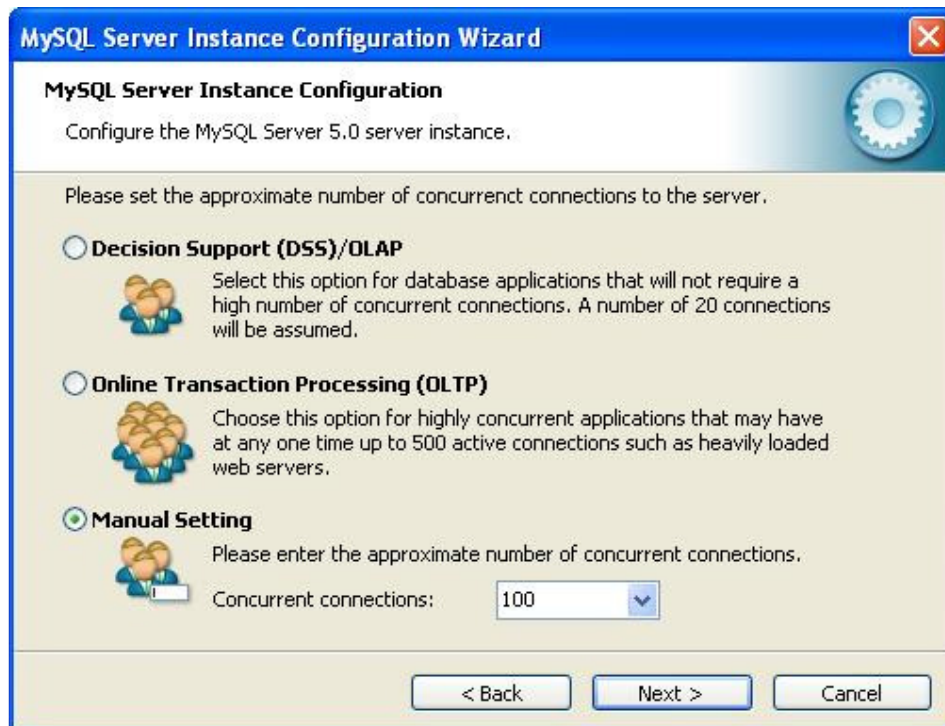


Figure 19 Concurrent Connections to MySQL Server

Step 13: Select “**Enable TCP/IP Networking**” and set the network port number which is **3306** by default. Click “**Next >**”.

Remark:

The port number 3306 is used for inter-connection between MySQL Server and CCS. If the administrator wants to use port number other than 3306, please refer to Section 8.1 for more details.

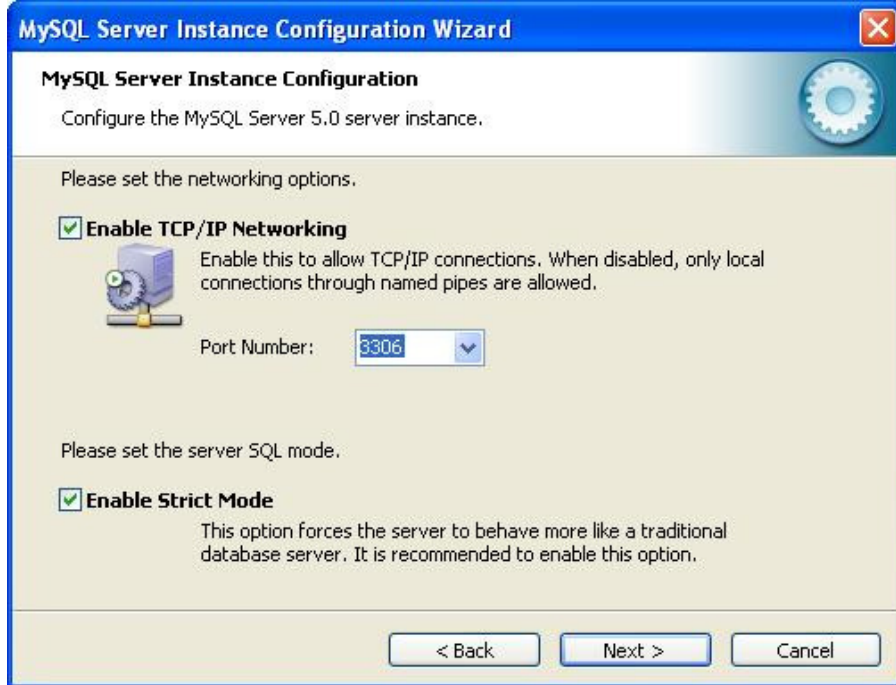


Figure 20 MySQL Server Networking Option

Step 14: For character set, select “**Best Support For Multilingualism**” and click “**Next >**”.

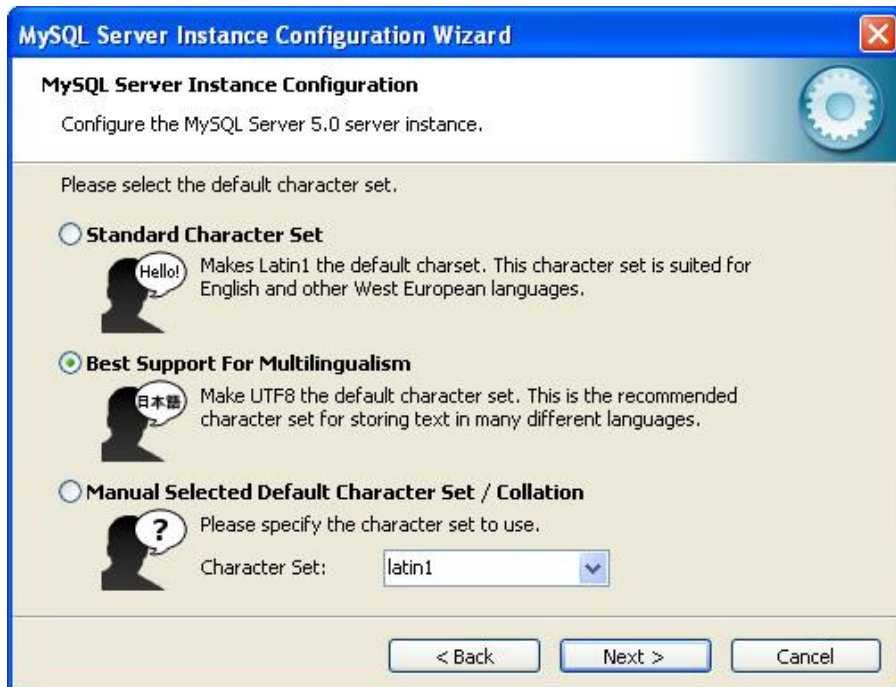


Figure 21 Character Sets for MySQL Server

- Step 15:** Set the MySQL Server operation options in Windows. Select “**Install As Windows Service**” and “**Launch the MySQL Server automatically**”. Click “**Next >**”.



Figure 22 MySQL Server Operation Options in Windows

- Step 16:** If you want to set security for MySQL Server login, select “**Modify Security Settings**”, fill in a new root password and click “**Next >**”. Otherwise, you can simply click “**Next >**” to execute the above configurations.



Figure 23 MySQL Server Login with Password



Figure 24 MySQL Server Login without Password

Remark:

The use of security option depends on your actual situation. It should be reminded that if you do not set a password for the MySQL Server, it will not have security protection from illegal access of anonymous parties.

Step 17: Click “Execute” to start the MySQL Server configurations.



Figure 25 MySQL Server Configurations Execution

Step 18: Click “**Finish**” to complete the MySQL Server configuration.

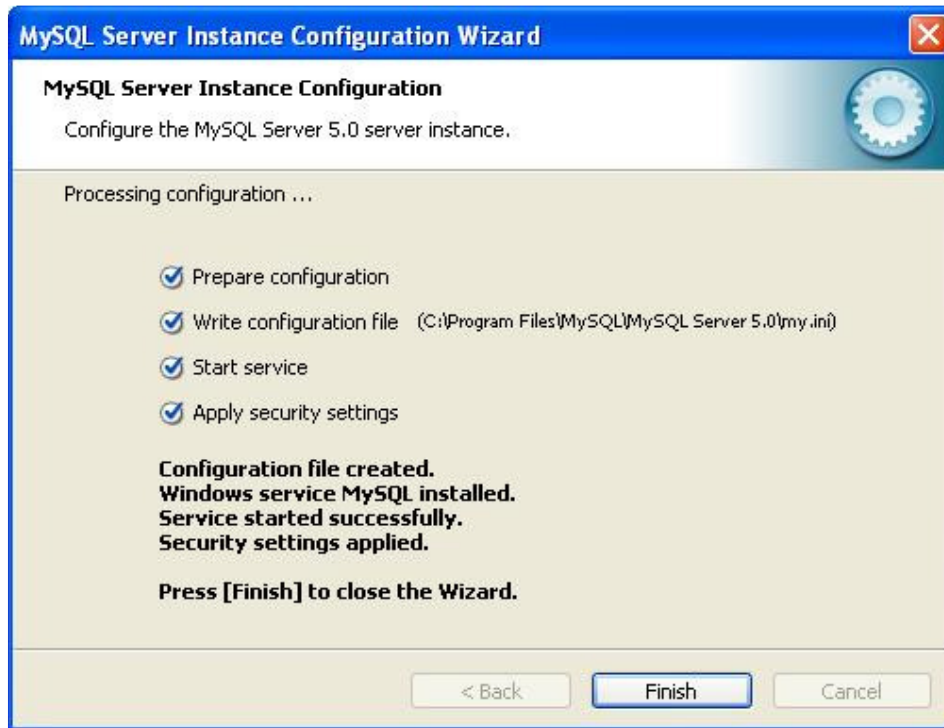


Figure 26 Completion of MySQL Server Configuration

4.4 INSTALL CENTRAL CONTROL SERVER AND PROXY SERVER IN THE SAME COMPUTER

This section demonstrates how to install both AWMS CCS and proxy in the same computer. Before installing the AWMS subsystems, MySQL version 5.0.18 should exist in the computer.

If you want to install the two components in separate computers, please go to Section 4.5.

Remark:

If you have the previous AWMS installed in your computer, you only need to upgrade it. You can refer to Section 5 for the upgrading procedures.

Step 1: Double-click the file `AWMS_Setup.exe`. The AWMS Setup and Upgrade Wizard prompts up.

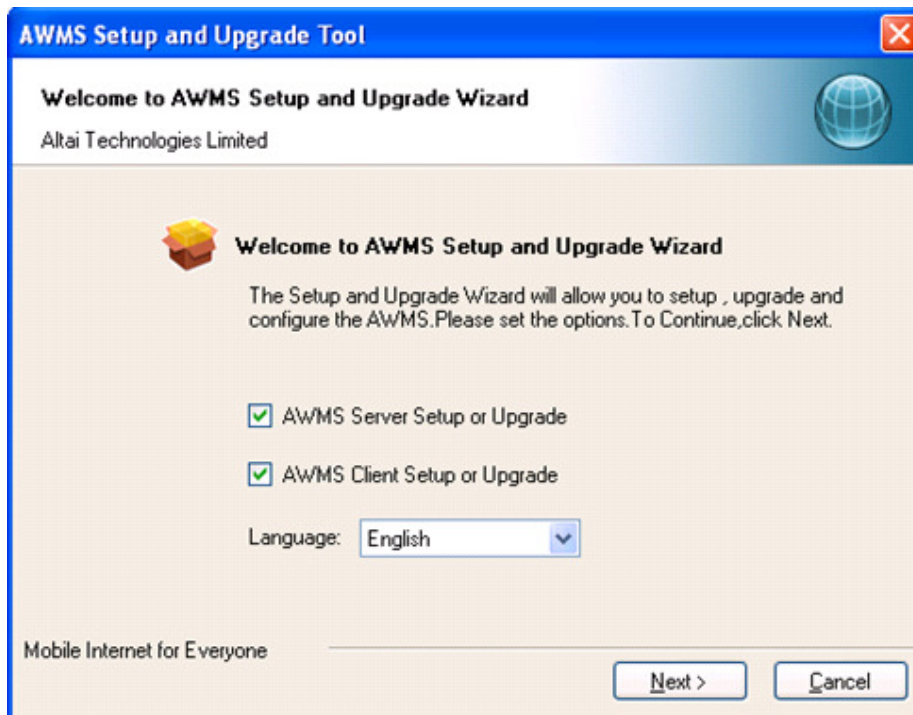


Figure 27 AWMS Setup and Upgrade Wizard

Remark:

You can also install AWMS Server and AWMS Client separately by unchecking the AWMS Client Setup or Upgrade.

Step 2: Choose “JDK”, “Server” and “Client”. Click “Next >”.

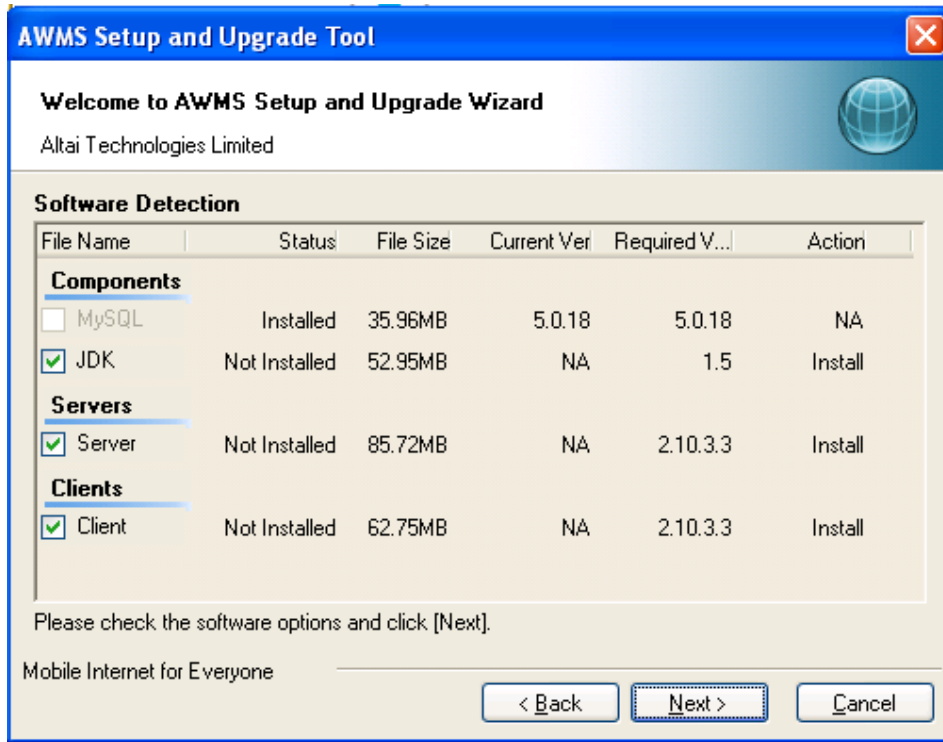


Figure 28 AWMS Setup and Upgrade Wizard

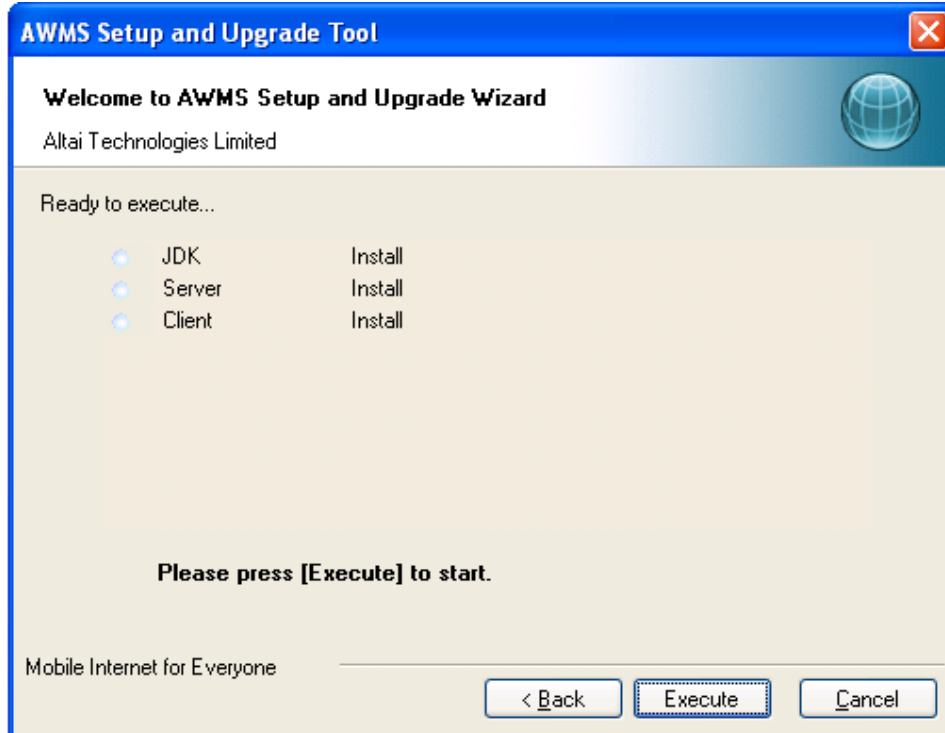


Figure 29 AWMS Setup and Upgrade Wizard

Step 3: Click **“Run”** to start installation.

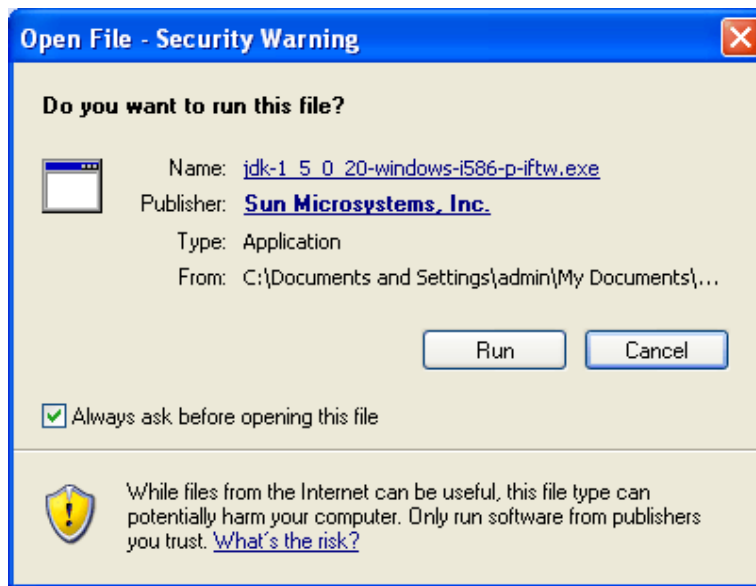


Figure 30 JDK Installer Security Warning

Step 4: The License Agreement window prompts up. Please read the license agreement carefully and if you accept the mentioned terms, select **“I accept the terms in the license agreement”**. Click **“Next >”** to the Custom Setup window.

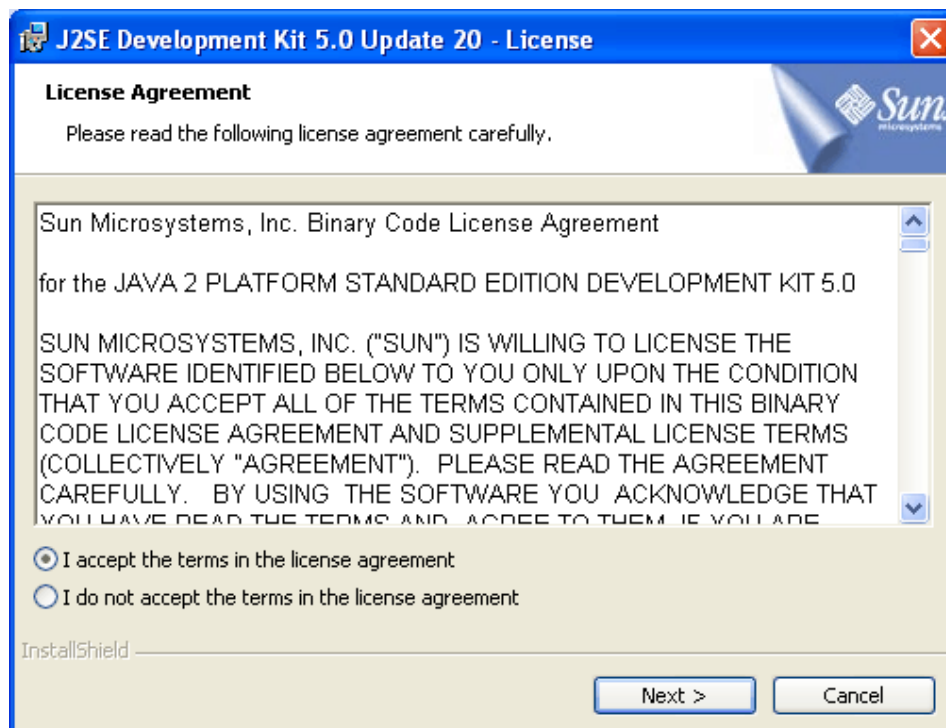


Figure 31 JDK License Window

Step 5: Select all listed features: 1) “Development Tools”, 2) “Demos”, 3) “Source Code” and 4) “Public Java Runtime Environment” for installation and click “Next >” to start installation.

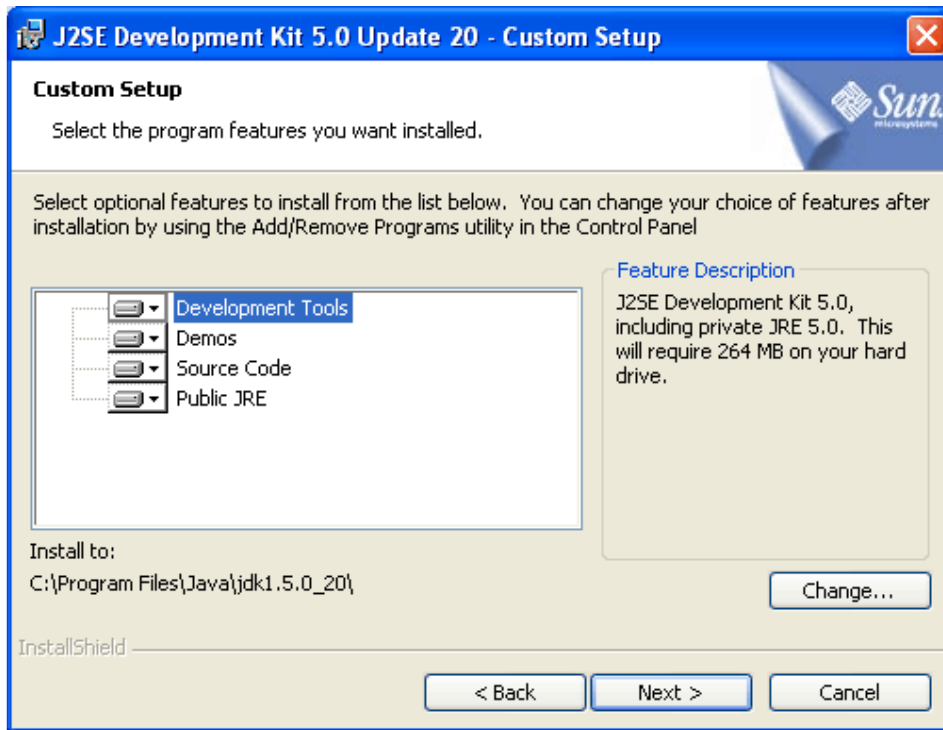


Figure 32 JDK Custom Setup Window

The installation is in progress.

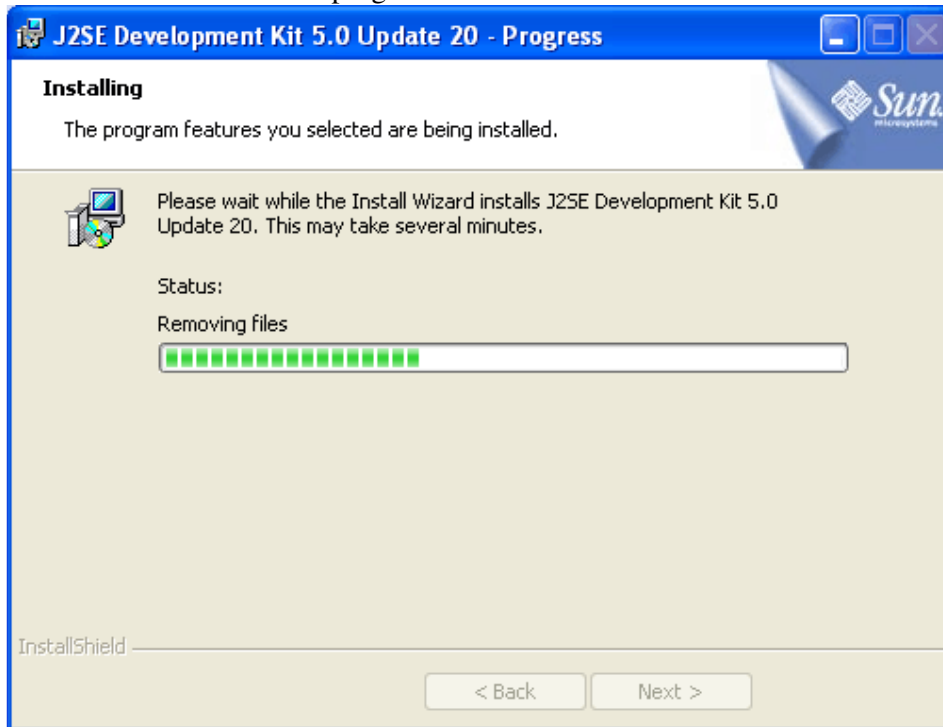


Figure 33 JDK Installation Progress Window

- Step 6:** Select all listed features: 1) “J2SE Runtime Environment”, 2) “Support for Additional Languages” and 3) “Additional Font and Media Support” for installation and click “**Next >**” to move on to the Browser Registration window.

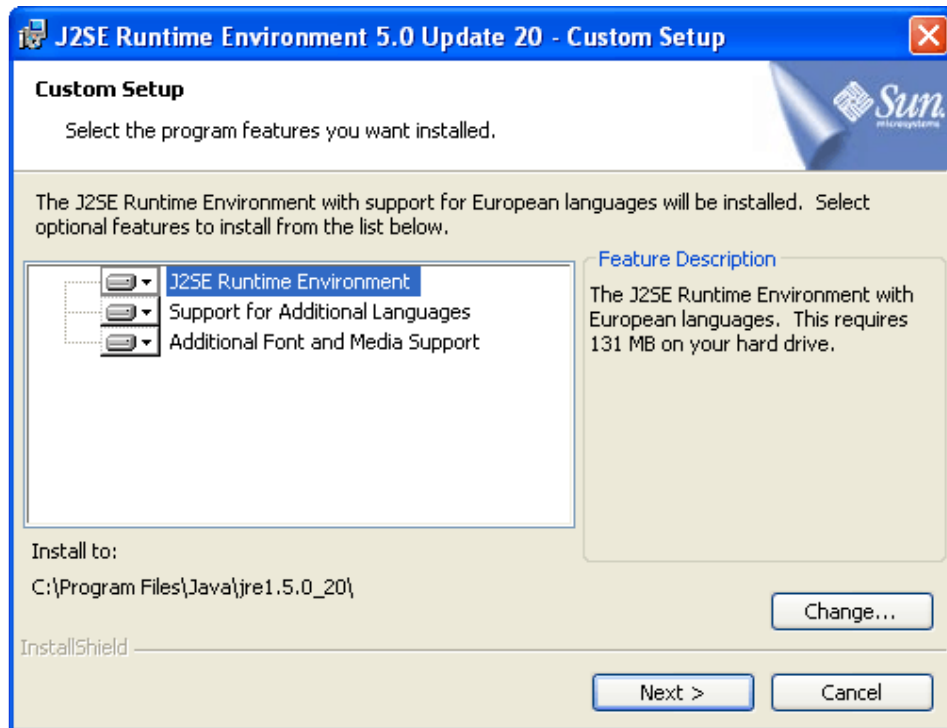


Figure 34 JRE Custom Setup Window

- Step 7:** In the Browser Registration window, click “**Install >**” to start installation.

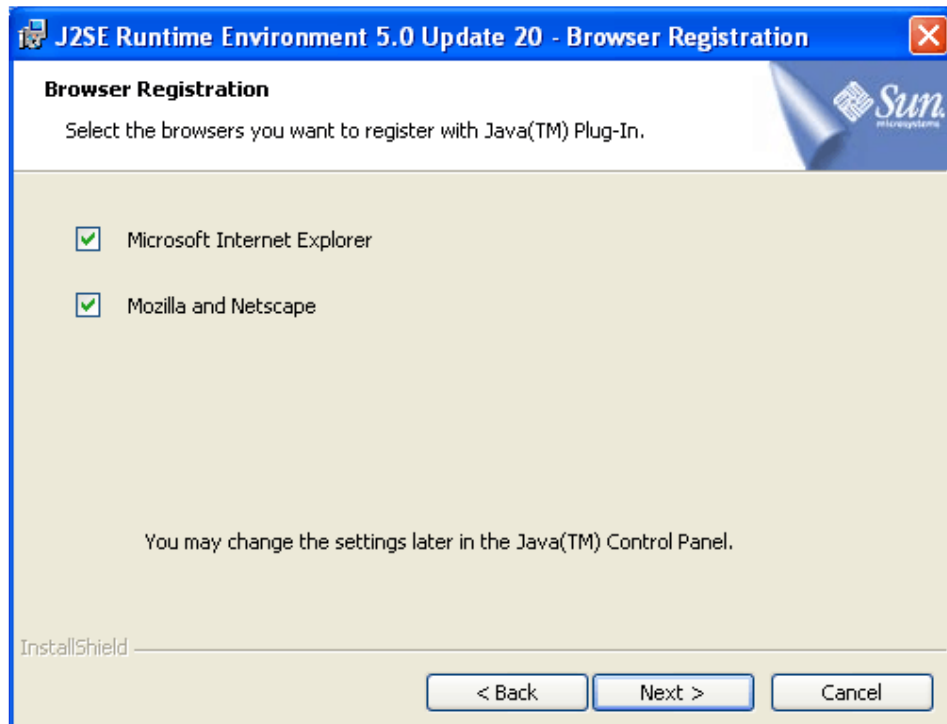


Figure 35 JDK Browser Registration Window

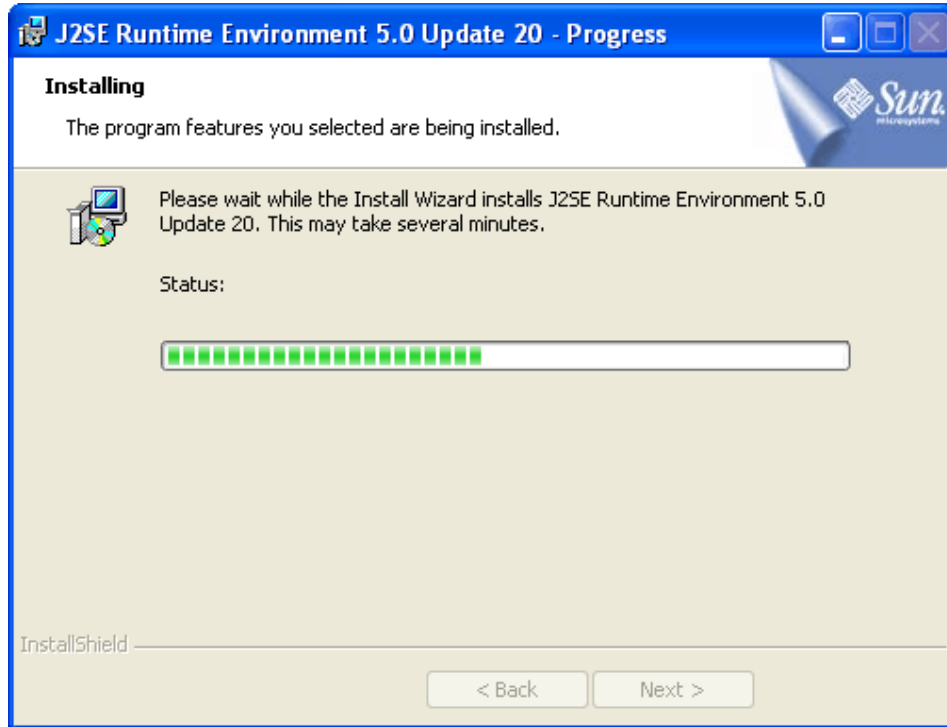


Figure 36 JRE Custom Setup Window

Step 8: Click **“Finish”** to complete installation.

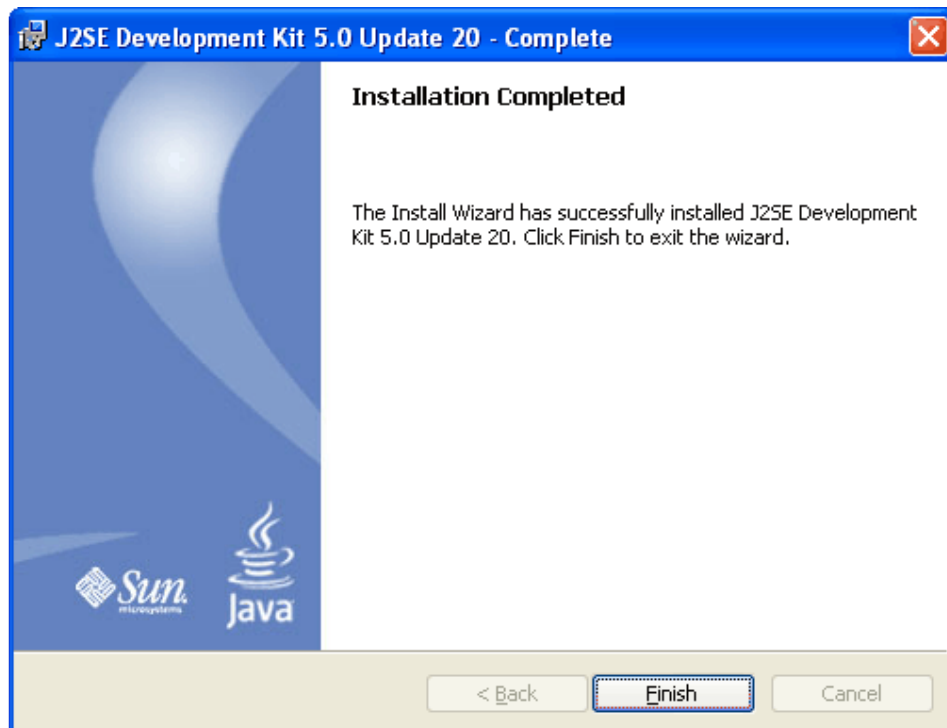


Figure 37 Completion of JDK Installation

Step 9: The AWMS Servers Setup Wizard prompts up. Click “Next >”.

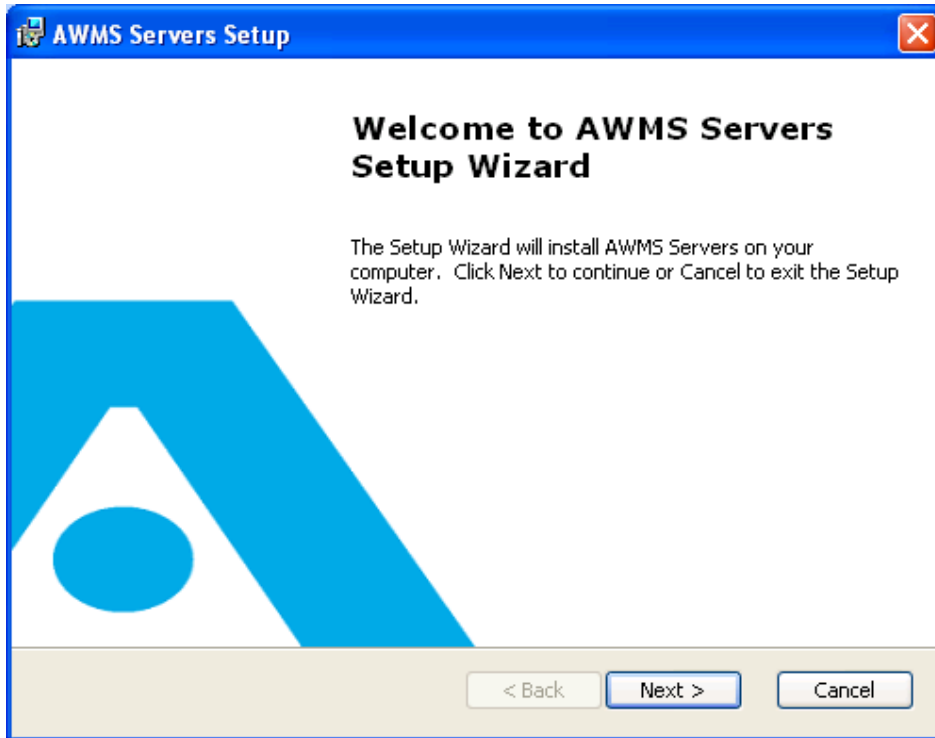


Figure 38 AWMS Servers Setup Wizard

Step 10: Type the corresponding Java Development Kit Installation path. By default, it is C:\Program Files\Java\jdk1.5.0_20\. Click “Next >”.

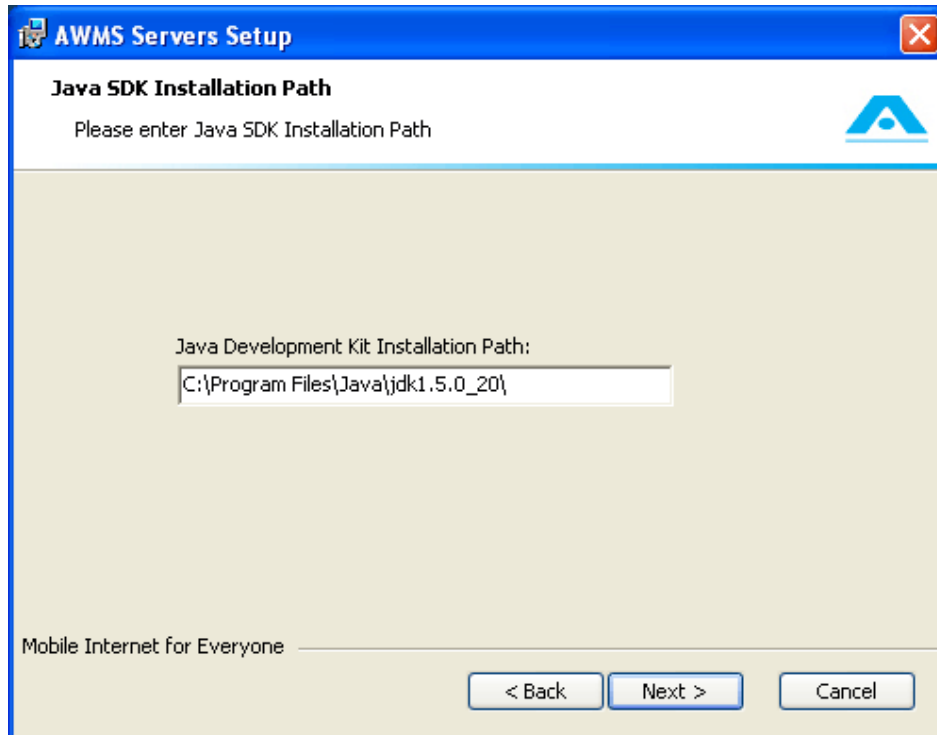


Figure 39 Define Java SDK Installation Path

Step 11: Choose the Setup Type and click “Next >”. In this installation, “Custom” type is chosen for demonstration.

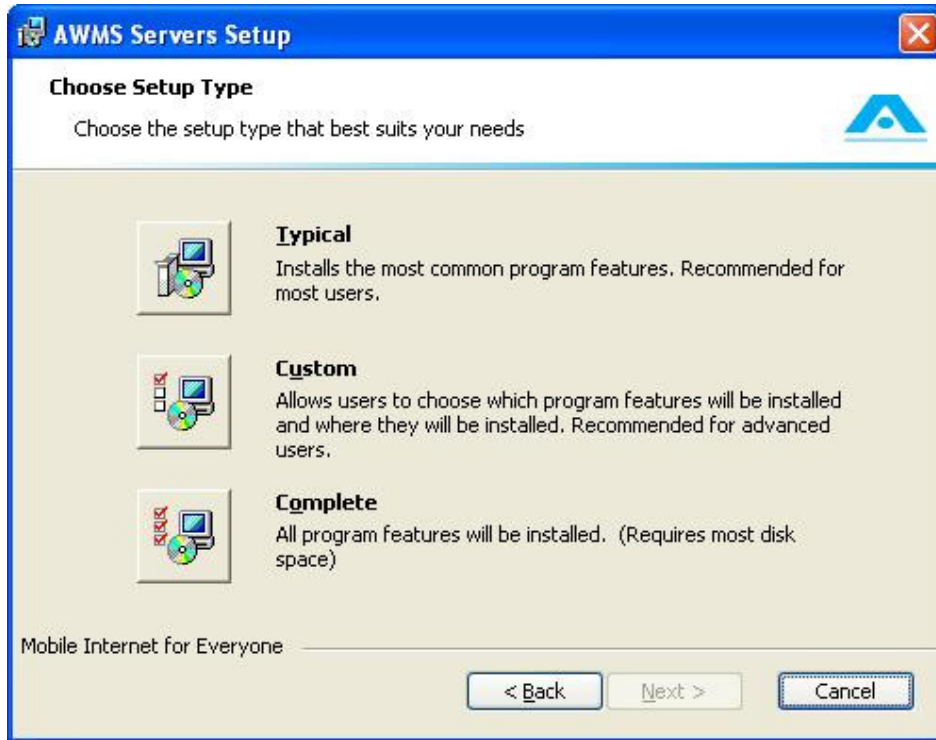


Figure 40 AWMS Servers Setup Type

Step 12: Both Proxy and CCS are selected in this stage. Click “Next >”.

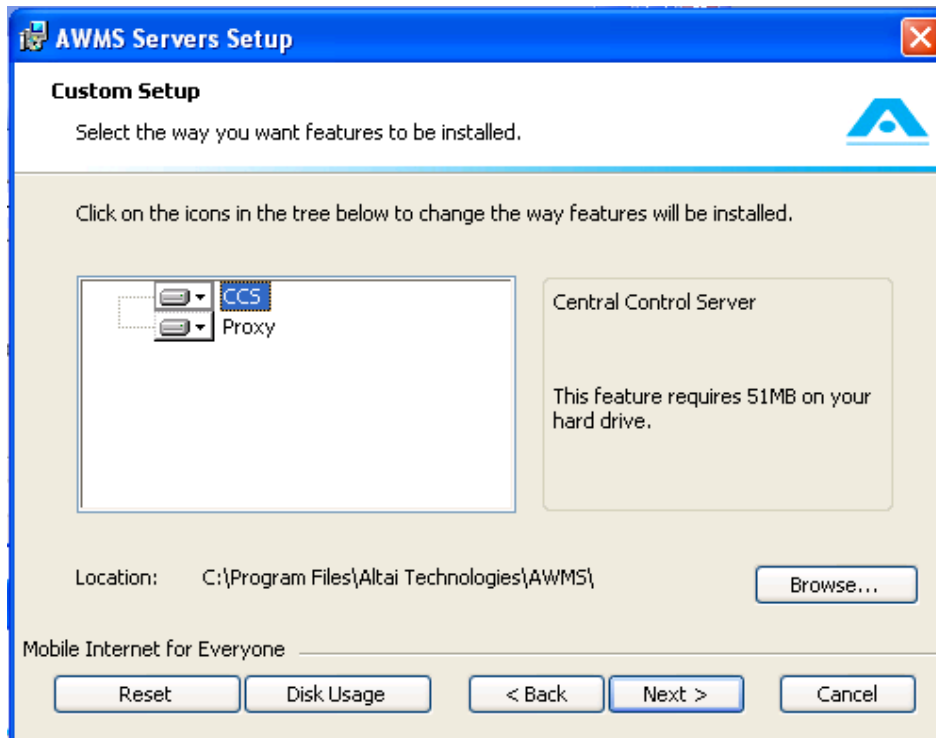


Figure 41 Install both Proxy and CCS

Step 13: Click **“Install”** to start the installation.

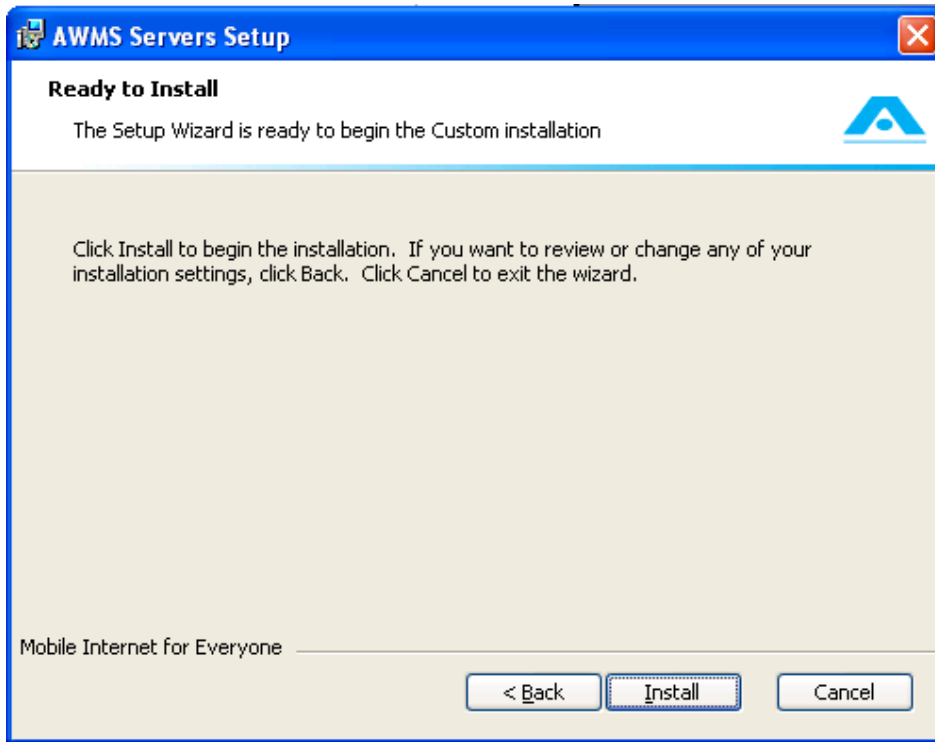


Figure 42 Ready to Install

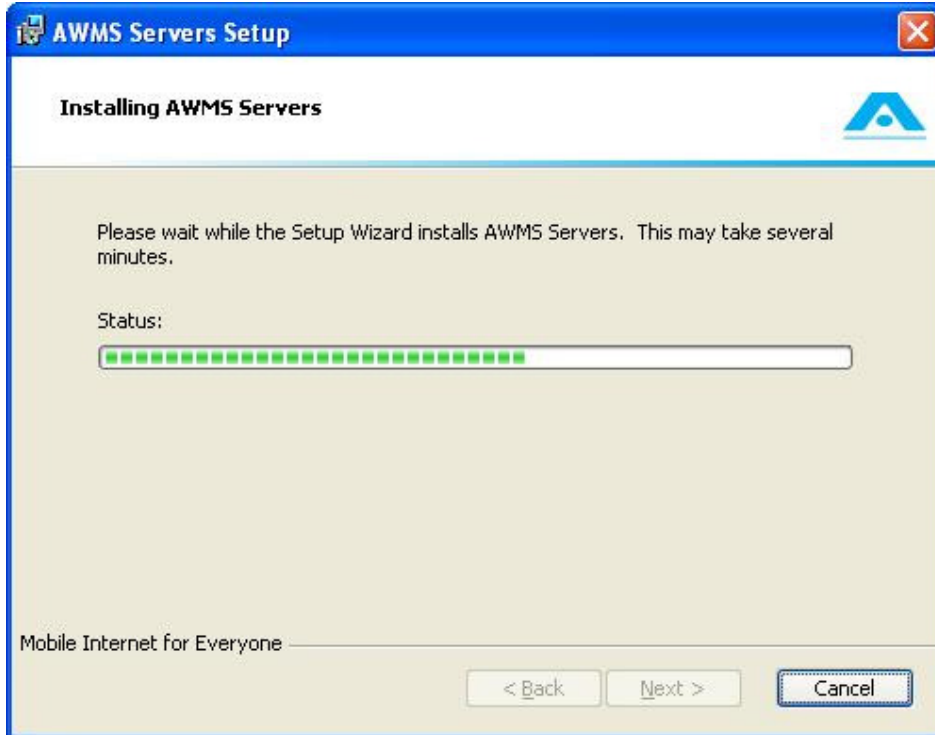


Figure 43 Installing AWMS Servers

Step 14: Click **“Finish”**.

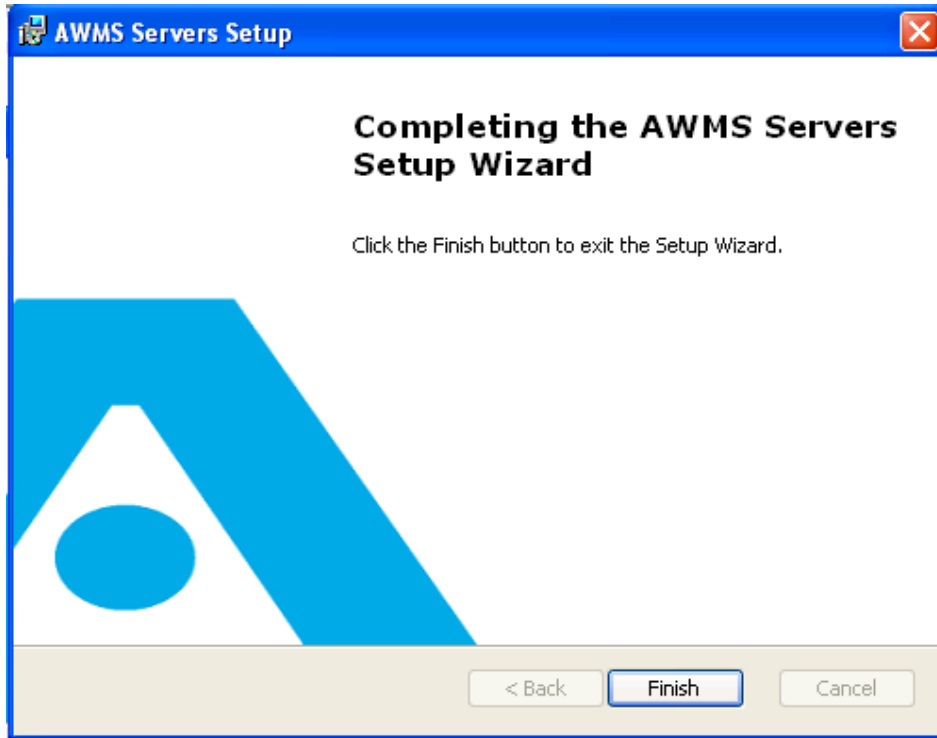


Figure 44 Completion of AWMS Servers Installation

Step 15: The AWMS Client Setup Wizard shows up. Click **“Next >”**.

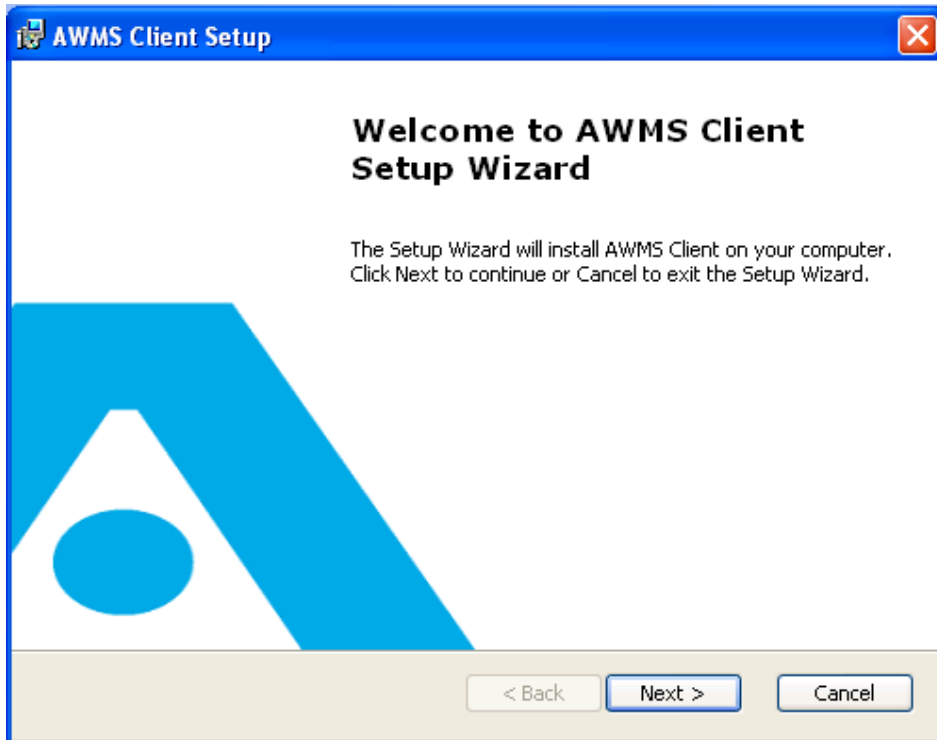


Figure 45 AWMS Client Setup Wizard

Step 16: Fill in the corresponding AWMS server IP and port and click “Next >”.

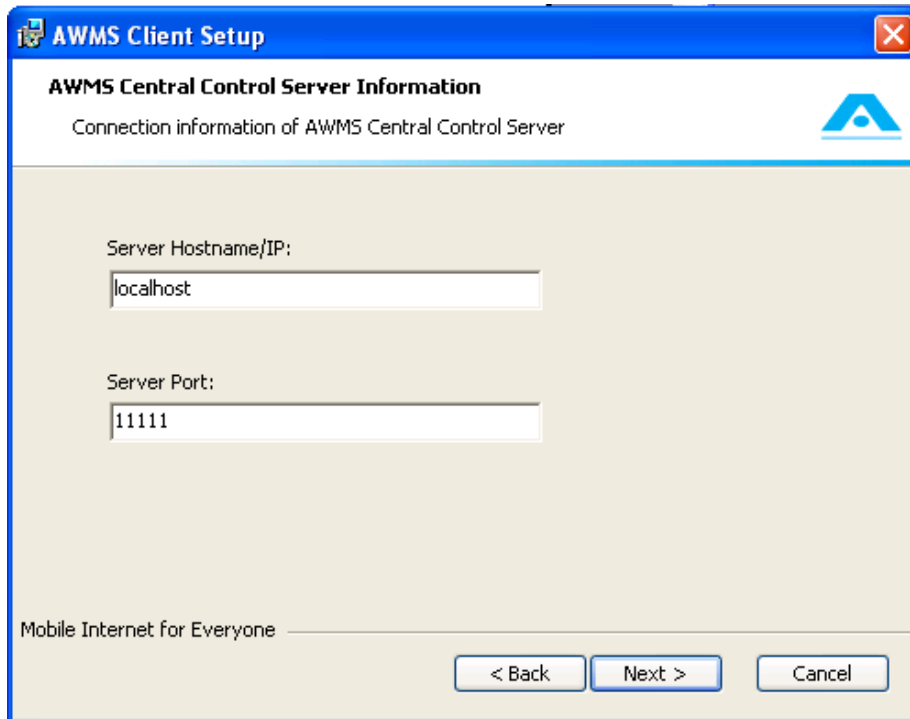


Figure 46 Fill in the corresponding both IP address/Hostname and Port Number of the AWMS Server

The following explains the parameters of the settings,

1. **Server Hostname/IP** – IP address or hostname of the machine that you install AWMS CCS. By default, it is “localhost”, i.e. the AWMS CCS is located in the local machine. If the AWMS CCS is installed in other machine, please input the hostname/IP of the machine. It can be changed after the installation, please refer to Section 7.1.3 for more details.
2. **Server Port** – It defines port that the AWMS Clients use to communicate with the AWMS CCS. By default, it is “11111” and it is recommended that you leave it as it is unless you are sure about the change.

Step 17: Select the installation folder and click “Next >”. By default, the path is “C:\Program Files\Altai Technologies\AWMS”.

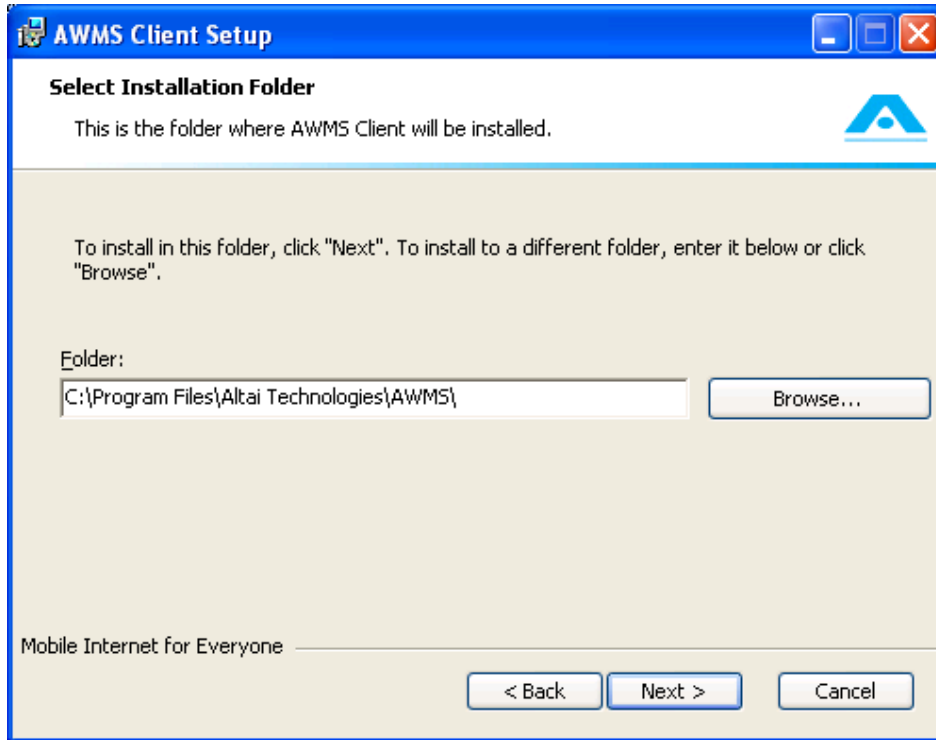


Figure 47 Fill in AWMS Client Installation Path

Step 18: Click “Install”.

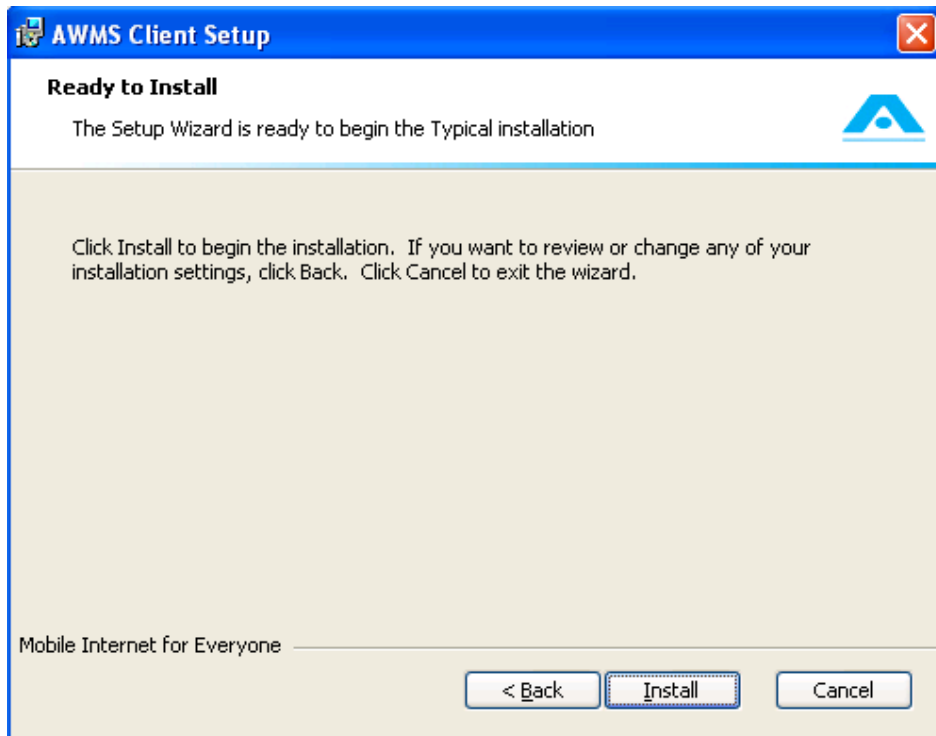


Figure 48 Start AWMS Client Installation

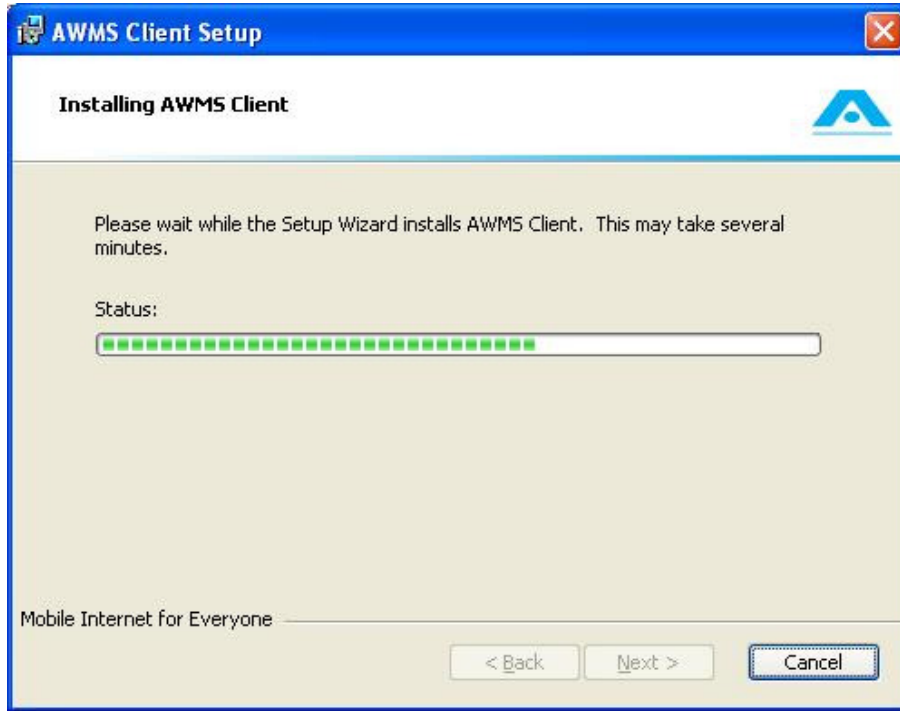


Figure 49 AWMS Client Installation Progress

Step 19: Click **“Finish”** to complete the AWMS Client Installation.

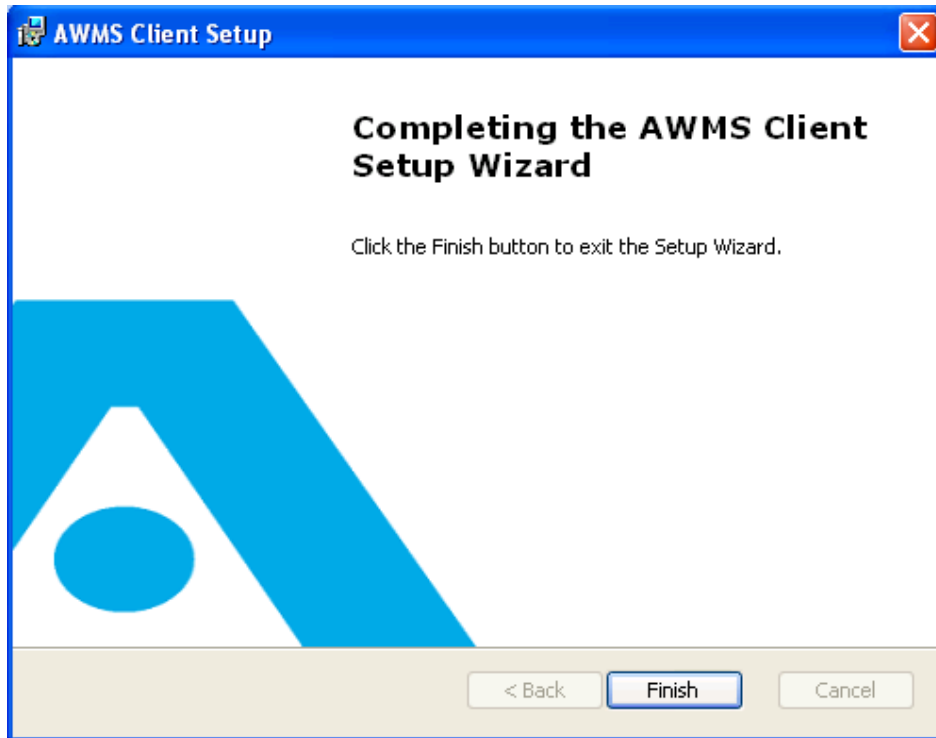


Figure 50 Completion of AWMS Client Installation

Step 20: Click “Next”.

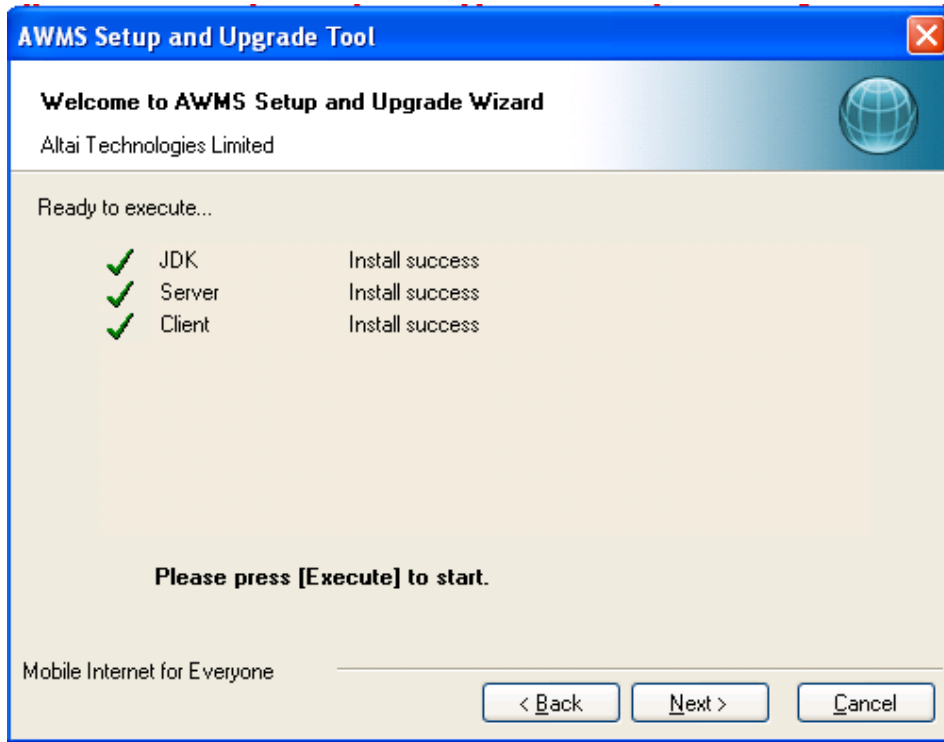


Figure 51 Success of JDK, AWMS Server and Client Installation

Step 21: Choose “Yes”. Click “Next”.

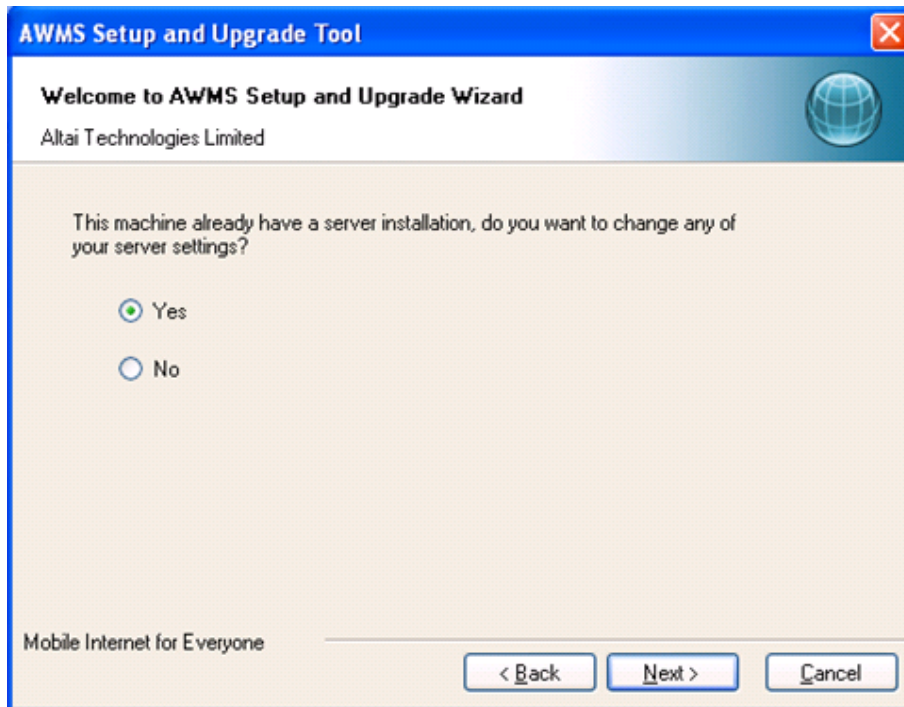


Figure 52 AWMS Server Configuration

Step 22: Set the configuration information of AWMS Central Control Server. Click “Next”.

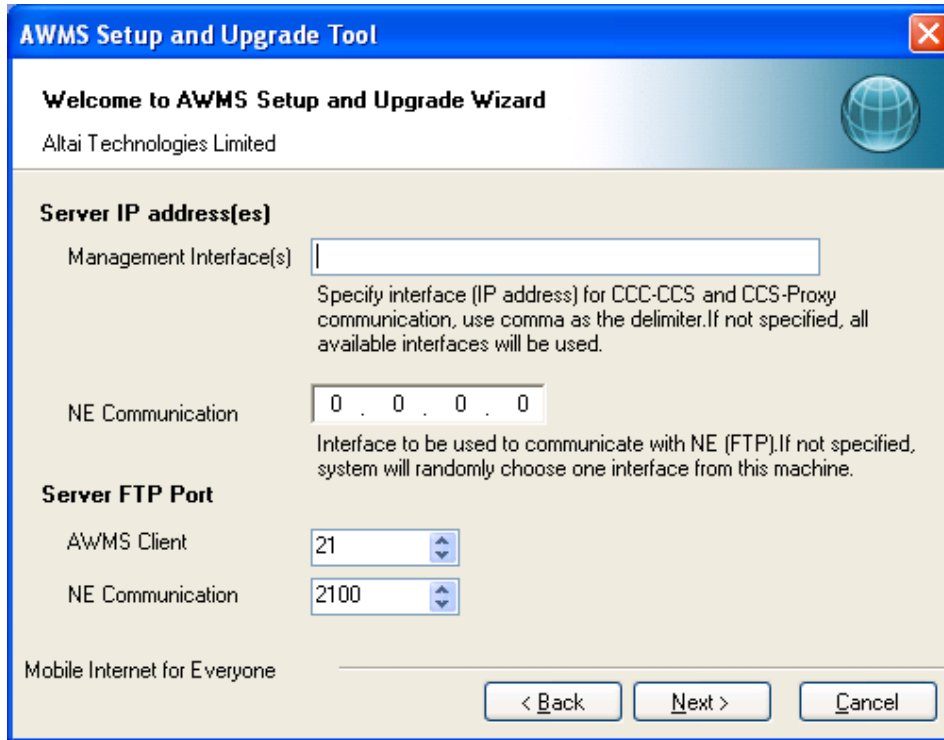


Figure 53 AWMS Server Configuration

The following explains the parameters of the settings,

1. Server IP address(es) for Management Interface(s) – IP address(es) for CCC-CCS and CCS-Proxy communication, use comma as delimiter. If not specified, AWMS binds it to all interfaces. If the AWMS CCS is installed in other machine, please input the IP of the machine. It can be changed after the installation, please refer to Section 7.1.3 for more details.
2. Server IP address for NE communication – IP address of the machine that NE can communicate with AWMS CCS. If not specified, system will randomly choose one interface installed on AWMS CCS. It can be changed after the installation, please refer to Section 7.1.3 for more details.
3. Server FTP Port for AWMS Client – It defines port that the AWMS Clients use this port to transfer files with the AWMS CCS. By default, it is “21” and it is recommended that you leave it as it is unless you are sure about the change.
4. Server FTP Port for NE communication – It defines port that the AWMS Clients use this port to transfer files with the AWMS CCS. By default, it is “2100” and it is recommended that you leave it as it is unless you are sure about the change.

Step 23: For AWMS Database Configurations, go to **Step 24** if no password is defined for root of MySQL (refer to Step 16 of Section 4.3). Otherwise, enter the corresponding password in the field of “**Admin User Password**”.

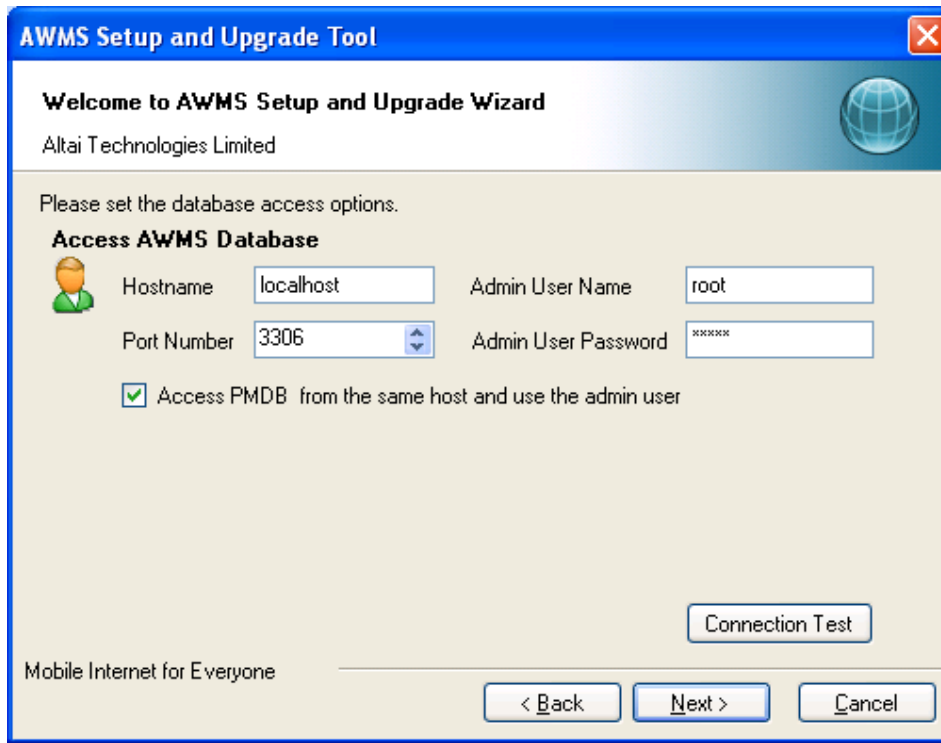


Figure 54 AWMS Database Configurations with password

The following explains some of the parameters of the settings,

1. **Hostname** – It defines the location of the database. By default, it is “localhost”, i.e. the database is located in the local machine. If the database is installed in other machine, please input the hostname of the machine.
2. **Port Number** – It defines the port number for inter-connection between MySQL Server and CCS. When you change the port number to other numbers during MySQL installation (Step 13 of Section 4.3), please input the port number accordingly and refer to Section 8.1 for more details.
3. **Admin User Password** – This password **MUST** be matched the root’s password of MySQL (Step 16 of Section 4.3).

Step 24: Click “ **Connection Test**” to check if there is a successful connection with AWMS database.

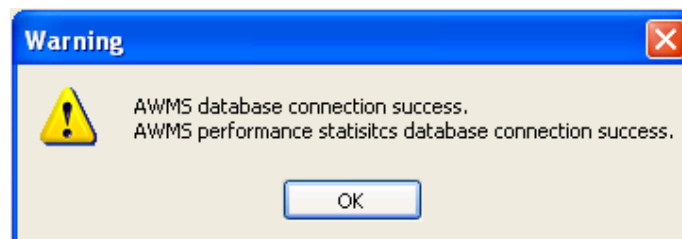


Figure 55 AWMS Database Connection Test

Step 25: Click “Execute”

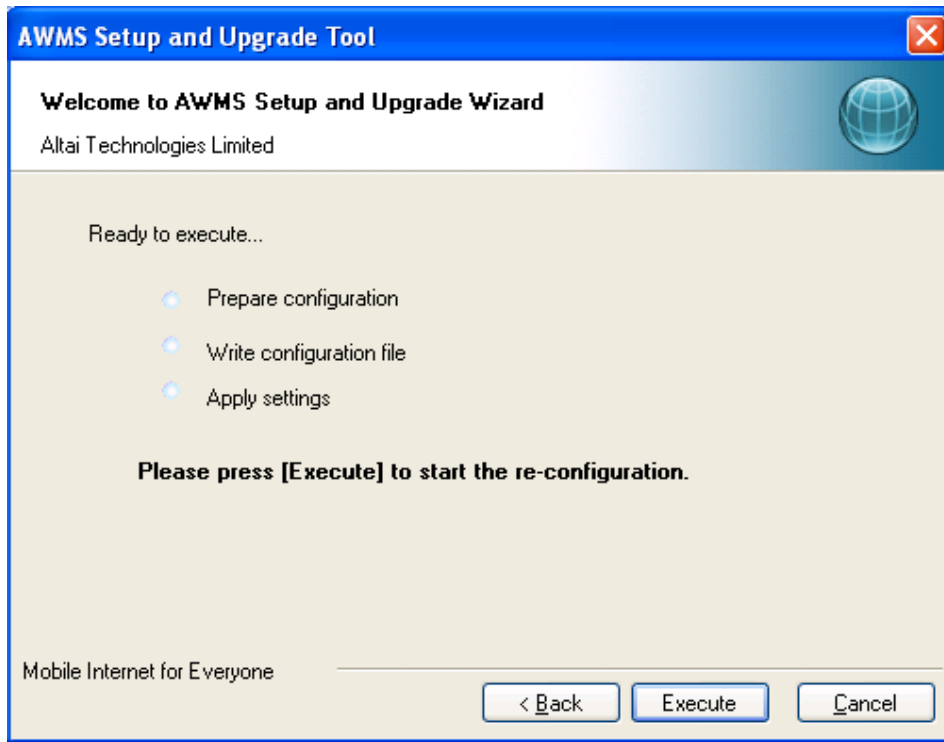


Figure 56 Start AWMS Server Configuration

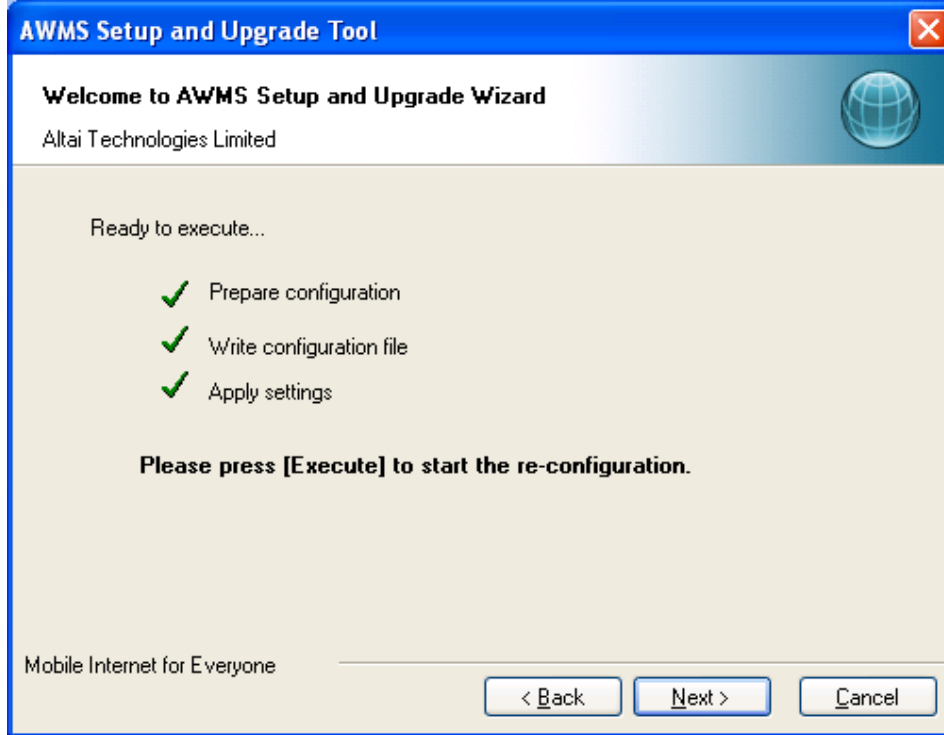


Figure 57 Start AWMS Server Configuration

Step 26: Choose “**Create Database**”. Click “**Next**”.

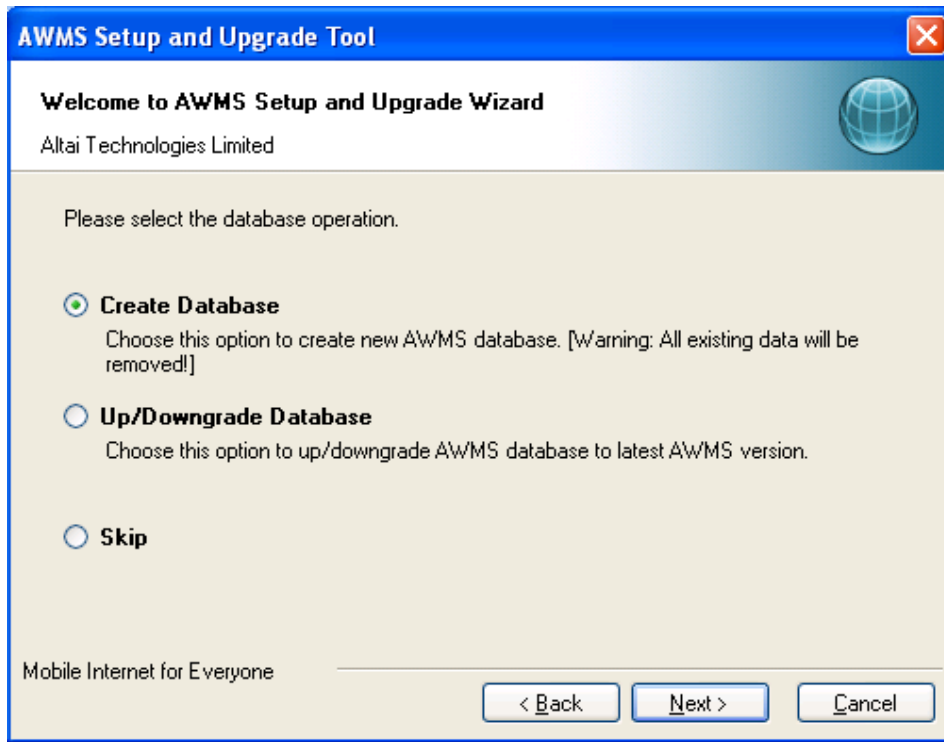


Figure 58 Create Database

Step 27: Click “**Next**”.

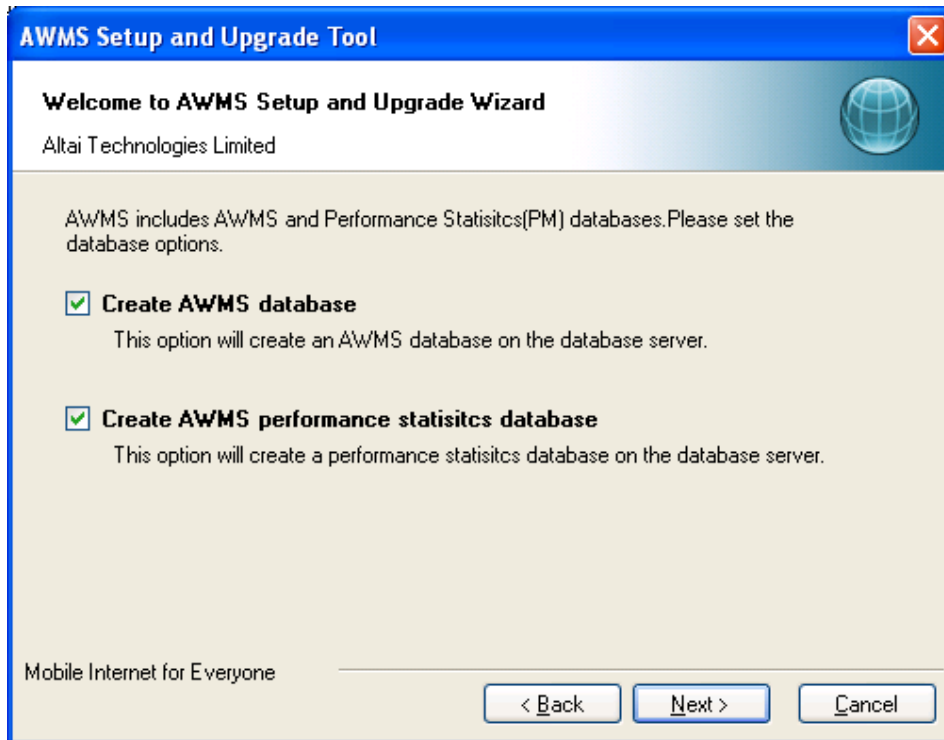


Figure 59 Create Database

Step 28: Click “Yes”.

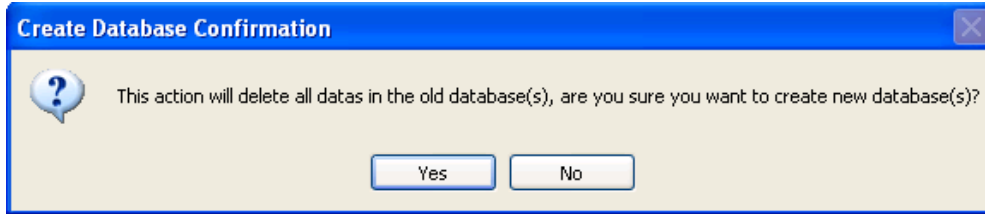


Figure 60 Create New Database

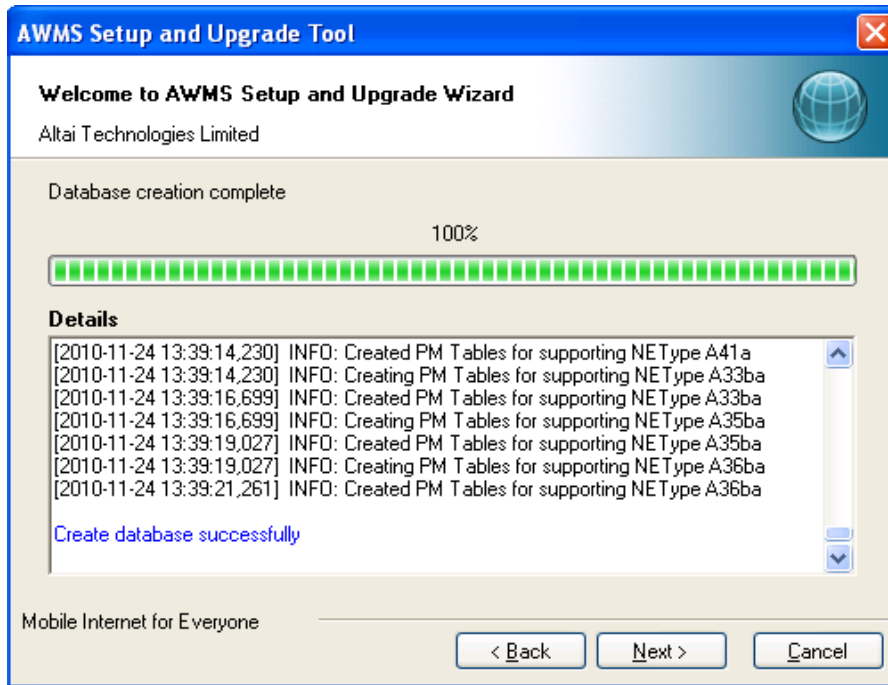


Figure 61 Completion of AWMS Database

Step 29: Click “Finish” to exit AWMS Setup and Upgrade Tool.

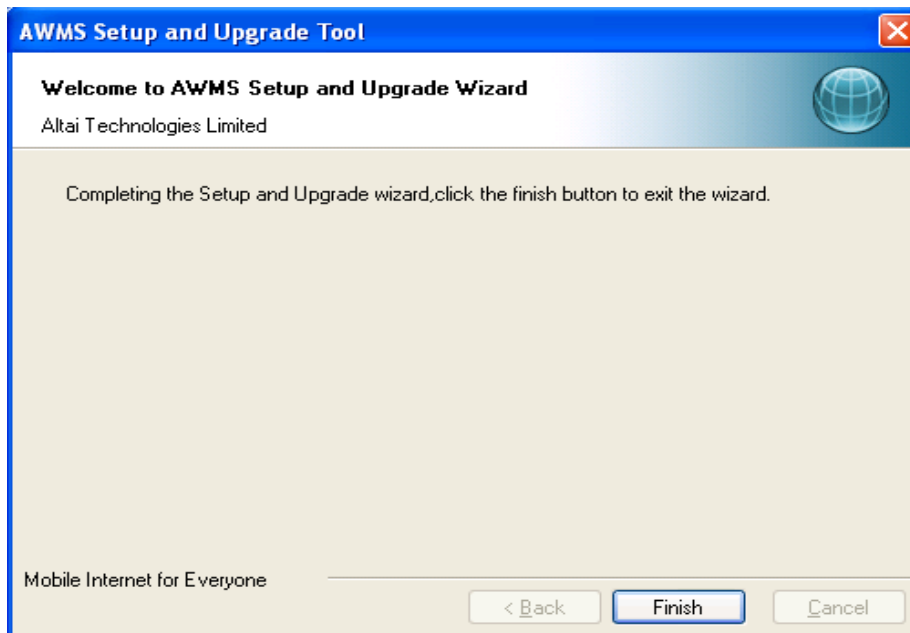


Figure 62 Completion of AWMS Setup and Upgrade

4.5 INSTALL CENTRAL CONTROL SERVER AND PROXY SERVER IN SPERATE COMPUTERS

This section demonstrates how to install CCS and proxy in separate computers. For example, CCS is installed on computer A (IP: 192.168.1.10) while proxy is installed on computer B (IP: 192.168.1.20).

Before installation, MySQL version 5.0.18 should exist in computer A.

Remark:

If you have the previous AWMS installed in your computer, you only need to upgrade it. You can refer to Section 5 for the upgrading procedures.

Note:

In this section, it is assumed that the 1) CCS, 2) Proxy servers and the 3) NEs (i.e. Altai A8 and Altai A0) are located in the same IP SUBNET. If you want to install the CCS, Proxy servers and NEs in different IP subnets, please refer to “Application notes for installing CCS, Proxy and NE in different Subnets” for the details.

4.5.1 CENTRAL CONTROL SERVER (CCS) INSTALLATION

Step 1 to Step 11: Please refer to Section 4.4 Step 1 to Step 11.

Step 12: Select “**Entire feature will be unavailable**” for Proxy and click “**Next >**”.

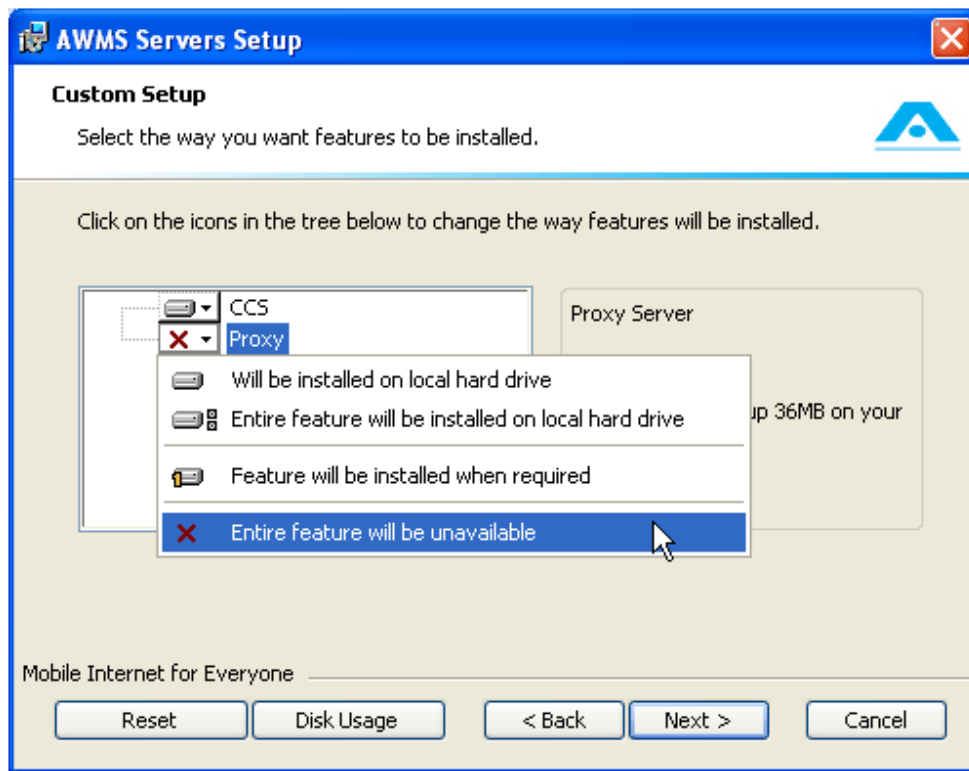


Figure 63 Install CCS in computer A

Step 13 to Step 21: Please refer to Section 4.4 Step13 to Step 21.

Step 22: Set the configuration information of AWMS Central Control Server. Click “Next”.

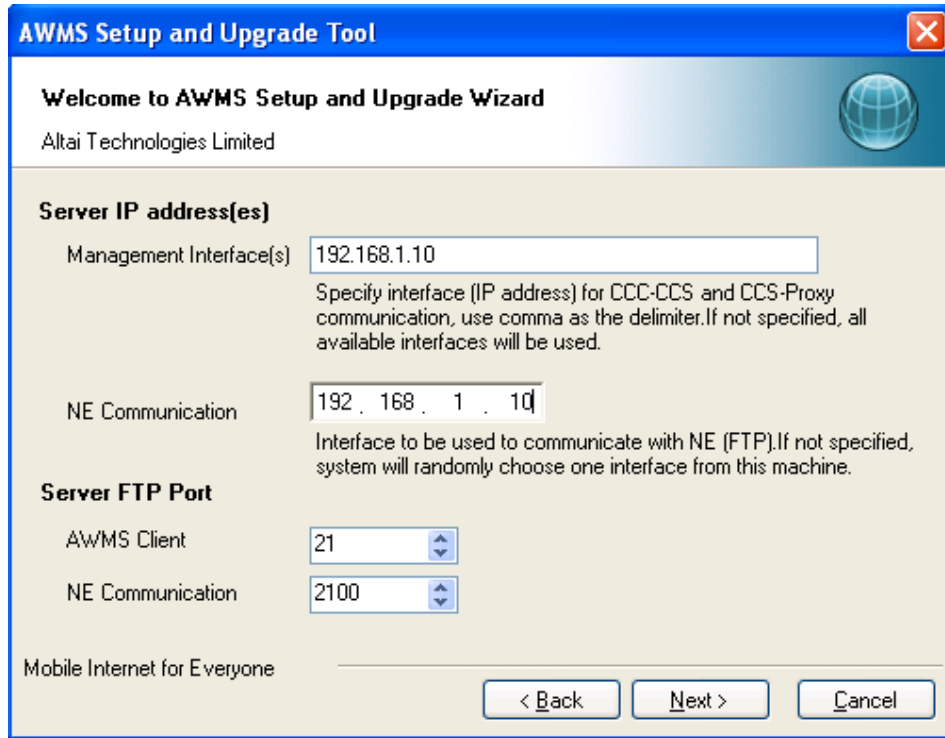


Figure 64 AWMS Servers Setup

Step 23 to Step 29: Please refer to Section 4.4 Step 23 to Step 29.

4.5.2 PROXY SERVER (PX) INSTALLATION

Step 1 to Step 11: Please refer to Section 4.4 Step 1 to Step 11.

Step 12: Select “Entire feature will be unavailable” for CCS and click “Next >”.

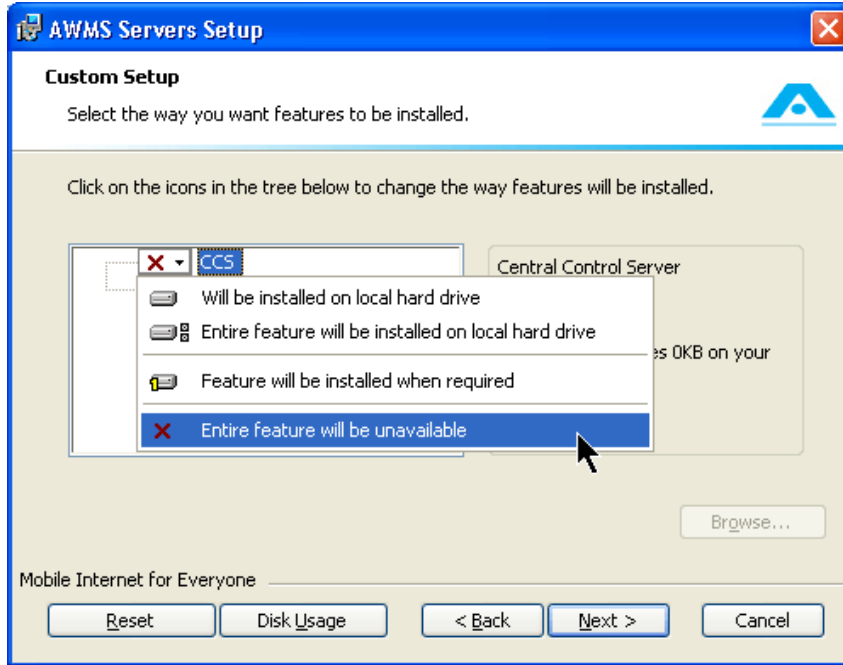


Figure 65 Install Proxy Server in computer B

Step 13 to Step 21: Please refer to Section 4.4 Step 13 to Step 21.

Step 22: Set the configuration information of AWMS Central Control Server. Click “Next”.

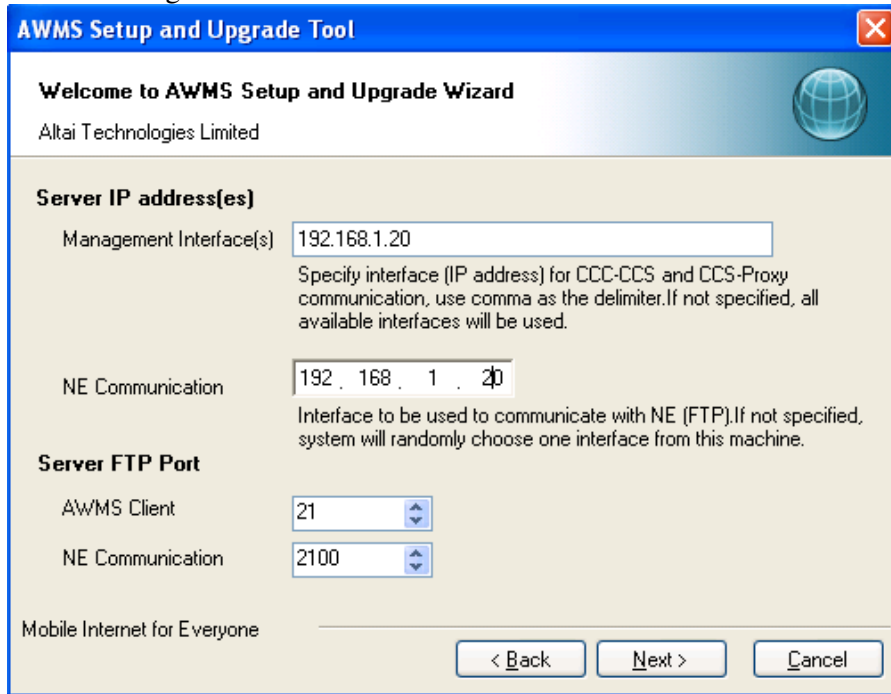


Figure 66 AWMS Servers Setup

Step 23 to Step 29: Please refer to Section 4.4 Step 23 to Step 29.

4.6 SET COMPATIBILITY MODE OF CENTRAL CONTROL SERVER

Remark:

If your System is Windows 7 Professional, you need to set compatibility mode of Central Control Server as Windows XP. You only need to do this after AWMS new installation. The following steps demonstrate how to set it.

Step 1: AWMS CCS and CCC installers automatically create icons on the Windows Start Menu for you. Right-click “Central Control Server”. Choose “Properties”. The Central Control Server Properties window prompts up. As shown in *Figure 67*.

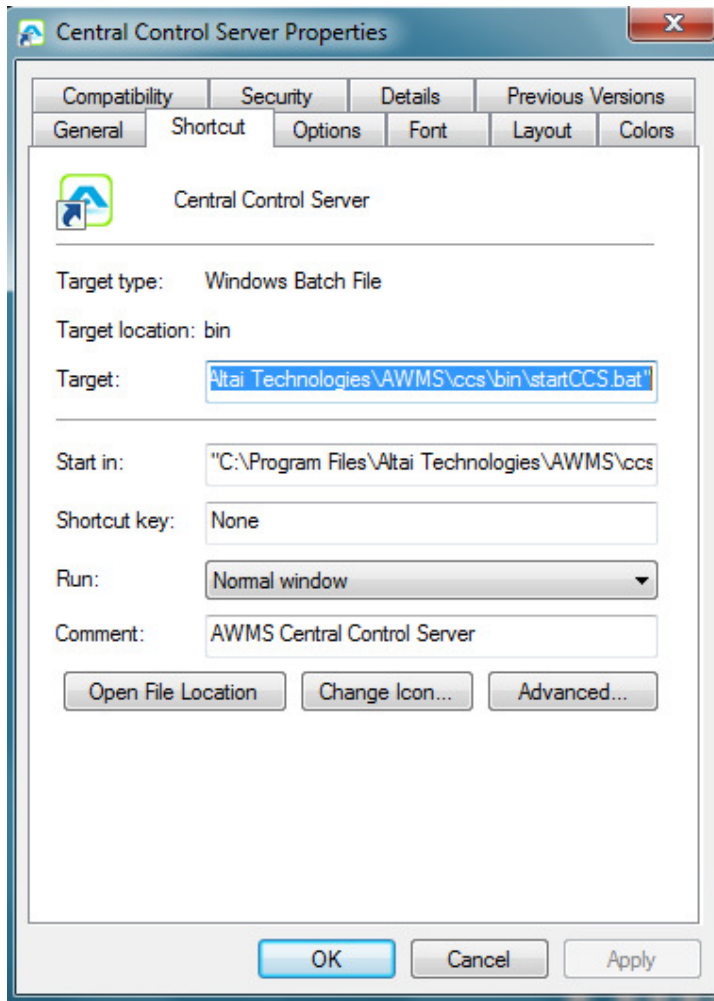


Figure 67 Central Control Server Properties

Step 2: Choose “Compatibility” tab.

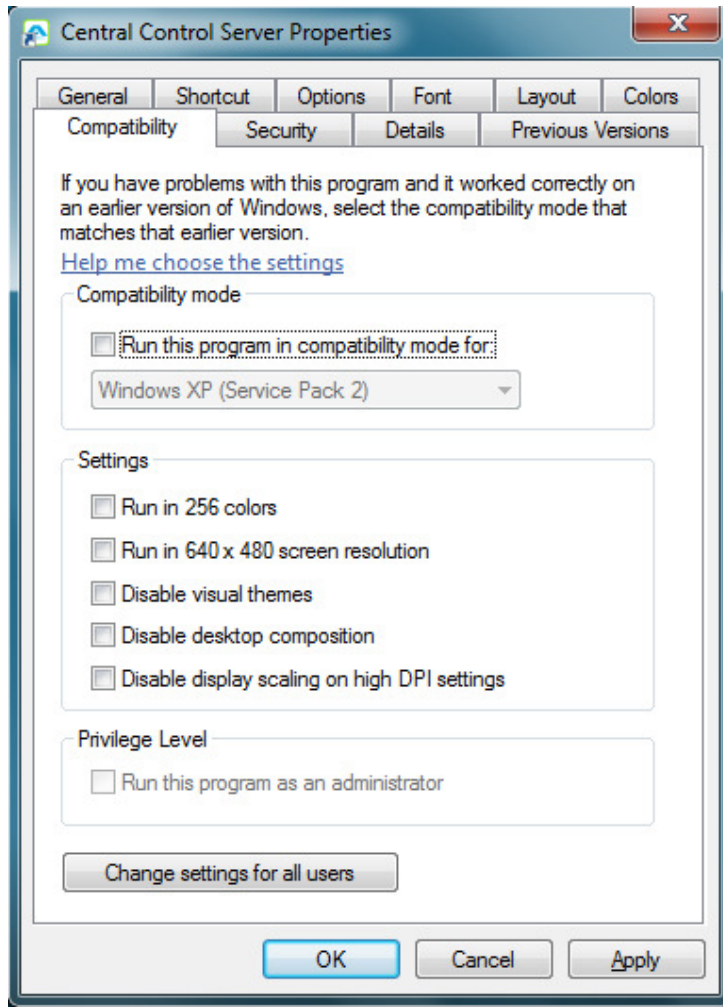


Figure 68 Compatibility Configuration

Step 3: Choose “Run this program in compatibility mode for Windows XP”.

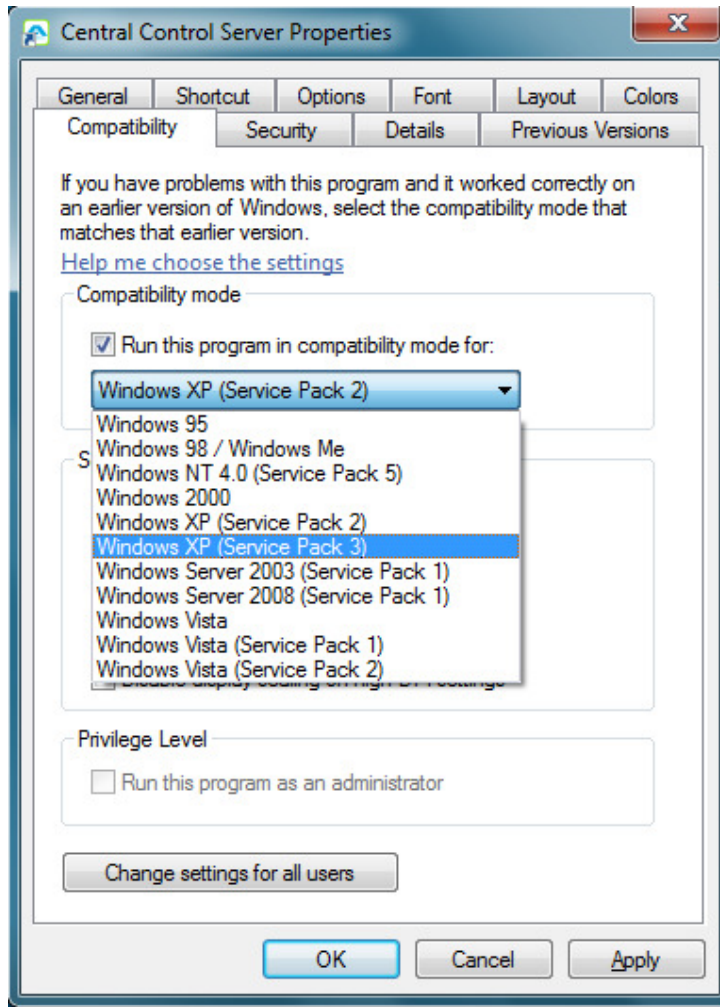


Figure 69 Set Compatibility Mode

Step 4: Click “Apply”. Click “OK” to close the window.

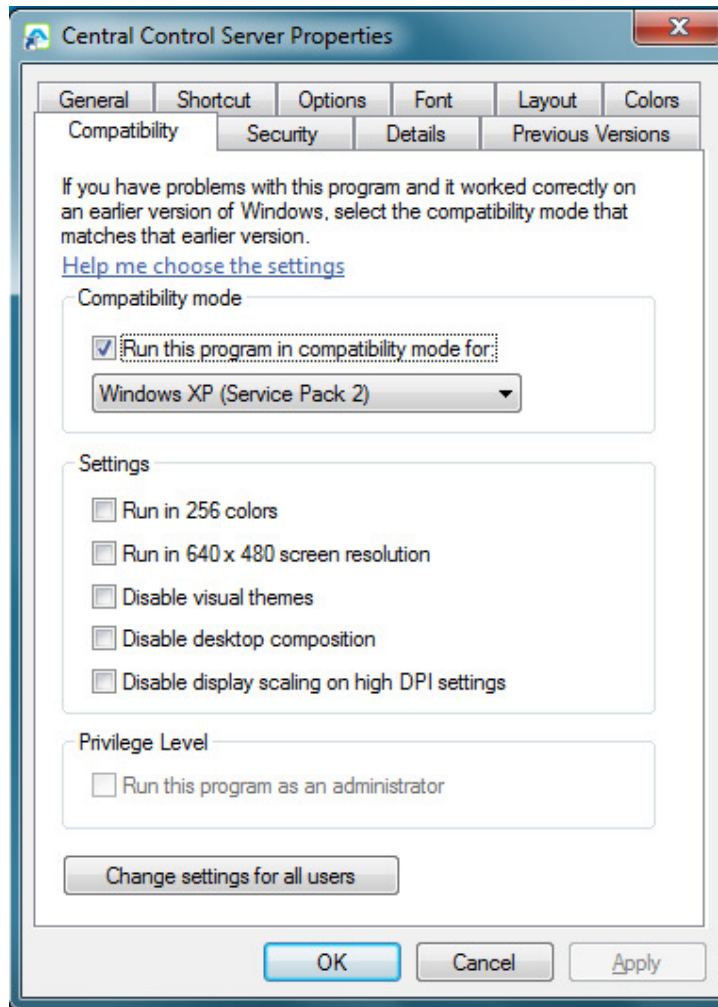


Figure 70 Click “Apply”

5 AWMS UPGRADE

If you have the previous AWMS installed in your computer, you only need to upgrade it. The following steps demonstrate how to upgrade AWMS.

Step 1: Double-click the file `AWMS_Setup.exe`. The AWMS Setup and Upgrade Wizard prompts up.

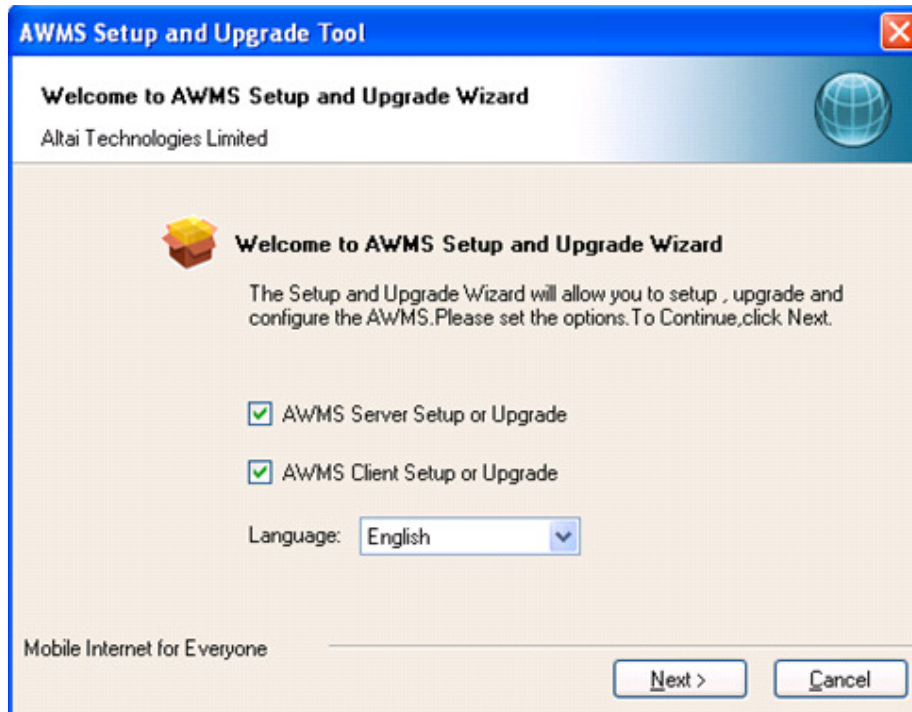


Figure 71 AWMS Setup and Upgrade Wizard

Remark:

You can also upgrade AWMS Server and AWMS Client separately by unchecking the AWMS Client Setup or Upgrade.

Step 2: Choose “**Server**” and “**Client**”. Click “**Next >**”.

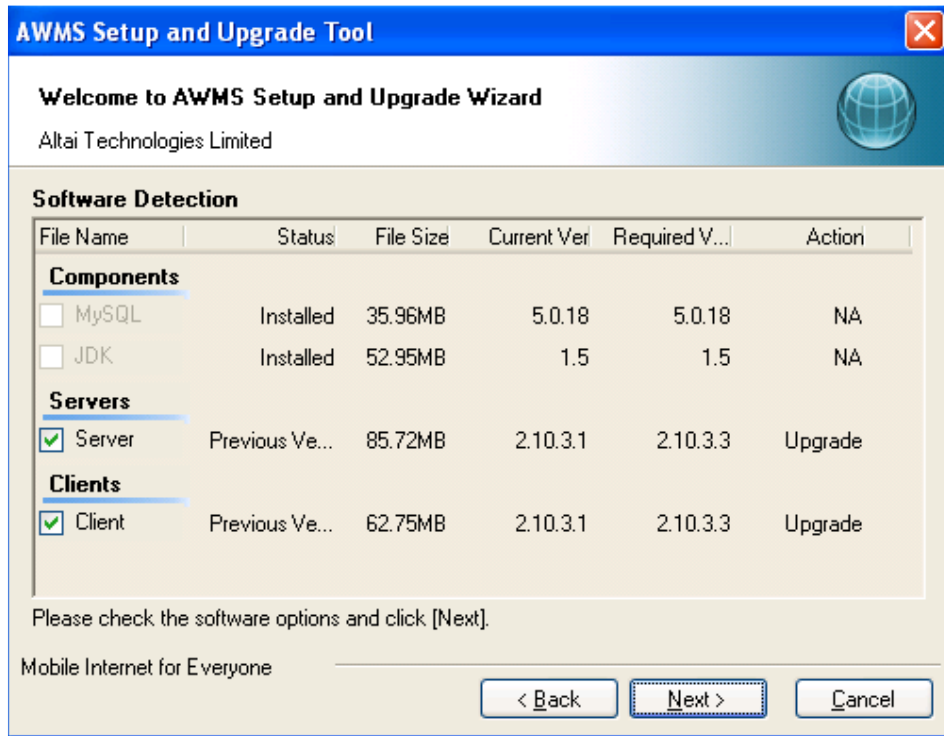


Figure 72 AWMS Setup and Upgrade Wizard

Step 3: Click “**Execute**” to start upgrade.

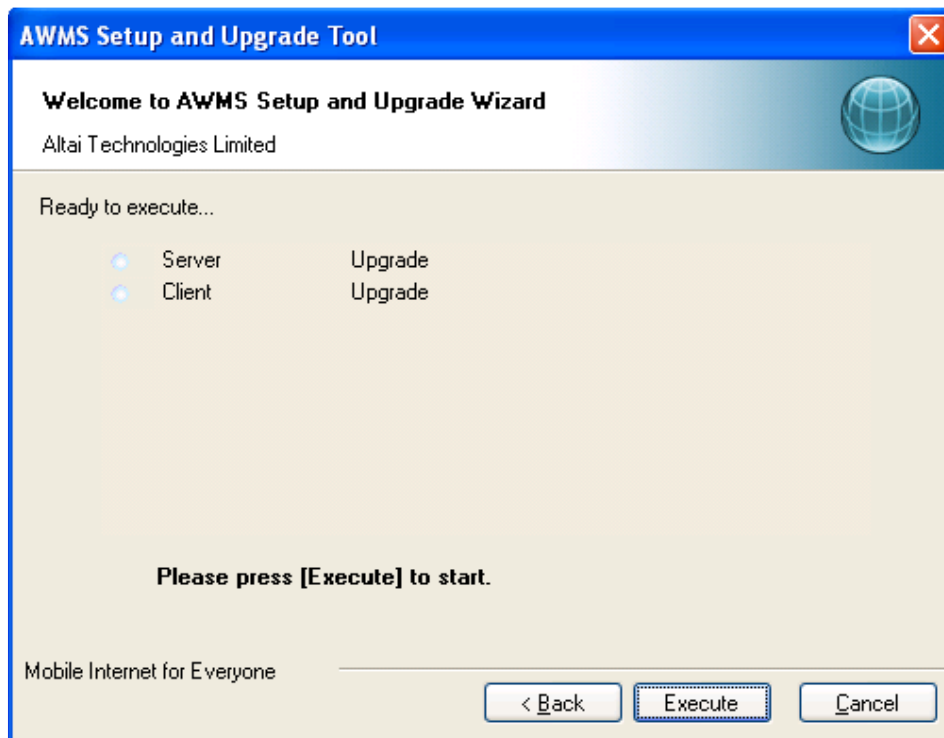


Figure 73 AWMS Setup and Upgrade Wizard

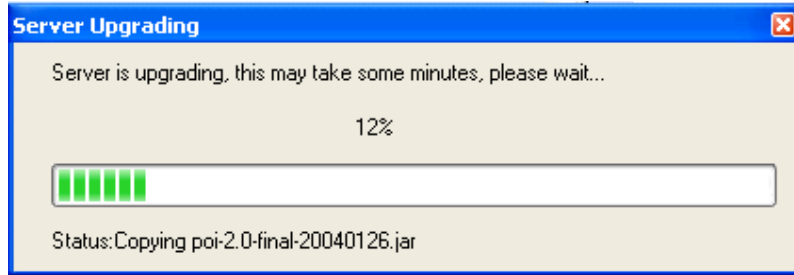


Figure 74 Server is upgrading

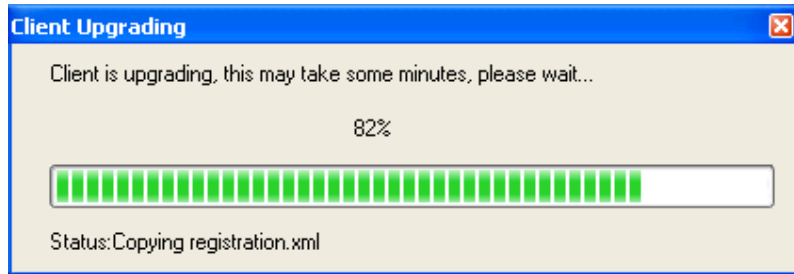


Figure 75 Client is upgrading

Step 4: Click “Next”.

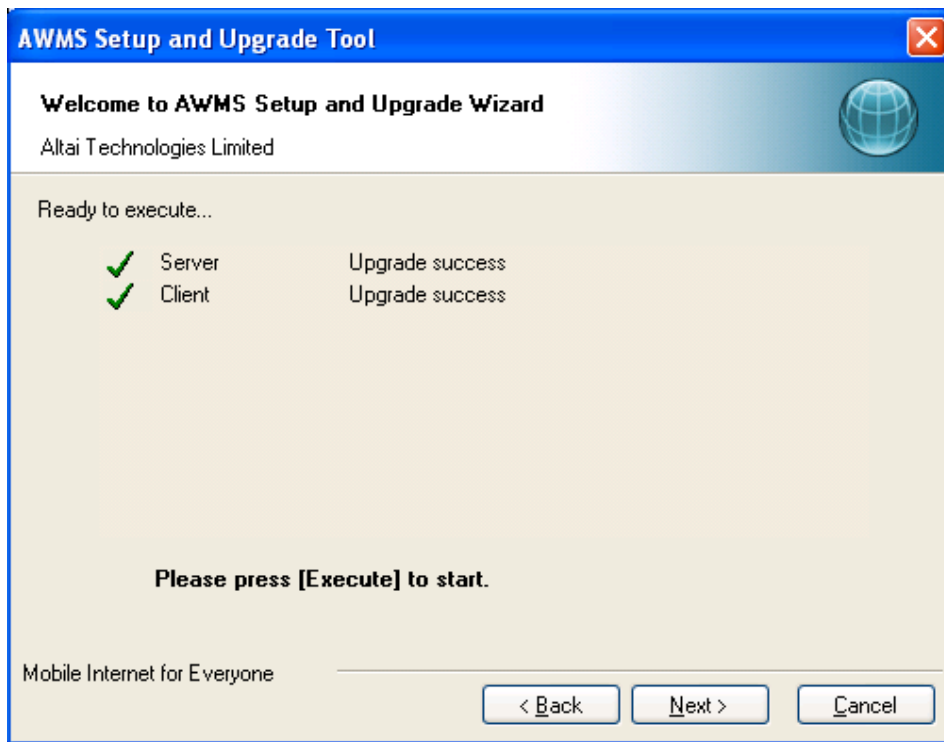


Figure 76 Success of upgrading

Step 5: Choose “Yes”. Click “Next”.

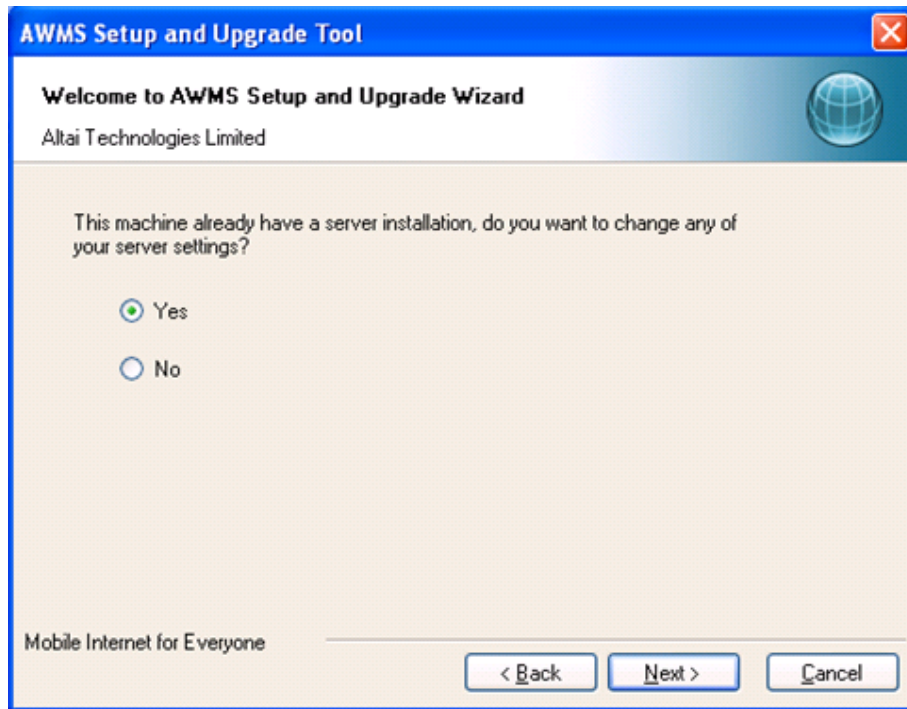


Figure 77 AWMS Server Configuration

Step 6: Set the configuration information of AWMS Central Control Server. Click “Next”.

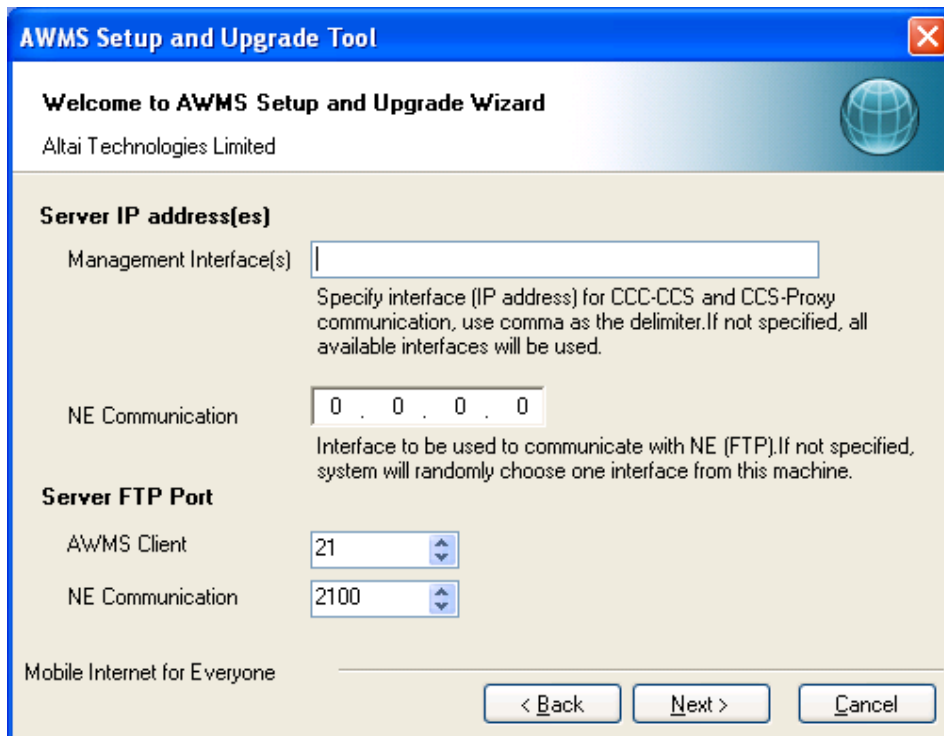
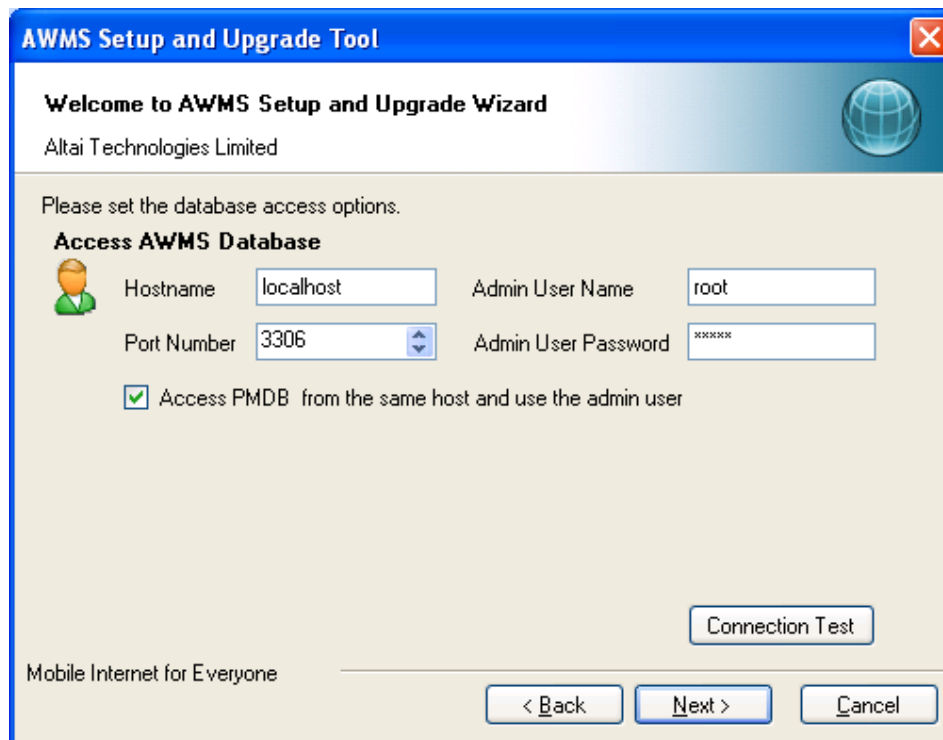


Figure 78 AWMS Server Configuration

The following explains the parameters of the settings,

1. Server IP address(es) for Management Interface(s) – IP address(es) for CCC-CCS and CCS-Proxy communication, use comma as delimiter. If not specified, AWMS binds it to all interfaces. If the AWMS CCS is installed in other machine, please input the IP of the machine. It can be changed after the installation, please refer to Section 7.1.3 for more details.
2. Server IP address for NE communication – IP address of the machine that NE can communicate with AWMS CCS. If not specified, system will randomly choose one interface installed on AWMS CCS. It can be changed after the installation, please refer to Section 7.1.3 for more details.
3. Server FTP Port for AWMS Client – It defines port that the AWMS Clients use this port to transfer files with the AWMS CCS. By default, it is “21” and it is recommended that you leave it as it is unless you are sure about the change.
4. Server FTP Port for NE communication – It defines port that the AWMS Clients use this port to transfer files with the AWMS CCS. By default, it is “2100” and it is recommended that you leave it as it is unless you are sure about the change.

Step 7: For AWMS Database Configurations, go to **Step 18** if no password is defined for root of MySQL (refer to Step 16 of Section 4.3). Otherwise, enter the corresponding password in the field of “**Admin User Password**”.



The screenshot shows the 'AWMS Setup and Upgrade Tool' window. The title bar reads 'AWMS Setup and Upgrade Tool'. The main content area is titled 'Welcome to AWMS Setup and Upgrade Wizard' and includes the text 'Altai Technologies Limited'. Below this, it says 'Please set the database access options.' and 'Access AWMS Database'. There are four input fields: 'Hostname' (localhost), 'Admin User Name' (root), 'Port Number' (3306), and 'Admin User Password' (masked with asterisks). A checkbox labeled 'Access PMDB from the same host and use the admin user' is checked. At the bottom right, there is a 'Connection Test' button. At the bottom left, it says 'Mobile Internet for Everyone'. At the bottom center, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Figure 79 AWMS Database Configurations with password

The following explains some of the parameters of the settings,

1. Hostname – It defines the location of the database. By default, it is “localhost”, i.e. the database is located in the local machine. If the database is installed in other machine, please input the hostname of the machine.

2. Port Number – It defines the port number for inter-connection between MySQL Server and CCS. When you change the port number to other numbers during MySQL installation (Step 13 of Section 4.3), please input the port number accordingly and refer to Section 8.1 for more details.
3. Admin User Password – This password MUST be matched the root’s password of MySQL (Step 16 of Section 4.3).

Step 8: Choose “Up/Downgrade Database”. Click “Next”.

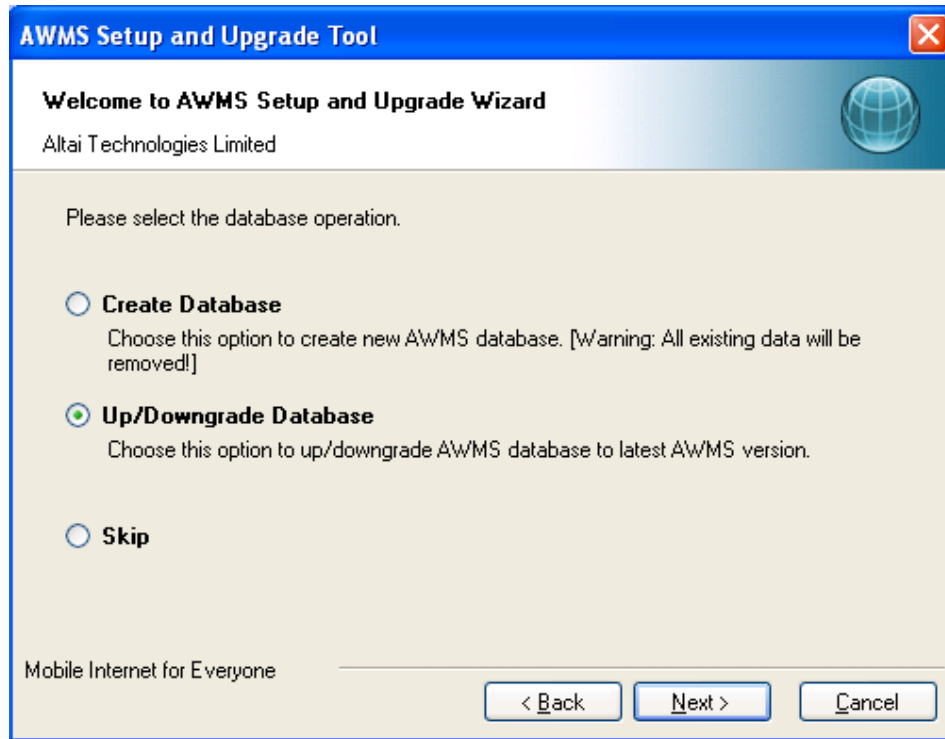


Figure 80 Up/Downgrade Database

Note:

Do not choose “Create Database”, otherwise all existing data will be removed. Choose “Up/Downgrade Database” to up/downgrade AWMS database.

Step 9: Click “Yes”.

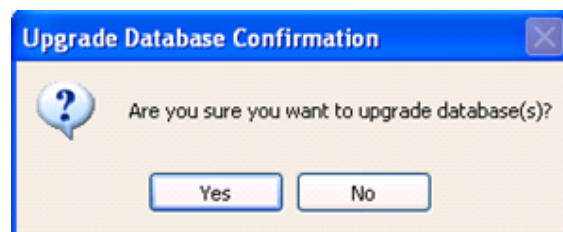


Figure 81 Upgrade Database

Step 10: Click “Next”.

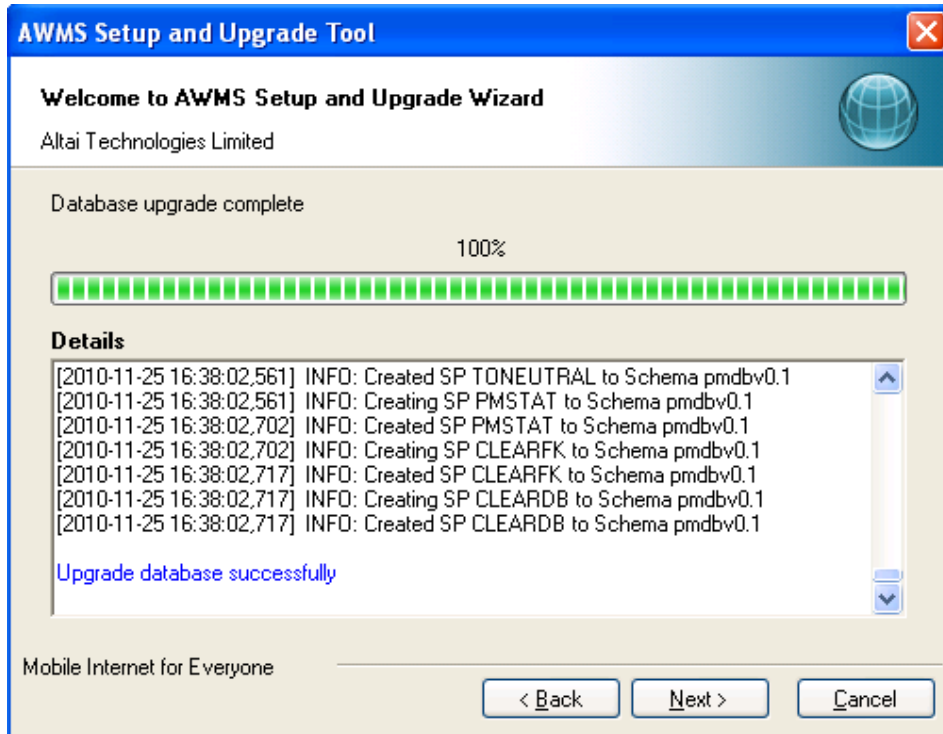


Figure 82 Upgrade database successfully

Step 11: Click “Finish” to exit AWMS Setup and Upgrade Tool.

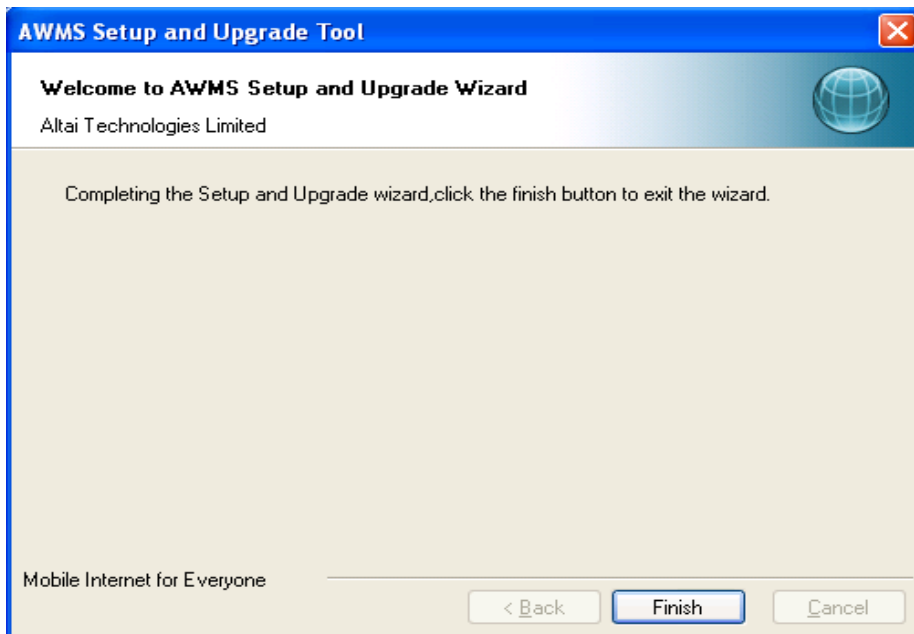


Figure 83 Completion of AWMS Setup and Upgrade

6 LAUNCH AWMS SERVERS AND CLIENT

The AWMS CCS and CCC installers automatically create icons on the Windows Start Menu for you to launch the system.

6.1 IMPORTING LICENCE FILE

Before the AWMS Central Control Server to be activated, a **license file** must be imported using the tool “License Tool”. “License Tool” can be found under Windows Menu as shown in **Error! Reference source not found.**

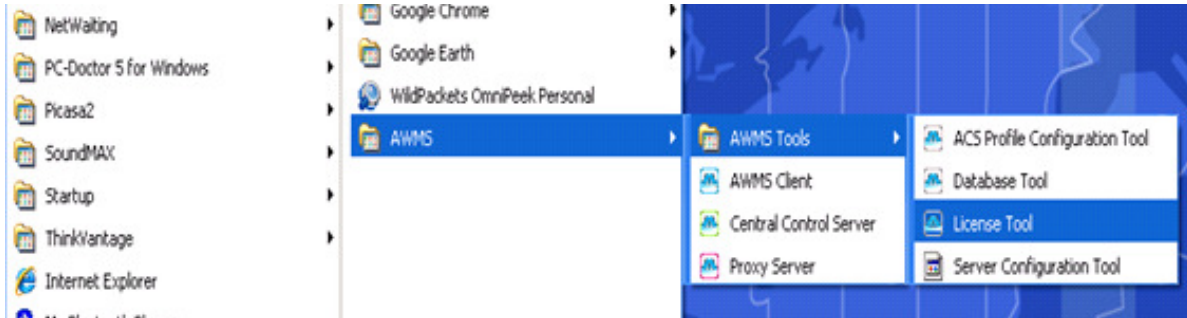


Figure 84 Place a license file under the folder “CCS”

Step 1: Select the directory of license file and click “Next >”.

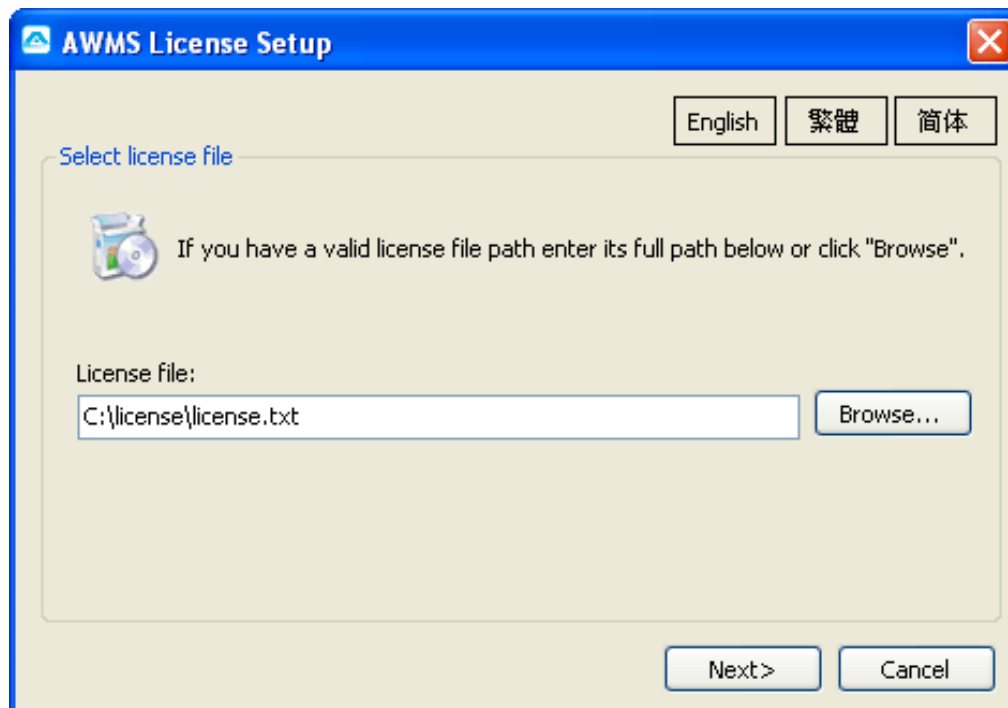


Figure 85 AWMS license file window

Step 2: Click “install” to begin installation.

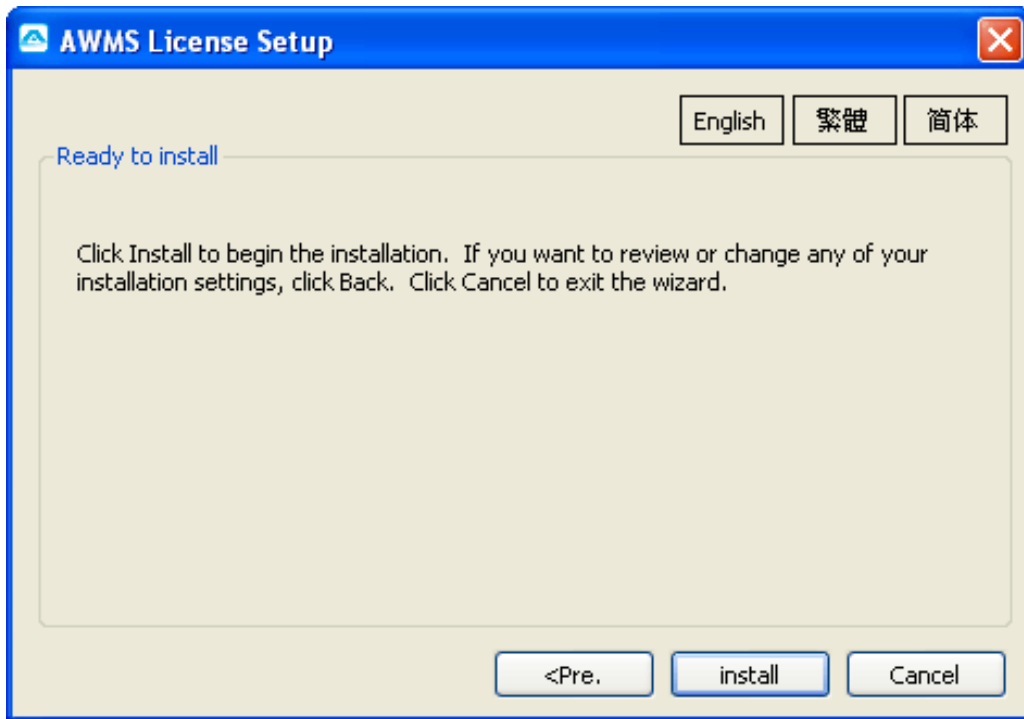


Figure 86 AWMS License installation

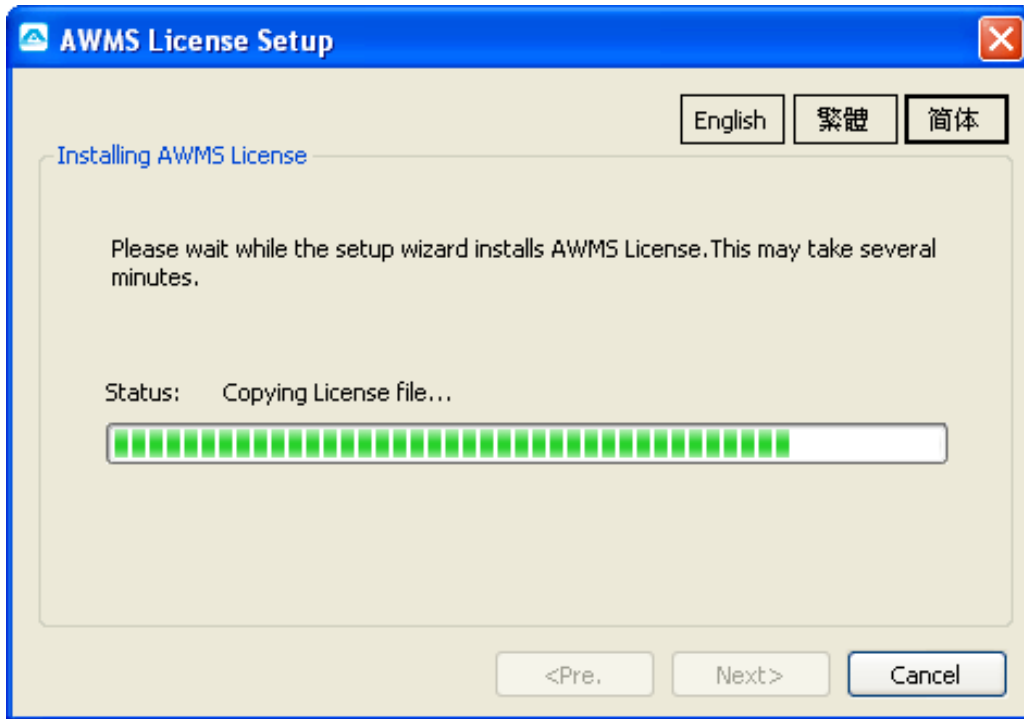


Figure 87 AWMS license installation progress

Step 3: Click **“Finish”** to complete the AWMS License Installation.

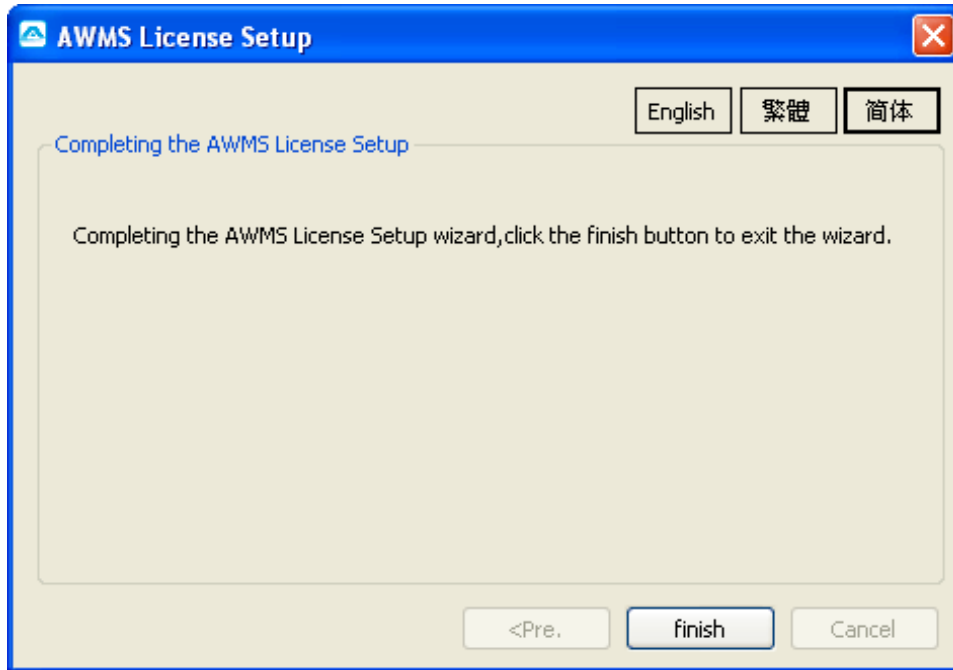


Figure 88 Completion of AWMS license installation

6.2 START AWMS CCS AND PROXY

You can start AWMS Central Control Server and AWMS Proxy by separately clicking their icons on the Windows Menu.

Note:

You should start AWMS Central Control Server and AWMS Proxy separately if they are installed on different hosts.

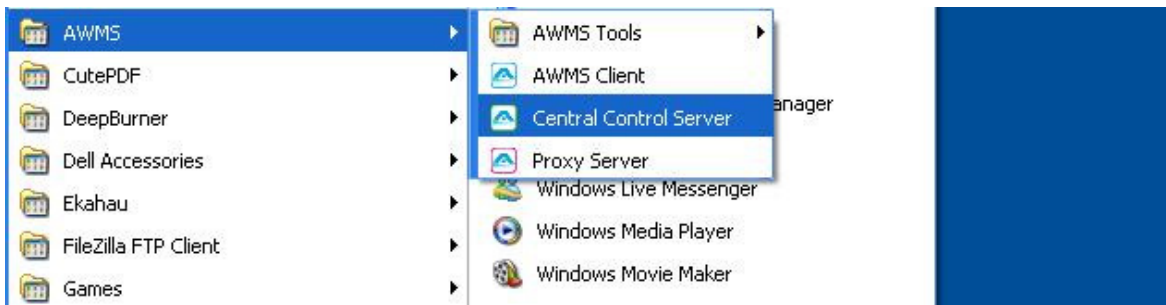


Figure 89 Start AWMS Servers from Windows Start Menu

Two consoles shows up when AWMS servers are starting. One of them is for AWMS CCS and another is AWMS Proxy.

You should see **“----- CCS is started -----”** when AWMS CCS has successfully started up, as shown in Figure 90.

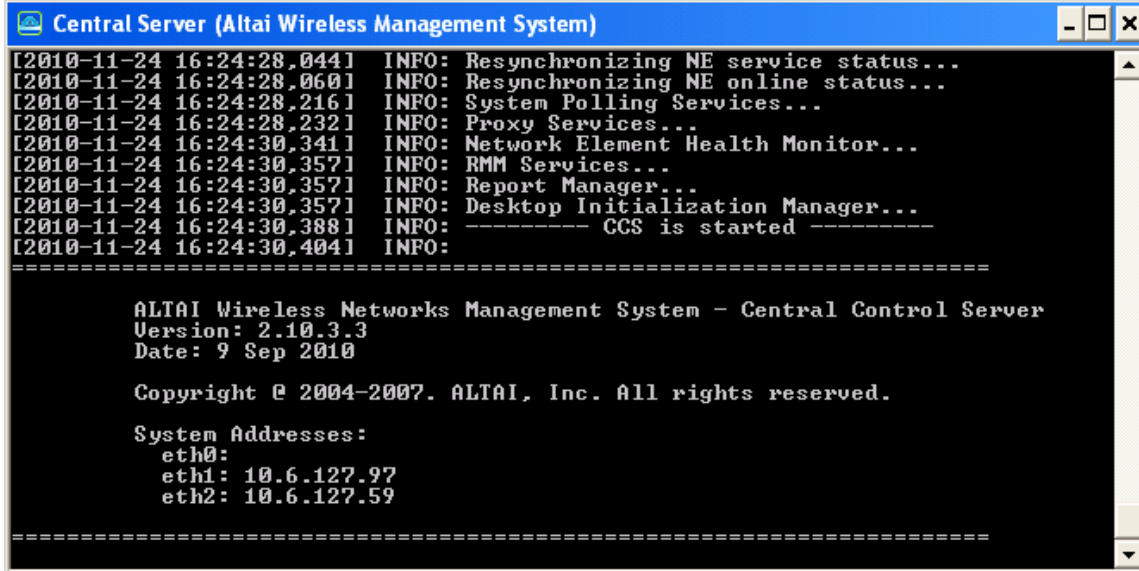


Figure 90 AWMS CCS console

You should see “----- Proxy is started -----” when AWMS Proxy has successfully started up, as shown in Figure 91.

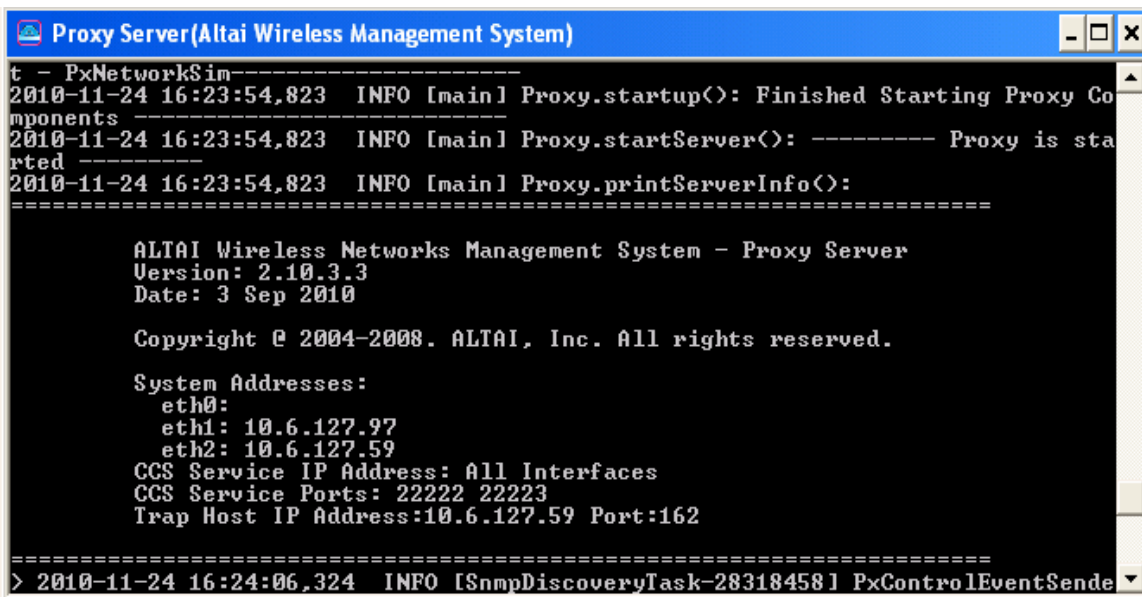


Figure 91 AWMS Proxy Console

6.3 START AWMS CLIENT

Start AWMS Client by doubling clicking its icon. The AWMS Client will start with the login prompt asking you for AWMS login name and password.



Figure 92 AWMS Client Login Interface

The default login name is “**root**” and password is “**ims**”. You may refer to AWMS User Guide for a full set of AWMS features.

7 ADVANCED CONFIGURATION FOR AWMS INSTALLATION

It is possible to install the AWMS subsystems (i.e. CCC, Proxy and CCS) on machines located in different domains. In this case, multiple IP addresses may raise problems if the machine has more than one network interfaces and the AWMS is bound to an inappropriate network interface as a result.

7.1 REMOTE MANAGEMENT THROUGH INTERNAL NETWORK

This section shows the advanced configuration of the AWMS subsystem installation when they are installed in different servers / computers with multiple internal network.

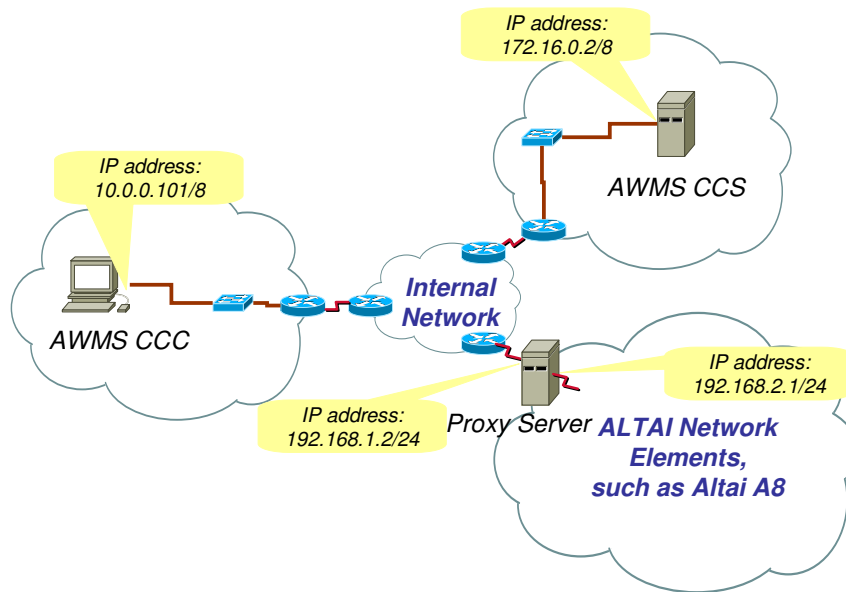


Figure 93 An example of installing AWMS subsystems in different servers / computers

Note:

AWMS subsystems can be installed in different IP subnet. Make sure all of them are “reachable” by each other and the ports which are used by the AWMS subsystems are not blocked by firewall or mapped by NAT.

<i>Subsystem</i>	<i>Port(s)</i>
<i>NE</i>	<i>162 (for SNMP Trap)</i>
<i>Proxy Server</i>	<i>21 (for FTP control traffic) 161 (for SNMP) 22222 (for AWMS CCS) 22223 (for AWMS CCS)</i>
<i>AWMS CCS</i>	<i>21 (for FTP control traffic) 3306 (for MySQL) 11111 (for AWMS CCC)</i>

Table 3 Corresponding Ports for AWMS Subsystems

7.1.1 BIND IP ADDRESSES FOR PROXY SERVER

In this section, administrator has to determine 2 IP addresses; one connects to the network where NEs exist and the other one connects to the network where it is near to the AWMS CCS. In this demonstration, the former is 192.168.2.1 and the latter is 192.168.1.2, as shown in **Error! Reference source not found.**

Step 1: Go to Command Prompt by typing “cmd” in “Run...”.

Step 2: Type command:
ipconfig

Then following results (similar) will be shown on the screen. This demonstration shows there are two network interfaces in the Proxy Server.

```
Ethernet adapter Local Area Connection 1:

Connection-specific DNS Suffix . . :
IP Address. . . . . : 192.168.1.2
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.1.1

Ethernet adapter Local Area Connection 2:

Connection-specific DNS Suffix . . :
IP Address. . . . . : 192.168.2.1
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
```

If the server / computer has more than one network interface, administrator has to determine which interface is connected to the network where it is near to the AWMS CCS and which interface is connected to the network where NEs exist.

Step 3: Edit the file “awms-px.conf” with a text editor (e.g. notepad) which is under the folder “C:\Program Files\Altai Technologies\AWMS\Proxy”.

I. Add the IP address in file awms-px.conf for AWMS CCS connection. Enter the IP address, as shown in the example, into the field “awms.proxy.ip”.

```
awms.proxy.ip=192.168.1.2
```

II. Add the IP address in file awms-px.conf for NEs connection. Enter the IP address, as shown in the example, into the field “service-ip”.

```
awms.ne.ip= 192.168.2.1
```

Step 4: Save and close the file.

7.1.2 BIND AN IP ADDRESS FOR AWMS CCS

In this section, administrator has to determine an IP address; the one connects to the network where it is near to the AWMS Proxy Server. In this demonstration, it is 172.16.0.2, as shown in Figure 93.

Step 1: Refer to Step 1 and Step 2 in section 7.1.1 to check whether the server / computer has more than one network interface.

Step 2: Edit the file “awms-ccs.conf” with a text editor (e.g. notepad) which is under the folder “C:\Program Files\Altai Technologies\AWMS\CCS”. Add the IP address in file awms-ccs.conf for AWMS Proxy connection. Enter the IP address, as shown in the example, into the field “pcc-ip”.

```
awms.ccs.ip=172.16.0.2
```

Step 3: Save and close the file.

7.1.3 BIND AWMS CCC TO A PARTICULAR AWMS CCS

In this section, it provides a method if administrator wants to change the AWMS CCS IP address for AWMS CCC (refer to Section 4.5). The following shows how to bind the AWMS CCC to a particular AWMS CCS. In this demonstration, it is 172.16.0.2, as shown in Figure 93.

Step 1: Edit the file “clientparameters.properties” which is under the folder “C:\Program Files\Altai Technologies\AWMS\Client\conf”. Modify the IP address which in the field “pri_server” in file clientparameters.properties.

I. Locate the line.

```
pri_server=localhost:11111
```

II. Enter the IP address, as shown in the example, into the field “pri_server”

```
pri_server=172.16.0.2:11111
```

Step 2: Save and close the file.

7.2 REMOTE MANAGEMENT THROUGH INTERNET NETWORK

This section shows the advanced configuration of AWMS subsystem installation when they are installed on different servers / computers in multiple internal networks.

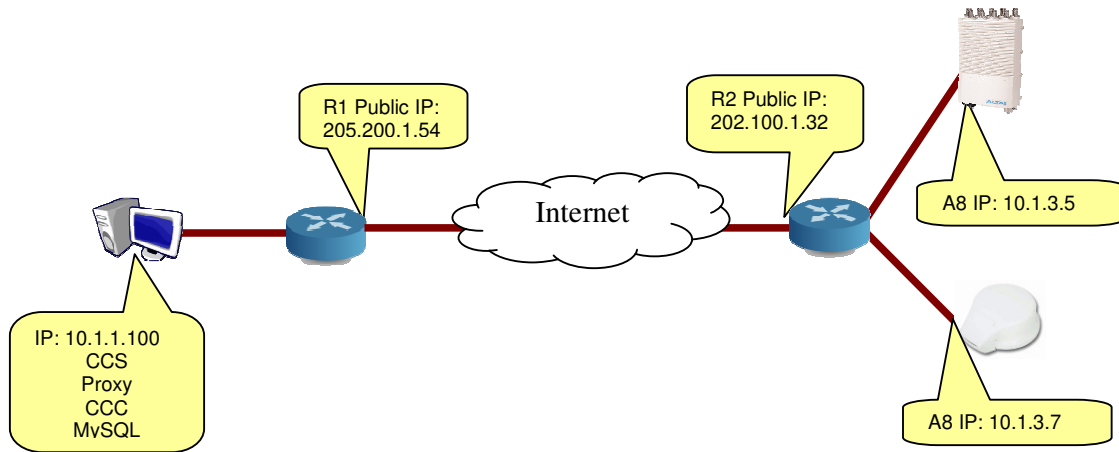


Figure 94 An example of installing AWMS subsystems in different servers / computers

Note:

AWMS subsystems can be installed in different IP subnet. Make sure all of them are “reachable” by each other and the ports which occupied by the AWMS subsystems are not blocked by firewall or mapped by NAT. Port forwarding should be done on routers connecting to Internet.

Subsystem	Port(s)
NE	162 (for SNMP trap)
Proxy Server	161 (for SNMP request) 2121 (for NE passive FTP) 2100 (for NE passive FTP)

Table 4 Corresponding Ports for AWMS Subsystems

Router	Incoming Destination	Forward to Destination
R1	205.200.1.54:162	10.1.1.100:162
	205.200.1.54:2121	10.1.1.100: 2121
	205.200.1.54:22100	10.1.1.100: 2100
R2	202.100.1.32:20001	10.1.3.5:161
	202.100.1.32:20002	10.1.3.7:161

Table 5 Example Port Forwarding

7.2.1 BIND IP ADDRESSES AND PORTS FOR PROXY SERVER

In this section, administrator has to determine 2 IP addresses; one connects to the network where NEs exist and the other one connects to the network where it is near to the AWMS CCS. In this demonstration, the former is 192.168.2.1 and the latter is 192.168.1.2, as shown in Figure 93.

Step 1: Refer to Step 1 and Step 2 in section 7.1.1 to check whether the server / computer has more than one network interface.

Step 2: Edit the file “awms-px.conf” with a text editor (e.g. notepad) which is under the folder “C:\Program Files\Altai Technologies\AWMS\Proxy”. Add the IP address in file awms-px.conf for AWMS CCS connection. Enter the IP address, as shown in the example, into the field “awms.proxy.ip”.

```
awms.ne.ext.ip= 205.200.1.54
```

Step 3: Save and close the file.

7.2.2 BIND AN IP ADDRESS AND PORTS FOR AWMS CCS

In this section, administrator has to determine an IP address; the one connects to the network where it is near to the AWMS Proxy Server. In this demonstration, it is 172.16.0.2, as shown in Figure 93.

Step 1: Edit the file “awms-ccs.conf” with a text editor (e.g. notepad) which is under the folder “C:\Program Files\Altai Technologies\AWMS\CCS”. Modify the passive ftp port (default: 2101-2199) “awms.ftp.pasv.ports” for AWMS passive FTP connection as shown in the example:

```
awms.ftp.pasv.ports=2121
```

Step 2: Modify the passive ftp port (default: 2100) “awms.ne.ftp.port” for AWMS FTP connection as shown in the example:

```
awms.ne.ftp.port=2100
```

Step 3: Add the IP address into the field “awms.ne.ext.ip” for AWMS FTP connection as shown in the example:

```
awms.ne.ext.ip=205.200.1.54
```

Step 4: Modify the passive ftp port (default: 2100) “awms.ne.ftp.ext.port” for AWMS FTP connection as shown in the example:

```
awms.ne.ftp.ext.port=22100
```

Step 5: Save and close the file.

8 PORT MANAGEMENT FOR AWMS INSTALLATION

It is possible to modify the port numbers, such as port number of MySQL, when installing the AWMS. If port number is being changed, administrator has to modify the corresponding configuration file(s) in order to make the applications can communicate to each other.

8.1 PORT NUMBER MODIFICATION FOR MYSQL

In this section, administrator has to modify some of the configuration files **if default port number 3306 is not being used by MySQL**, as shown in Step 13, Section 4.3.

In the following demonstration, **assume administrator would like to change the default port number of MySQL, i.e. 3306, to 4567.**

Step 1: Edit the file “awms-ccs.conf” which is under the folder “C:\Program Files\Altai Technologies\AWMS\CCS”.

Modify the port number in file awms-ccs.conf for MySQL, it is 3306 by default. In this demonstration, we would like to change it to “4567”.

```
awms.database.port=4567
```

Step 2: Save and close the file.

8.2 PORT NUMBER MODIFICATION FOR FIRMWARE MANAGEMENT

In this section, administrator has to modify some of the configurations **if default port number 21 is being used by other applications or port forwarding is done over router**. As the firmware management is done via FTP, the following steps must be preceded.

In the following demonstration, **assume administrator would like to change the default port number of Firmware Management, i.e. 21, to 1234**. Also, FTP passive ports is configured to 2121 and the NE firmware FTP port is configured to 20000. The gateway port for firmware update is mapped to the same port 20000.

Step 1: Edit the file “awms-ccs.conf” which is under the folder “C:\Program Files\Altai Technologies\AWMS\CCS”. Modify the port number in file awms-ccs.conf for FTP, it is 21 by default.

```
awms.mgmt.ftp.port=1234
```

Step 2: Modify the passive FTP port number, it is 2101-2199 by default.

```
awms.ftp.pasv.ports=2121
```

Step 3: Modify the FTP port number for NE firmware upgrade, it is 2100 by default.

```
awms.ne.ftp.port=20000
```

Step 4: Modify the gateway mapped port for NE firmware upgrade in file awms-ccs.conf for FTP, it is 2100 by default.

```
awms.ne.ftp.ext.port=20000
```

Step 5: Save and close the file.