

Tibero

Installation Guide



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Document Information

Document Name: Tibero Installation Guide

Document Created: 2014-01-15

Software Version: Tibero 5

Document Version: 2.1.1

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About This Document

Intended Audience

This guide is intended for database users who intend to install Tibero.

Required Knowledge

This guide describes the installation procedure. To fully understand this guide, users must have an understanding of the following:

- Databases
- RDBMS
- OS and system environments
- UNIX and Linux

Document Scope

This guide does not cover all the information that is necessary to apply TiberoUpRightDB to on-site work or to operate it.

Conventions

Conventions	Meaning
<AaBbCc123>	Filename of a program source code and directory
<Ctrl>+C	Hold the Control key and press C.
[Button]	Button or Menu name
Boldface	Emphasis
" "(double quotes)	Reference to chapters or sections in the manual, or to other related documentation
'Input Item'	Description for an input item on the screen
Hyperlink	E-mail account and website
>	Progress order of menus
+---	Files or directories exist below.
---	Files or directories do not exist below.
<u>Note</u>	Reference or note
[Figure 1.1]	Figure name
[Table 1.1]	Table name
AaBbCc123	Command, execution result, or example code
{ }	Required argument
[]	Optional argument

Chapter 1. Installation Introduction

This chapter describes the system requirements for installing Tibero.

1.1. System Requirements

1.1.1. Supported Platforms and Operating Systems

The following are the platforms and operating systems supported by Tibero.

H/W, S/W vendors	CPU	OS	Binary Bits
HP	PA-RISC/ia64	HP-UX 11i	64-bit
SUN	SPARC 9	Solaris SPARC 9 Solaris SPARC 10	64-bit
IBM	PPC 5L	AIX 5.3 AIX 6.1	64-bit
GNU	X86 (Pentium4 minimum)	Linux kernel 2.6.15, libc 2.3.6 minimum	32-bit, 64-bit
	IA 64	Linux	64-bit
Microsoft	X86, AMD64 (X64)	Windows 2000 Windows 2003 Server Windows XP Windows XP Japan Windows 7	32-bit, 64-bit

The following shows how to check the platforms and operating systems supported by Tibero.

- HP

- CPU

```
ioscan -fnC processor
```

- OS

```
uname -a
```

- OS bit

```
getconf KERNEL_BITS
```

- Memory

```
sam > performance monitor > system properties
```

- SUN

- CPU

```
/usr/sbin/psrinfo -v
```

- OS

```
showrev -a
```

- OS bit

```
isainfo -kv
```

- Memory

```
/usr/sbin/prtconf
```

- IBM

- CPU

```
lsdev -Cc processor
```

- OS

```
oslevel -r
```

- OS bit

```
bootinfo -y
```

- Memory

```
bootinfo -r (kbyte)
```

- GNU

- CPU

```
cat /proc/cpuinfo
```

- OS

```
uname -r
```

- OS bit

```
getconf LONG_BIT
```

- Memory

```
cat /proc/meminfo|grep MemTotal
```

- Windows

After clicking the right mouse button on [**My Computer**], check the information about the CPU, OS, OS bit, and memory on [**Attribute**] > [**General**].

1.1.2. H/W and S/W Requirements

The following are the H/W requirements to install Tibero:

OS	RAM	Swap Space	/tmp Space	HDD Space (Full / Client Only)
HP-UX/PA-RISC	512MB	1GB	300MB	400MB / 300MB
HP-UX/Itanium	512MB	1GB	300MB	400MB / 300MB
Solaris	512MB	1GB	300MB	400MB / 300MB
AIX	512MB	1GB	300MB	400MB / 300MB
Linux	512MB	1GB	300MB	300MB / 200MB
Windows	512MB	-	-	300MB / 200MB

The following are the S/W requirements to install Tibero:

OS	OS Version	Complier	JDK Version
HP-UX/PA-RISC	Supports PA-RISC HP-UX 11i (11.11) with GOLDBASE11i or higher.	C99 support compiler	JDK 1.5.17 or later (JDK 1.6 is recommended.)
	Supports PA-RISC HP-UX 11i v3 (11.31)		
HP-UX/Itanium	Supports Itanium HP-UX 11i v2 (11.23) with BUNDLE11i or higher.	C99 support compiler	JDK 1.5.17 or later (JDK 1.6 is recommended.)
	Supports Itanium HP-UX 11i v3 (11.31)		
Solaris	Supports Solaris 9 and 10. In case of 5.8, libaio patch - Patch ID: 109384-13 is needed. pkginfo grep 109384-13	C99 support compiler	JDK 1.5.17 or later (JDK 1.6 is recommended.)
AIX	AIX 5L version 5.3 64-bit kernel AIX 6.1 64-bit kernel	C99 support compiler	JDK 1.5.17 or later (JDK 1.6 is recommended.)
Linux	Supports kernel version 2.6 and glib2.3.6 or later.	C99 support compiler	JDK 1.5.17 or later (JDK 1.6 is recommended.)
Windows	Windows 2000 or later	C99 support compiler	JDK 1.5.17 or later (JDK 1.6 is recommended.)

Note

1. Linux supports only kernel version 2.6 or later.
2. For Windows AMD64 (x64), **Microsoft Visual C++ 2008 Redistributable Package (x64)** or **Microsoft.NET Framework 3.5 SP1** must be installed prior to the installation and operation of Tibero.

1.1.3. Package Requirements

The following are the package requirements to install Tibero:

OS	Bit	Package	Note
HP-UX/PA-RISC	64-bit	-	-
HP-UX/Itanium	64-bit	-	-
Solaris	64-bit	-	-
AIX	64-bit	xlc 9 or 10	lslpp -l grep xlc
Linux	32-bit	gcc version 4.0.3	-
		glibc-2.3.6	rpm -qa grep glibc
		libstdc++6.0.7	-
	64-bit	gcc version 3.4.6	-
		glibc-2.3.4	rpm -qa grep glibc
		libstdc++6.0.3	-
Windows	32/64-bit	-	-

Chapter 2. Preparations and Considerations before Installation

This chapter describes JDK installation, the OS-specific kernel parameters configuration, and points to consider. This chapter also explains how to verify the available hard disk space that is required to install Tibero.

2.1. Preparations

The following are the preparations necessary to verify and configure before installation:

2.1.1. Verifying Available Disk Space

To install Tibero, at least 1.5GB hard disk space is required on each platform (exact disk space requirements vary slightly by platform). The minimum required hard disk space also includes the space necessary to create a database.

- UNIX-like environment: Verify available disk space by using the `df` command.
- Windows-like environment: Verify available disk space through property items of the hard disk.

2.1.2. JDK 5.0 Installation

Before installing Tibero, JDK 1.5.17 (or later) or JDK 1.6.xx (or earlier) must be installed. JDK 1.6 is recommended.

Find an appropriate JDK at <http://www.oracle.com/technetwork/java/javase/downloads/index.html>. Download the JDK and install it.

2.1.3. OS-specific Kernel Parameters Configuration

When kernel parameters are changed by the operating system, the system must be restarted.

- HP-UX

The following are the kernel parameters of HP-UX. To change the kernel parameters, execute kctune at /usr/sbin/sam using the system administration manager (SAM).

Kernel Parameter	Recommended Expressions or Values	Description of Parameters
nproc	4096	The maximum number of processes.
semmap	(semnni+2)	A semaphore space obtained by a semget call.
semnni	4096	The maximum number of semaphore sets. Must be less than or equal to 65535. 84 bytes of kernel memory is allocated to a set.
semnns	(semnni*2)	The maximum number of semmni within a system. 16 bytes of kernel memory is allocated.
semnnu	(nproc-4)	The maximum number of undo structures within a system.
semvmx	32767	Limits the maximum value of one semaphore. 32767 is maximum allowable value.
shmmmax	Whichever is greater between the size of physical memory (0X40000000) and 1073741824	The maximum size of a shared memory segment.
shmmni	512	The maximum number of shared memory segments within a system.
shmseg	120	The maximum number of processes accessible to a shared memory.

- AIX

Parameters do not have to be adjusted for shared memory and semaphores (Default value: 10000) in AIX. However, user-specific limits must be adjusted. To change user-specific limits, use the **smit** utility. (E.g., /usr/bin/smit)

- Solaris

The following are the kernel parameters of Solaris. For Sun Solaris, to change the kernel parameters, edit the /etc/system file and reboot the system.

Kernel Parameter	Recommended Expressions or Values	Description of Parameters
set semsys:seminfo_semmni	100	The number of semaphore sets (identifier).
set semsys:seminfo_semmns	1024	The number of semaphores in a system.
set semsys:seminfo_semmsl	10000	The maximum number of semaphores in a semaphore ID.
set semsys:seminfo_semvmx	32767	The maximum value of a semaphore.
set shmsys:shminfo_shmmax	4294967295 (Half of the physical memory)	The maximum size of a shared memory segment.
set shmsys:shminfo_shmmmin	1	The size of a shared memory segment.
set shmsys:shminfo_shmmni	100	The maximum number of shared memory segments within a system.
set shmsys:shminfo_shmseg	10	The maximum number of processes accessible to a shared memory.

Note

1. shmmmin, shmseg, and NOEXEC_USER_STACK are not needed in Solaris9 and 10.
 2. semmns and semvmx are not needed in Solaris10.
 3. The default values of shmmni, semmsl, and semmni are larger in Solaris10.
-

- Linux

The following are the kernel parameters of Linux.

Kernel Parameter	Recommended Expressions or Values	Description of Parameters
semmsl	10000	Defines the maximum number of semaphores per semaphore set. (Setting position: /proc/sys/kernel/sem)

Kernel Parameter	Recommended Expressions or Values	Description of Parameters
semnms	32000	Defines the maximum number of semaphores of a Linux system. (Setting position: /proc/sys/kernel/sem)
semopm	10000	Configures the number of semaphore operations that can be performed per semop system call. (Setting position: /proc/sys/kernel/sem)
semnni	10000	Defines the maximum number of semaphore sets of the overall Linux system. (Setting position: /proc/sys/kernel/sem)
shmmax	2097152	The maximum size of the shared memory usable in the system at a particular time. (Setting position: /proc/sys/kernel/shmall)
shmmni	4096	The number of shared memory identifiers. (Setting position: /proc/sys/kernel/shmmni)
file-max	6815744	Specifies the number of files that can be operated in Linux at a time. (Setting position: /proc/sys/fs/file-max)
ip_local_port_range	1024 ~ 65000	Specifies the range of the allocable port numbers. (Setting position: /proc/sys/net/ipv4/ip_local_port_range)

2.1.4. Host Name, Port Number, and System Account Verification

Before installing Tibero, verify the host name, the port number, and the system account.

- Host Name Verification

Verify the host name, which is needed when requesting a license, by checking the /etc/hosts file or entering the following command in the console screen.

- UNIX-like Environment

```
uname -n
```

- Windows-like Environment

```
hostname
```

- Port Number Verification

Verify the port number to be granted when starting Tibero. (Default value: 8629)

The following describes the port types.

Type	Description	When to Use
Service Port	Verifies the port number used by Tibero to process and respond to user requests. (Default value: 8629)	When the Tibero engine is raised.
Special Port	Verifies the port to be used for emergencies such as Session Full. The port can be configured by using _LSNR_SPECIAL_PORT in the tip file. (Default value: service port + 1)	When the Tibero engine is raised.
SSL Port	Verifies the port to be used for secure communication. The SSL port can be configured by using _LSNR_SSL_PORT in the tip file. (Default value: service port +2)	When secure communication is used.
TBCM Port	Verifies the port that TBCM will use. The TBCM port can be configured by using CM_PORT in the tip file. (Default value: service port +3)	When TAC is used.

- System Account Verification

Verify the system account where Tibero will be installed and operated.

2.1.5. ulimit Configuration Verification

Before installing Tibero, verify the ulimit configuration value. The recommended value of open files and max user processes is unlimited.

The followings are commands for verifying the ulimit configuration.

- AIX, Linux, Solaris

```
ulimit -a
```

- HP-UX

```
kctune  
sysdef
```

2.1.6. TAC Environment

Before deploying TAC, the following must be checked.

- System Requirements

TAC works based on a shared disk shared by multiple systems. Multiple instances see the same control file and data files. Tibero can use the RAW Device, the OS vendor, and the Cluster File System (CFS) provided by a third party for shared files.

- ["2.2.2. Points to Consider Before Installing Tibero"](#)

2.1.7. License File Preparation

Verify the host name with **uname -n**.

```
centos@tibero:/home/tibero # uname -n  
tibero_server
```

After signing up on TmaxSoft's TechNet site (<http://technet.tmax.co.kr/>), select **[Download] > [License Application]**.

The following are fields that must be filled when applying for a license.

Category	Description
Product Name	Select Tibero.
Version	Select the Tibero version to be issued.
Type of Issue	Select Demo.
Host Name	Enter the host name verified with uname -n .
Edition	Select an edition (Standard or Enterprise). If Tibero is installed in TAC or TSC Mode, Enterprise edition must be selected.
Email	Enter the e-mail address to receive the license.
Applicant	Enter the applicant name.
Company Name	Enter the name of the user's company.
Contact Information	Enter the contact information.
Purpose of Use	Enter the purpose of use.

Note

If installed in automatic mode in the Windows-like environment, a license file is not needed.

2.1.8. Installation File Preparation

After signing up on TmaxSoft's TechNet site (<http://technet.tmax.co.kr/>), download the installation file.

- If installed in automatic mode
 - UNIX-like environment (Linux 64-bit): Tibero_5_Linux_x86_64.bin
 - Windows-like environment (Windows7 64-bit):
Tibero_RDBMS_5_r68690_Win_x86_64_trial.exe
- If installed manually
 - UNIX-like environment (Linux 64-bit), Windows-like environment (Windows7 64-bit): tar.gz

2.1.9. Tibero OS User Creation

If installed in a UNIX-like environment, create a Tibero OS user.

The following is the procedure for creating a Tibero OS user.

1. Register a user (e.g., tibero) that will install Tibero with the OS user registration command and set it to a dba group.

```
useradd -d /home/tibero -g dba tibero
```

2. Create the Tibero installation directory.

2.2. Considerations

The following are points to consider before installing Tibero.

2.2.1. Checklist for Tibero Installation Support

The following are Tibero installation process and the description of the details that need to be verified.

Order	Checklist	Description
1	H/W and OS Specification Verification	Required when requesting a binary file. Refer to " Chapter 1. Installation Introduction " for detailed information.
2	Hostname Verification	Required when requesting a license file. Refer to " Chapter 1. Installation Introduction " for detailed information.
3	OS Patches and Kernel Parameter Configuration	Refer to " Chapter 1. Installation Introduction " for detailed information.

Order	Checklist	Description
4	Detailed Configuration Verification	<ul style="list-style-type: none"> – File system or Raw Device status – FTP activation request – TB_SID (Default value: tibero) – DB_NAME (Default value: tibero) – TB_HOME location (Default value: /tibero/tibero5) – TSM size (Default value: half of the physical memory) – DB_BLOCK_SIZE (Default value: 8KB) – CHARACTER_SET – SINGLE, TAC and TSC status – Data file location (Default value: /tibero/tbdata) – Secure Listener Port (Default value: 8629) – Archive log mode (archive log location) – The number of Redo log groups and members – Control file (dualization, location) – Request JAVA JDK installation and its version verification – Block size verification in case of Raw Device <p>Refer to "2.2.2. Points to Consider Before Installing Tibero" for detailed information.</p>
5	Verify the Visitors' Schedules	Assign tasks with sales.
6	Install Binary Preparation	-
7	Visit Client Companies	-
8	Tibero Installation	-
9	Distribute Tibero Manual	-
10	Verify DBMS Client Connection	Verify with a client tool (tbadmin).
11	Write Installation Confirmation	Receive the client's signature after writing an installation confirmation.
12	Register Installation Confirmation	After scanning the installation confirmation in the internal system, register it.

2.2.2. Points to Consider Before Installing Tibero

The following are points to consider before installing Tibero.

- File system or RAW Device status

When saving a data file, select either the file system method or the RAW Device method.

- FTP activation request

FTP is needed for the Tibero installation binary.

- TB_SID

Name of Tibero instance. (Default value: tibero)

– For Single, only one TB_SID is needed because Tibero is installed on a single server. (E.g., tibero)

– TAC is the Active-Active method. Tibero is installed on two servers.

After TAC configuration, TB_SID must be configured for each server to check information when an error occurs.

(E.g., Node1 - tibero1, Node2 - tibero2)

- DB_NAME

Specifies the database name. (Default value: tibero)

- TB_HOME location

The Tibero engine installation directory. (Default value: /tibero/tibero5)

- TSM size

Tibero Shared Memory (TSM) is the physical memory value used by Tibero. Generally, half the physical memory of the server is configured. (Default value: half of the physical memory)

- DB_BLOCK_SIZE

Specifies the size of a data block. The available values are 2KB, 4KB, 8KB, 16KB, and 32KB. (Default value: 8KB)

- CHARACTER_SET

Specifies the default character set to be used by the database.

The following are the available character sets.

Character Set	Description
ASCII	ASCII 7-bit English
EUCKR	EUC 16-bit Korean
MSWIN949	MS Windows code page 949 Korean (Default value)
UTF8	24-bit multilingual international standards
SJIS	Shift-JIS 16-bit Japanese
JA16SJIS	MS Windows code page 932 Japanese
JA16SJISTILDE	MS Windows code page 932 Japanese including em-size waving characters.
JA16EUC	EUC 24-bit Japanese
JA16EUCTILDE	EUC 24-bit Japanese including em-size waving characters.
GBK	MS Windows code page 936 Chinese
VN8VN3	8-bit Vietnamese

- SINGLE, TAC, and TSC Status

Category	Description
SINGLE	Configures Tibero as Single.
TAC	Configures Tibero as Active-Active to dualize a DB.
TSC	Configures Tibero as Active-Standby to dualize a DB.

- Data File Location

The data file is a file that stores the actual data. Users can specify a path to the data file.

(Default value: /tibero/tbdata)

- Secure Listener Port

The port number used by Tibero to process and respond to user requests. (Default value: 8629)

- The number of Redo log groups and members

Redo logs are saved to the log file. A Redo log consists of two or more log groups. A log group consists of one or more log members. This configuration is referred to as multiplexing. For multiplexing, the sizes of all log members in the same group must be constant, the same data must be stored, and be updated concurrently.

A log group consists of multiple log members because log members that are damaged can be replaced with others. When a disk has a very high reliability or missing data does not cause a major problem, multiplexing is unnecessary.

- Multiplexing log members

Save the log members in a log group to different disks for system performance. Save all members in the same log group to the same record.

When all log members are located on different disks, log records can be saved concurrently.

- Multiplexing log groups

To determine the size and number of log groups, archiving must be fully considered. The size of log groups must be configured so they can be sent to the third storage device quickly and efficiently use the storage space. The number of log groups must not cause log groups that are archiving to put on standby.

Change the size and number of log groups while operating the database. After configuring the optimized parameter in the database, increase the size and number of log groups and change them within a range that will not affect database processing performance.

- Whether to use the archive log mode and archive file location

If the archive log mode is used, media recovery can be used. A user can specify the location where an archive file is stored.

- Dualization and location of a control file

A control file is a binary file that stores the metadata of a database. The first control file is created when Tibero is installed.

A control file contains the following information.

Information	Description
Database	Database name, \$TB_SID.tip file name, and new or modified time stamps.
Table space	Data files consisting of a table space and new or modified time stamps.
Data file	Data file name, location, and new or modified time stamps.
Redo log	The number of log groups, log members' names and location, and new or modified time stamps.
Checkpoint	The time stamp that recently performed checkpoint.

Two or more than two control files with the same size and content are recommended to be maintained. It is recommended that the copies of the control files saved to different disks in Tibero. This is necessary to maintain system performance and the stability of the database.

- Request JAVA JDK installation and its version verification

To run the Tibero utility, JAVA JDK 1.5.17 or later (JDK 1.6 is recommended) must be installed in the server.

Chapter 3. Tibero 5 Installation (UNIX-like Environment)

This chapter describes how to install Tibero 5 automatically and manually in a UNIX-like environment (Linux 64-bit).

3.1. Automatic Mode

When Tibero is installed in a UNIX-like environment, the automatic mode is recommended.

3.1.1. Installation

The following is the automatic Tibero installation process in a UNIX-like environment.

1. Installation-related File Preparation

Refer to "[2.1.7. License File Preparation](#)" and "[2.1.8. Installation File Preparation](#)" for detailed information about installation-related file preparation.

2. Tibero OS User Creation

Refer to "[2.1.9. Tibero OS User Creation](#)" for detailed information about Tibero OS user.

3. Tibero Installation File Execution

Run Tibero 5 Linux binaries to execute the Tibero installer.

```
centos@tibero:/home/tibero # ./Tibero_RDBMS_5_Linux_x86_64.bin
Please wait a moment...

=====
Introduction
-----

Tibero Installer will guide you through the installation of Tibero 5.

It is strongly recommended that you quit all programs before
continuing with this installation.

Respond to each prompt to proceed to the next step in the
```

```
installation.
```

```
You may cancel this installation at any time by typing  
'quit'. PRESS <ENTER> TO CONTINUE:
```

Note

If Tibero is installed using the GUI in a Linux-like environment, execute the installer with the -G or -g option. This guide does not describe the installation process using the GUI.

4. Tibero Installation Folder Selection

The default installation folder is /home/tibero/Tibero/tibero5. To change the installation directory, enter the absolute path and proceed to the next step. The Tibero installation directory is entered in TB_HOME, the user configuration file.

```
=====  
Choose Install Folder  
-----  
  
Please specify a base location for Tibero to be installed.  
Tibero will be installed under TB_HOME directory.  
  
-> Default Install Path: /home/tibero/Tibero/tibero5  
( TB_HOME : /home/tibero/Tibero/tibero5 )  
  
ENTER AN ABSOLUTE PATH,  
OR PRESS <ENTER> TO ACCEPT THE DEFAULT :/home/tibero/tibero5  
->Install Path : /home/tibero/tibero5  
( TB_HOME : /home/tibero/tibero5 )  
Is this correct?(y/n) y
```

Caution

The directory name must not be blank.

5. Tibero SID Input

Enter the desired SID and press <Enter> to proceed to the next step.

```
=====  
SID  
-----  
  
Each instance is uniquely identified by SID,
```

```
and the database is references by the instance.
```

```
TB SID (DEFAULT: tibero):tibero
```

6. Installation Type Selection

Select the type of installation. The following is the result screen after selecting the Typical type.

```
=====
Select Installation Type
-----
Please select the Installation Type to install.
->    1- Typical <default>
      2- Custom
ENTER THE NUMBER FOR THE INSTALL SET, OR PRESS
<ENTER> TO ACCEPT THE DEFAULT :1
```

The following describes the installation types.

Installation Type	Description
Typical	Installs with Listener Port, SID, DATABASE BLOCK SIZE, and the shared memory key, which are set to default. <ul style="list-style-type: none">– Listener Port: 8629– SID: tibero– DATABASE BLOCK SIZE (DB_BLOCK_SIZE): 8KB– DATA FILE PATH: /home/tibero/Tibero/tibero5/database/tibero– Shared Memory Key: 65536
Custom	User installs manually. Enter the Listener Port, DATABASE BLOCK SIZE, and DATA FILE PATH. <ul style="list-style-type: none">– DATABASE BLOCK SIZE: 2KB, 4KB, 8KB, 16KB, or 32KB must be entered.

7. Character Set Selection

Select the character set for the database to be created. Select the number of the desired character set and press <Enter> to proceed to the next step.

```
=====
Character Set Configuration
-----

Please select the default character set.
1. MSWIN949 <Default>
2. UTF8
3. ASCII
4. EUC-KR
5. SHIFT-JIS
6. JA16SJIS
7. JA16SJISTILDE
8. JA16EUC
9. JA16EUCTILDE
>1
```

8. Client Character Set Selection

Select the client character set. Select the number of the desired character set and press <Enter> to proceed to the next step.

```
TB_NSL_LANG Character Set Configuration
-----

Please select the default TB_NLS_LANG character set.
0. Noting<Default>
1. MSWIN949
2. UTF8
3. ASCII
4. EUC-KR
5. SHIFT-JIS
6. JA16SJIS
7. JA16SJISTILDE
8. JA16EUC
9. JA16EUCTILDE
>1
```

9. Tibero User Account Input

Enter information about the default user accounts (Sys, Syscat, Tibero, and Tibero1) provided by Tibero. Enter the password and re-enter it to 'Confirm {User account} password'.

```
=====
Account Configuration
-----

Please set the password for Administrator Accounts.
```

```
Sys password:  
Confirm Sys password:  
Do you want to use the Sys password for Syscat, Tibero and Tibero1?(y/n)  
y
```

10 Installation Summary

The summary displays the most recent installation information. After confirming the configuration is correct, enter **y** and press <Enter> to proceed to the next step.

```
=====  
Pre-Installation Summary  
-----  
  
Please Review the Following Information Before Continuing.  
Product Name : Tibero 5  
TB_HOME : /home/tibero/tibero5  
TB_SID : tibero  
Install Folder : /home/tibero/tibero5  
Install Set : Typical(Tibero 5 , tbAdmin, help files)  
Listener Port : 8629  
DataBase BLOCK SIZE(K) : 8  
DATA FILE PATH : /home/tibero/tibero5/database/tibero  
Character Set : MSWIN949  
National Character Set : UTF16  
TB_NSL_LANG : MSWIN949  
  
Is this information correct?(y/n) y
```

11 Tibero Installation Completion

Once installation is complete, the following is displayed. At this time, all work including software copying, linking, and database creation in the directory configured in the DATA FILE PATH, is complete.

```
=====  
Installing Tibero 5  
-----  
  
(100) Tibero 5 uncompressed completely  
(100) tbAdmin uncompressed completely  
(100) Help files uncompressed completely  
0 50 100 (%)  
| ====== | ====== |  
Installation completed  
centos@tibero:/home/tibero #
```

12 User Configuration

After Tibero is installed, a database is created. After the database is created, change the user configuration file to match the system environment.

3.2. Manual Mode

This section describes the process of manually installing and verifying Tibero in a UNIX-like environment.

3.2.1. Installation

The following is the procedure for manually installing Tibero in a UNIX-like environment.

1. Installation-related File Preparation

Refer to "[2.1.7. License File Preparation](#)" and "[2.1.8. Installation File Preparation](#)" for detailed information about installation-related file preparation.

2. Tibero OS User Creation

Refer to "[2.1.9. Tibero OS User Creation](#)" for detailed information about Tibero OS user creation.

3. Tibero Binary Uncompression

- Linux-like Environment

```
$ cd /home/tibero  
$ tar -xvzf tibero_binary.tar.gz
```

- UNIX-like Environment

```
$ gunzip tibero_binary.tar.gz  
$ tar -xvf tibero_binary.tar
```

4. Environment Variable Configuration

- Tibero Installation-related Configuration (Common)

- Linux

```
### Tibero 5 ENV ###  
export TB_HOME=/home/tibero/tibero5  
export TB_SID=tibero  
export TB_PROF_DIR=$TB_HOME/bin/prof
```

```
export PATH=.:${TB_HOME}/bin:${TB_HOME}/client/bin:$JAVA_HOME:$PATH
export LD_LIBRARY_PATH=${TB_HOME}/lib:${TB_HOME}/client/lib:$LD_LIBRARY_PATH
```

– Solaris

```
### Tibero 5 ENV ####
export TB_HOME=/home/tibero/tibero5
export TB_SID=tibero
export TB_PROF_DIR=${TB_HOME}/bin/prof
export PATH=.:${TB_HOME}/bin:${TB_HOME}/client/bin:$JAVA_HOME:$PATH
export LD_LIBRARY_PATH_64=
${TB_HOME}/lib:${TB_HOME}/client/lib:/usr/ucblib/sparcv9:$LD_LIBRARY_PATH_64
```

– AIX

```
### Tibero 5 ENV ####
export TB_HOME=/home/tibero/tibero5
export TB_SID=tibero
export TB_PROF_DIR=${TB_HOME}/bin/prof
export PATH=.:${TB_HOME}/bin:${TB_HOME}/client/bin:$JAVA_HOME:$PATH
export LIBPATH=${TB_HOME}/lib:${TB_HOME}/client/lib:$LIBPATH
export LINK_CNTRL=L_PTHREADS_D7
```

– HP

```
### Tibero 5 ENV ####
export TB_HOME=/home/tibero/tibero5
export TB_SID=tibero
export TB_PROF_DIR=${TB_HOME}/bin/prof
export PATH=.:${TB_HOME}/bin:${TB_HOME}/client/bin:$JAVA_HOME:$PATH
export SHLIB_PATH=${TB_HOME}/lib:${TB_HOME}/client/lib:$SHLIB_PATH
```

Note

For AIX and HP, if the LIBPATH library access is blocked during E-SQL compilation, configure
export LD_LIBRARY_PATH=\${TB_HOME}/client/lib:\$LD_LIBRARY_PATH.

- Alias-related Configuration

```
##### TIBERO alias #####
alias tbhome='cd ${TB_HOME}'
alias tbbin='cd ${TB_HOME}/bin'
alias tblog='cd ${TB_HOME}/instance/${TB_SID}/log'
alias tbcfg='cd ${TB_HOME}/config'
alias tcbcfgv='vi ${TB_HOME}/config/${TB_SID}.tip'
```

```
alias tbcli='cd ${TB_HOME}/client/config'
alias tbcliv='vi ${TB_HOME}/client/config/tbdsn.tbr'

alias tbi='cd ~/tbinary'
alias tm='cd ~/tbinary/monitor;monitor;cd -'
```

- User Environment Variable Application

```
. .bash_profile (. .profile)
```

5. License File Application

Copy the license.xml file and paste it to the license folder.

```
centos@tibero:/home/tibero # cp license.xml $TB_HOME/license/.

tbsvr@tb_hws:/home/tibero/tibero5/license # ll
total 8
-rwxr-xr-x 1 tb_hws tibero 464 Apr  8 10:15 license.xml
drwxrwxr-x 2 tb_hws tibero 4096 Apr  8 10:26 oss_licenses
```

6. gen_tip Execution and Configuration

- Initial Parameter Creation

Execute sh \$TB_HOME/config /gen_tip.sh.

```
centos@tibero:/home/tibero # sh gen_tip.sh
Using TB_SID "tibero"
/home/tibero/tibero5/config/tbhws.tip generated
/home/tibero/tibero5/config/psm_commands generated
/home/tibero/tibero5/client/config/tbdsn.tbr generated.
Running client/config/gen_esql_cfg.sh
Done.
```

Field	Description
\$TB_HOME/config/\$TB_SID.tip	The Tibero parameter file
\$TB_HOME/config/psm_commands	The old PL/SQL compilation script
\$TB_HOME/client/config/tbdsn.tbr	Tibero client connection compilation file

- tip File Modification

Open and modify the \$TB_HOME/config/\$TB_SID.tip file with a text editor.

```
#-----
#
```

```

# Tibero initialization parameter
#
#-----



DB_NAME=tibero
LISTENER_PORT=8629
CONTROL_FILES="/home/tibero/tibero5/config/svr_wallet/tbhws.crt"
#CERTIFICATE_FILE="/home/tibero/tibero5/config/svr_wallet/tbhws.crt"
#PRIVKEY_FILE="/home/tibero/tibero5/config/svr_wallet/tbhws.key"
#WALLET_FILE="/home/tibero/tibero5/config/svr_wallet/WALLET"

DB_CREATE_FILE_DEST=/home/tibero/tbdata
LOG_ARCHIVE_DEST=/home/tibero/arch

MAX_SESSION_COUNT=10

TOTAL_SHM_SIZE=512M

```

Field	Description
DB_NAME	Set to match \$TB_SID.
LISTENER_PORT	Listener Port number
CONTROL_FILES	Control files storage location. Dualization is recommended to prepare for the event of a failure.
CERTIFICATE_FILE	Specifies the location of the certificate.
PRIVKEY_FILE	Specifies the location of the private key.
WALLET_FILE	Specifies the location of the security wallet.
DB_CREATE_FILE_DEST	Data files storage location.
LOG_ARCHIVE_DEST	Archive files storage location. Specifies when archive logs are used.
MAX_SESSION_COUNT	The number of simultaneously connectable sessions
TOTAL_SHM_SIZE	Specifies the size of the entire shared memory used by Tibero. (The recommended value: the entire memory size * 0.5)

Note

1. Control files are created in the instance by default. However, control and data files should be stored in a folder outside the Tibero engine area. (E.g., /home/tibero/tbdata/)
 2. If LISTENER_PORT is to be modified, the LISTENER_PORT section of the \$TB_HOME\client\config\tbdsn.tbr file must be modified. At this time, the port numbers of the \$TB_SID.tip file and the tbdsn.tbr file must be identical to connect.
-

- tbdsn.tbr File Modification

```
#-----
# C:\Tibero\tibero5\client\config\tbdsn.tbr
# Network Configuration File.
# Generated by gen_tip.bat at 6 6 12:10:32      2013
tibero=(
    ( INSTANCE=(HOST=192.168.1.1)
        (PORT=8629)
        (DB_NAME=tibero)
    )
)
```

Field	Description
HOST	Specifies the IP address of the DB server to be accessed.
PORT	Specifies the port number of the DB server to be accessed.
DB_NAME	Specifies the DB name of the DB server to be accessed.

3.2.2. Database Creation

1. After starting Tibero in NOMOUNT mode (**tbboot -t nomount**), connect with tbsql (**tbsql sys/tibero**).

```
centos@tibero:/home/tibero # tbboot -t nomount
listener port = 8629
change core dump dir to /home/tibero/tibero5/bin/prof

Tibero 5

Copyright (c) 2008, 2009, 2011, 2012 Tibero Corporation. All rights
reserved.

Tibero instance started up (NOMOUNT mode).
tbsvr@tb_hws:/home/tb_hws/conf_bak # tbsql sys/tibero

tbSQL 5

Copyright (c) 2008, 2009, 2011, 2012 Tibero Corporation. All rights
reserved.

Connected to Tibero.

SQL>
```

2. Create a DB.

The following is an example of creating a DB creation script file (cre_db.sql).

```
CREATE DATABASE "tibero"          -- DB Name @(If DB Name is blank,
%TB_SID% is entered.)@
USER SYS IDENTIFIED BY TIBERO
MAXDATAFILES 4096
CHARACTER SET MSWIN949          -- @Specify UTF8,EUCKR,ASCII, and
MSWIN949 # character set.@
LOGFILE GROUP 0 ('redo01.redo') SIZE 50M,
GROUP 1 ('red011.redo') SIZE 50M,
GROUP 2 ('redo21.redo') SIZE 50M
MAXLOGFILES 100
MAXLOGMEMBERS 8
NOARCHIVELOG                   -- @Archivelog mode status@
DATAFILE 'system001.dtf' SIZE 256M
AUTOEXTEND ON NEXT 16M MAXSIZE 3072M
DEFAULT TABLESPACE USR
DATAFILE 'usr001.dtf' SIZE 128M
AUTOEXTEND ON NEXT 16M MAXSIZE 3072M
DEFAULT TEMPORARY TABLESPACE TEMP
TEMPFILE 'temp001.dtf' SIZE 512M
AUTOEXTEND ON NEXT 16M MAXSIZE 10240M
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
UNDO TABLESPACE UNDO
DATAFILE 'undo001.dtf' SIZE 512M
AUTOEXTEND ON NEXT 16M MAXSIZE 10240M
EXTENT MANAGEMENT LOCAL AUTOALLOCATE;
```

3. Once the DB is created, exit tbsql and restart the DB in NORMAL mode (**tbboot**).

```
centos@tibero:/home/tibero # tbsql sys/tibero

tbSQL 5

Copyright (c) 2008, 2009, 2011, 2012 Tibero Corporation. All rights
reserved.

Connected to Tibero.

SQL> @cre_db

Database created.

File finished.
```

```

SQL> q
Disconnected.
centos@tibero:/home/tibero # tbboot
listener port = 28000
change core dump dir to /home/tb_hws/tibero5/bin/prof

Tibero 5

Copyright (c) 2008, 2009, 2011, 2012 Tibero Corporation. All rights
reserved.
Tibero instance started up (NORMAL mode).
centos@tibero:/home/tibero #

```

4. Enter the **system.sh** command in the \$TB_HOME/scripts directory to create the data dictionary and the system package.

```

centos@tibero:/home/tibero/tibero5/scripts # sh system.sh
Enter SYS password:
tibero

Enter SYSCAT password:
syscat

Creating the role DBA...
Create default system users & roles?(Y/N):
y

Creating system users & roles...
Creating virtual tables(1)...
Creating virtual tables(2)...
Granting public access to _VT_DUAL...
Creating the system generated sequences...
Creating internal dynamic performance views...
Creating outline table...
Creating system packages:
    Running /home/tibero/tibero5/scripts/pkg/pkg_standard.sql...
    Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_output.sql...
    Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_lob.sql...
    Running
/home/tibero/tibero5/scripts/pkg/pkg_dbms_utility_internal.sql...
    Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_utility.sql...
    Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_obfuscation.sql...
    Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_transaction.sql...
    Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_space_admin.sql...
    Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_space.sql...
    Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_random.sql...

```

```

Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_lock.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_system.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_job.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_utl_raw.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_utl_i18n.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_utl_file.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_utl_str.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_tb_utility.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_rowid.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_repair.sql...
Running

/home/tibero/tibero5/scripts/pkg/pkg_dbms_application_info.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_java.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_utl_encode.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_utl_url.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_utl_http_internal.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_utl_http.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_utl_tcp.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_session.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_crypto.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_tool_utility.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_psm_sql_result_cache.sql...

Running /home/tibero/tibero5/scripts/pkg/pkg_htp.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_result_cache.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_flashback.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_seaf.sql...

Creating packages for sql:
Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_types.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_sql.sql...

Creating public synonyms for system packages...
Creating auxiliary tables used in static views...
Create system tables related to profile?(Y/N):
y

Creating system tables related to profile...
Creating static views...
Creating static view descriptions...
Creating packages for statistics:
Running /home/tibero/tibero5/scripts/pkg/pkg_sys_util.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_stats_internal.sql...

Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_stats.sql...

Creating packages for log errors:
Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_errlog.sql...

Creating packages for mvview:
Running /home/tibero/tibero5/scripts/rewrite_table.sql...

```

```

Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_mview_util.sql...
Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_mview.sql...
Running
/home/tibero/tibero5/scripts/pkg/pkg_dbms_mview_refresh_util.sql...
    Running
/home/tibero/tibero5/scripts/pkg/pkg_dbms_redefinition_stats.sql...
    Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_redefinition.sql...
Creating packages for text:
    Running /home/tibero/tibero5/scripts/pkg/pkg_text.sql...
Creating remaining public synonyms for system packages...
    Running /home/tibero/tibero5/scripts/param_desc_gen.sql...
    Running /home/tibero/tibero5/scripts/trace_event_desc_gen.sql...
Creating dynamic performance views...
Creating dynamic performance view descriptions...
Check APM status..
Stop APM
Create apm tables?(Y/N):
y

Dropping tables used in APM...
Creating auxiliary tables used in APM...
Creating packages for APM...
    Running /home/tibero/tibero5/scripts/pkg/pkg_dbms_apm.sql...
Start APM
Creating spatial meta tables and views ...
Creating internal system tables...
Done.
For details, check /home/tibero/tibero5/instance/tibero/log/system_init.log.
centos@tibero:/home/tibero/tibero5/scripts #

```

Note

To confirm the data dictionary and the system package were created successfully, look at the \$TB_HOME/instance/%TB_SID%/log/system_init.log file.

3.2.3. Installation Verification

Use the **ps -ef|grep tbsvr** command to verify the Tibero process is running.

```
tbsvr@tb_hws:/home/tibero/tibero5/scripts # ps -ef|grep tbsvr
avahi      2981      1  0 Jun07 ?          00:00:00 avahi-daemon: running
[tbsvr.local]
565 17162 17161 0 17:25 pts/1 00:00:00 tbsvr           -n 4 -t NORMAL -SVR_SID
tibero
```

```
565 17163 17162 0 17:25 pts/1 00:00:00 tbsvr_WT001 -n 4 -t NORMAL -SVR_SID
tibero
565 17164 17162 3 17:25 pts/1 00:00:06 tbsvr_WT002 -n 4 -t NORMAL -SVR_SID
tibero
565 17165 17162 0 17:25 pts/1 00:00:00 tbsvr_SEQW -n 4 -t NORMAL -SVR_SID
tibero
565 17166 17162 0 17:25 pts/1 00:00:00 tbsvr_LOGW -n 4 -t NORMAL -SVR_SID
tibero
565 17167 17162 0 17:25 pts/1 00:00:00 tbsvr_LOGA -n 4 -t NORMAL -SVR_SID
tibero
565 17168 17162 0 17:25 pts/1 00:00:00 tbsvr_CKPT -n 4 -t NORMAL -SVR_SID
tibero
565 17169 17162 0 17:25 pts/1 00:00:00 tbsvr_BLKW000 -n 4 -t NORMAL -SVR_SID
tibero
```


Chapter 4. Tibero 5 Installation (Windows-like Environment)

This chapter describes how to install Tibero 5 automatically and manually in a Windows-like environment (Windows7 64-bit).

4.1. Automatic Mode

When Tibero is installed in a Windows-like environment, the automatic mode is recommended.

4.1.1. Installation

The following is the automatic Tibero installation process in a Windows-like environment.

1. Installation-related File Preparation

Refer to "[2.1.8. Installation File Preparation](#)" for detailed information about installation-related file preparation.

2. Tibero Installation File Execution

When the installation execution file is opened, the following initial installation screen is displayed.

[Figure 4.1] Initial Installation Screen



Before starting installation, select the language (Korean or English) to be used and the installation method. The installation method provided by the initial installation screen is as follows:

Installation Method	Description
Tibero 5 Full Installation	The full installation installs both Tibero Server and Client.
Tibero 5 Client Installation	The custom installation installs only Tibero Client. Except for creating a database, the installation process is the same as that of 'Tibero 5 full installation'. Therefore, this guide does not describe 'Tibero 5 client installation'.

This example only describes Tibero 5 full installation. Click [**Tibero 5 Full Installation**] to proceed to the next step.

3. Tibero Installation Introduction

The Welcome screen, which introduces the Tibero installation process, is displayed. Read the brief message related to the installation and click [**Next**] to proceed to the next step. During installation, the installation can be stopped by clicking [**Cancel**].

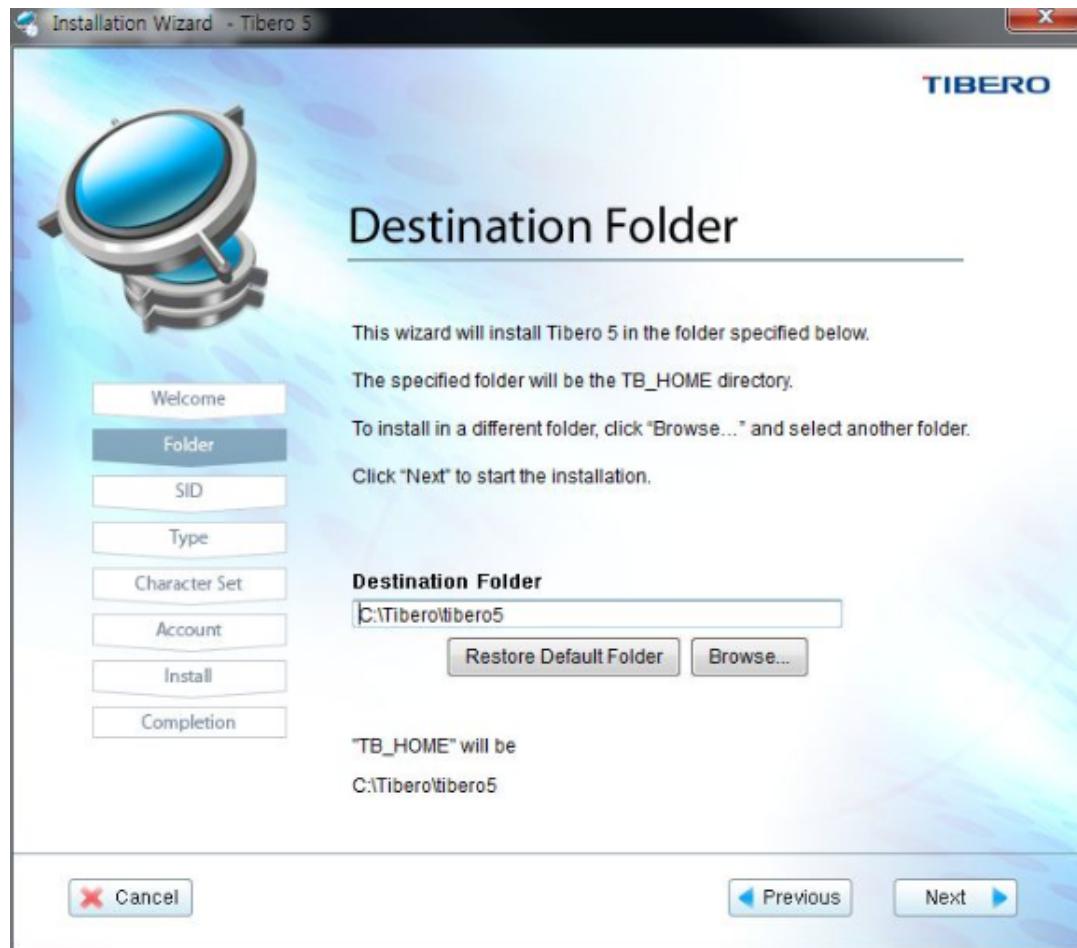
[Figure 4.2] Welcome



4. Installation Directory Selection

A screen for selecting the Tibero installation directory is displayed.

[Figure 4.3] Destination Folder



'C:\Tibero\tibero5' is the default directory.

Tibero is installed in the installation path and TB_HOME, which is used in the user configuration files, is set to the installation location. The directory name must not be blank.

To change the installation path, click [**Browse...**] and select the desired installation location.
To restore the default installation path, click [**Restore Default Folder**].

After the installation path is determined, click [**Next**] to proceed to the next step.

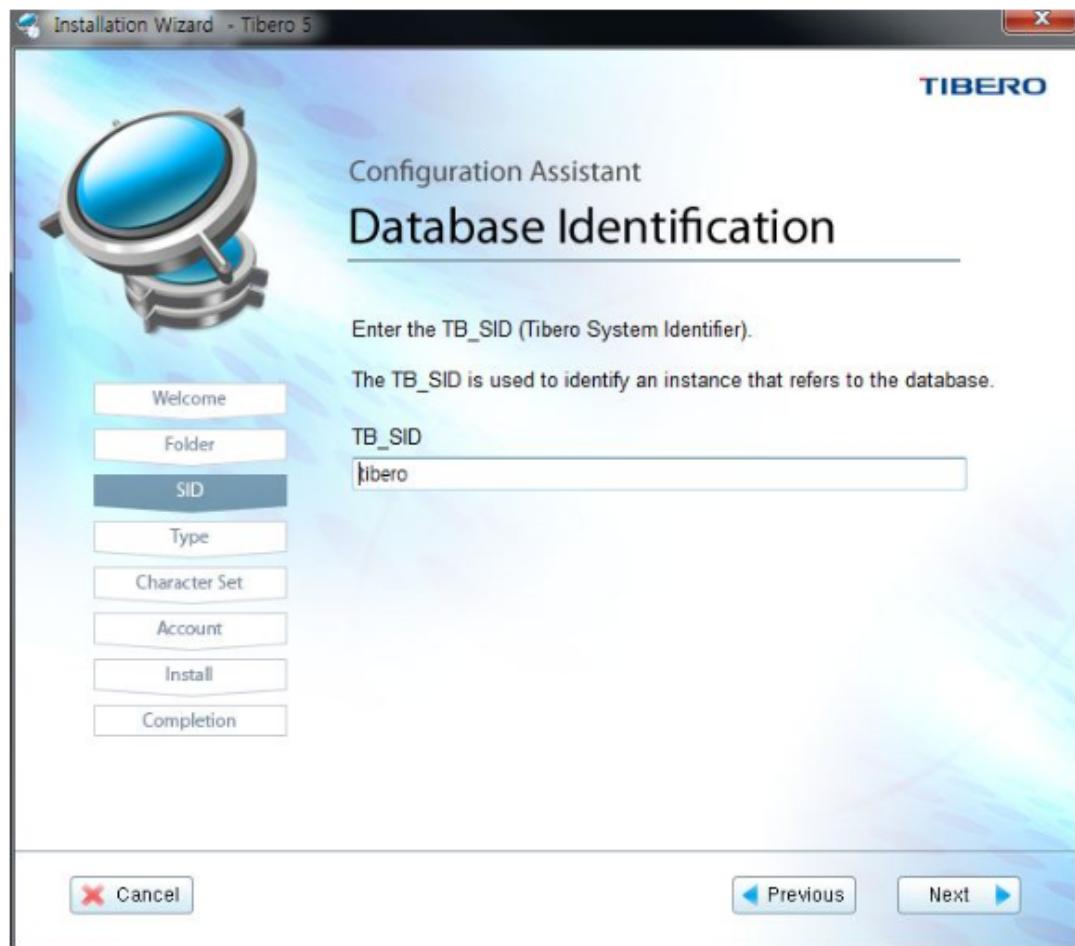
Note

Once installation starts, the tiberoLog.txt log file is created in the installation path.

5. SID Input

Enter the desired SID and click [Next] to proceed to the next step.

[Figure 4.4] Database Identification



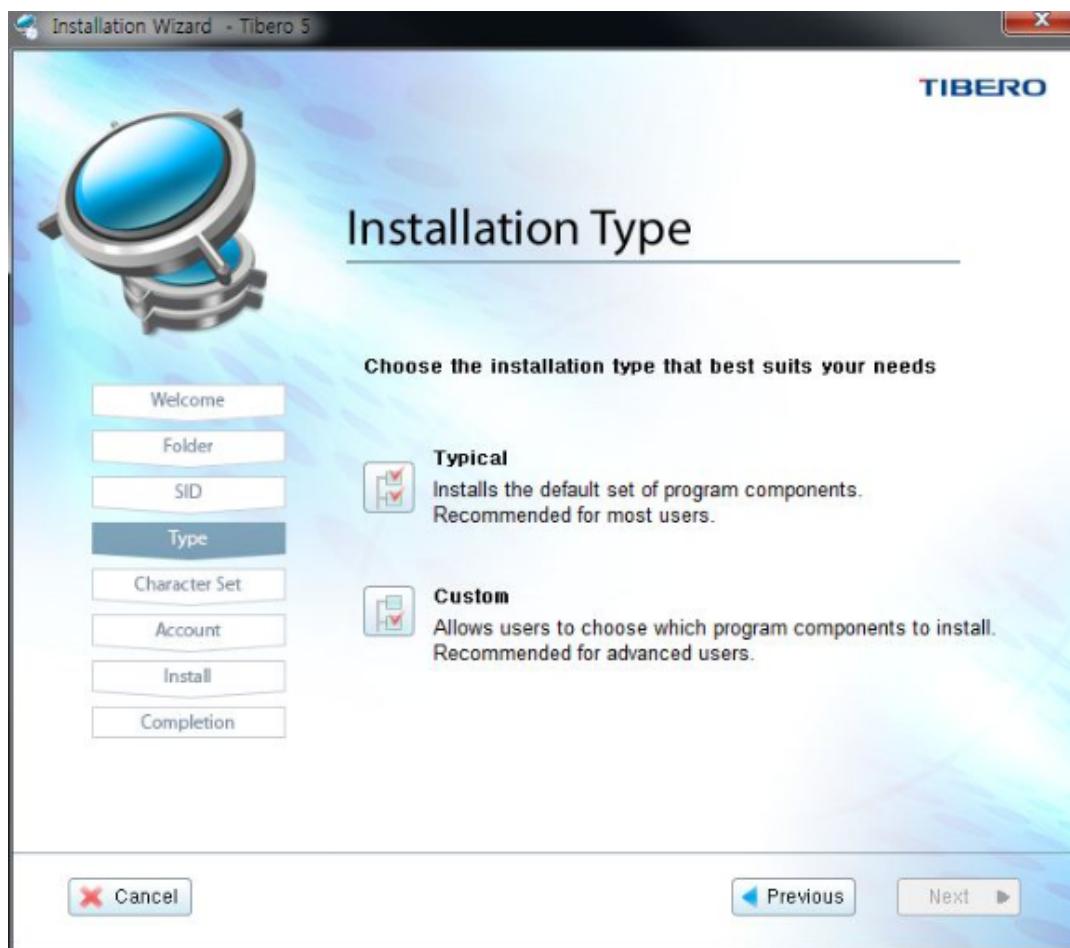
When the SID is entered, note the following:

- The SID value must be unique within the server. The default SID value is `tibero`.
- SID can be a combination of alphanumeric characters, dashes, and underscores.
- A numeric character cannot be the first character of the SID. Special characters cannot be middle characters of the SID.

6. Installation Type Selection

Select either the Typical or Custom installation and click [Next]. For this example, the Custom Installation type is selected.

[Figure 4.5] Installation Type



The following describes the installation types.

Installation Type	Description
Typical	<p>Installs with Listener Port, SID, DATABASE BLOCK SIZE, and the shared memory key, which are set to default.</p> <ul style="list-style-type: none">– Listener Port: 8629– SID: tibero– DATABASE BLOCK SIZE (DB_BLOCK_SIZE): 8KB– DATA FILE PATH: /home/tibero/Tibero/tibero5/database/tibero– Shared Memory Key: 65536

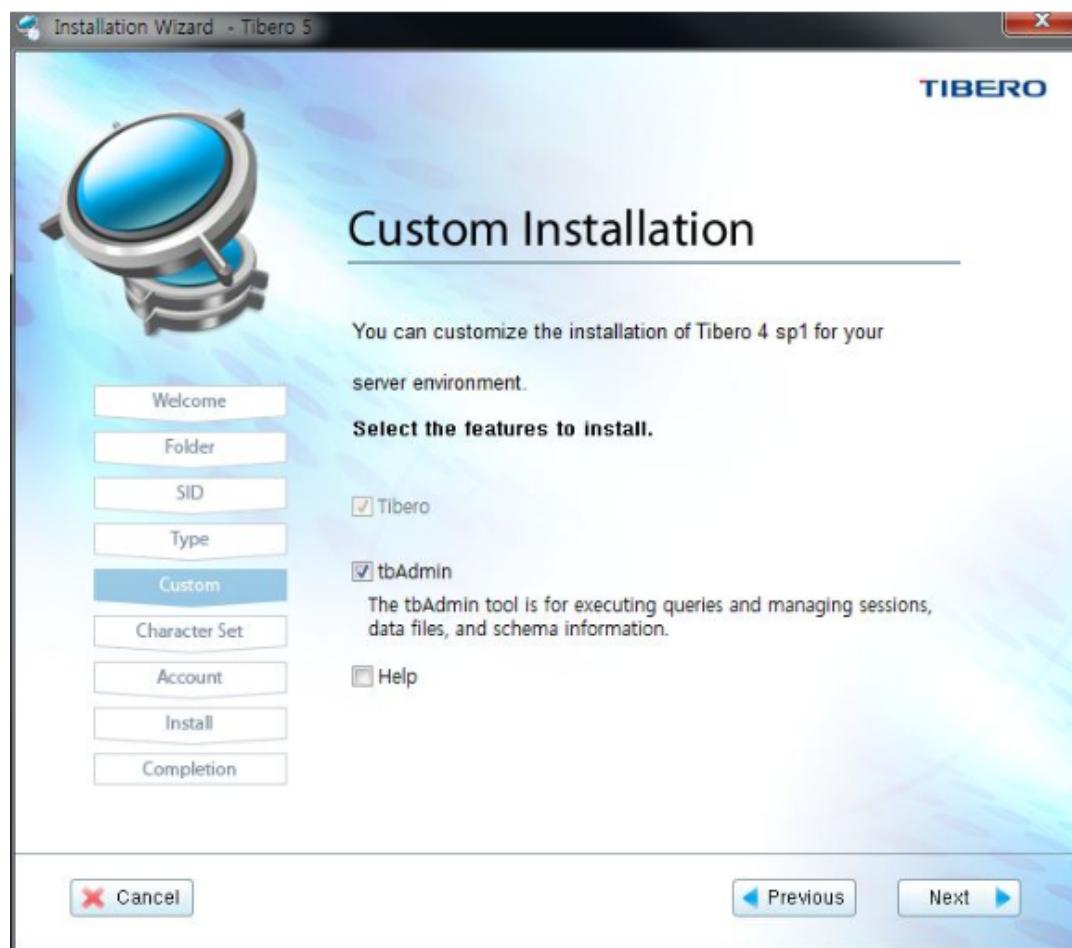
Installation Type	Description
Custom	<p>Users installs manually entering the Listener Port, DATABASE BLOCK SIZE, and DATA FILE PATH.</p> <ul style="list-style-type: none"> – DATABASE BLOCK SIZE: 2KB, 4KB, 8KB, 16KB, or 32KB must be entered.

7. Choose whether to install tbAdmin

Select whether to install the tbAdmin and click [Next].

To install the tbAdmin, select the check box. Once tbAdmin is installed, the installation path is %TB_HOME%\client\bin\tbAdmin by default.

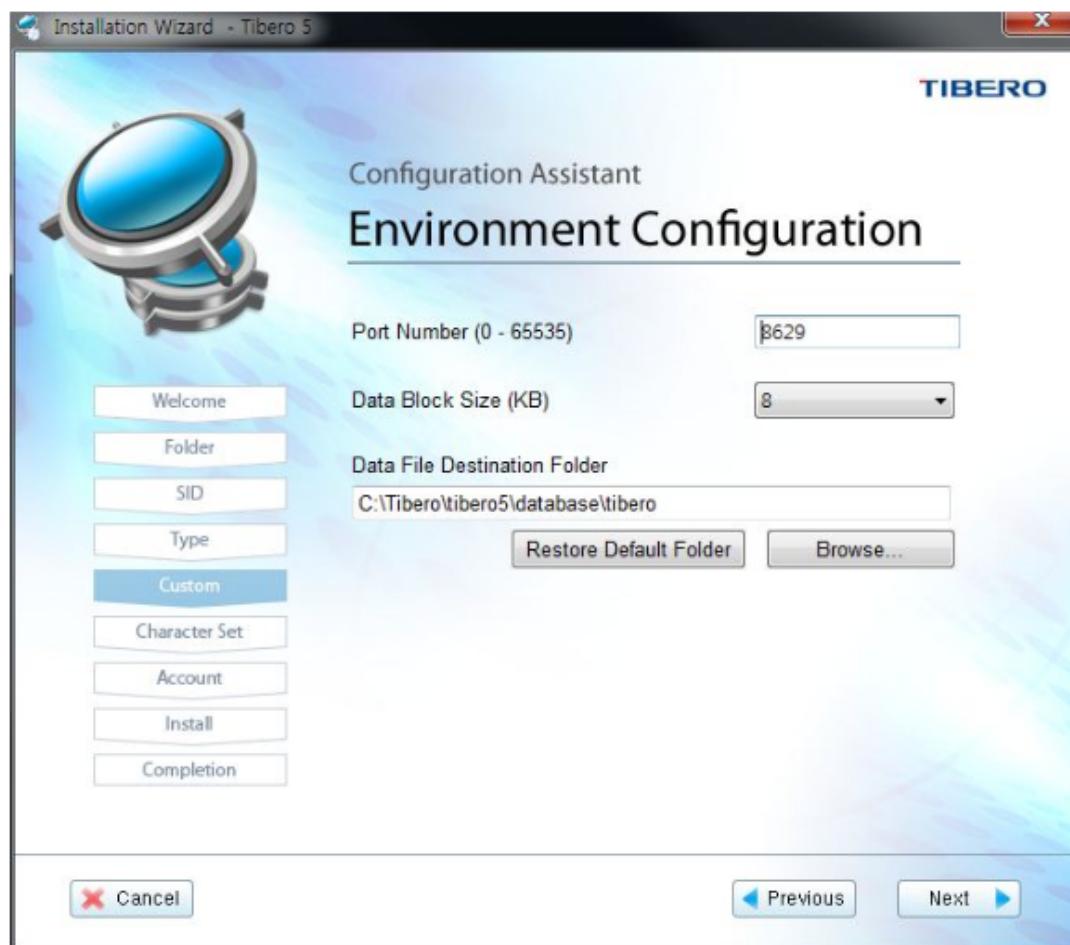
[Figure 4.6] Custom Installation



8. Port data block size setting

Enter the Port Number, Data Block Size, and Data File Destination Folder before clicking [Next].

[Figure 4.7] Environment Configuration



The following describes the input fields.

Field	Description
Port Number	The port number. The range is 0~65535. (Default value: 8629)
Data Block Size	The data block size. (Default value: 8KB)
Data File Destination Folder	The data file destination folder. (Default value: %TB_HOME%\database%\%TB_SID%) All Tibero data (control files and each data file) is created in the data file destination folder. The folder name must not be blank. Confirm the specified folder has sufficient disk space.

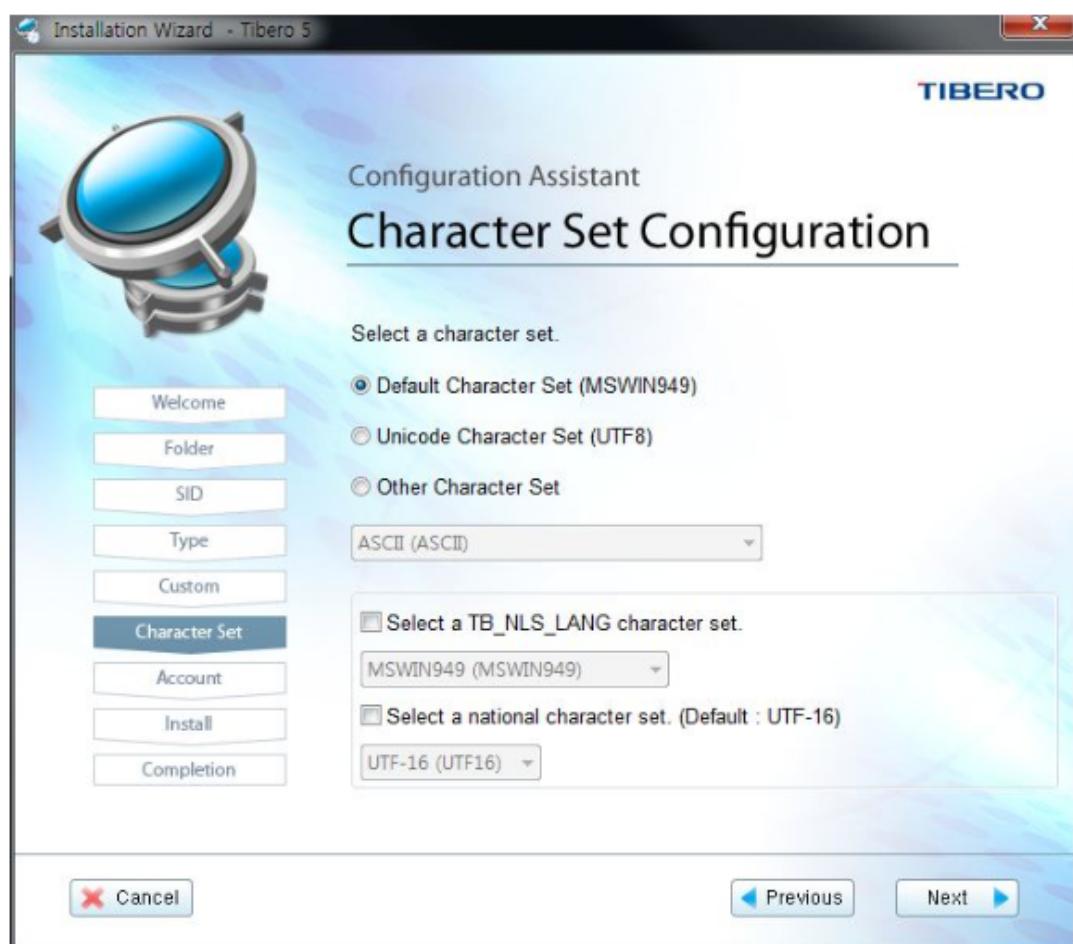
Note

The data file path is recommended to be specified out of %TB_HOME% to make engine binary replacement more convenient.

9. Character Set Selection

If necessary, select the TB_NLS_LANG and the national character set. After selecting the character set, click [Next] to proceed to the next step.

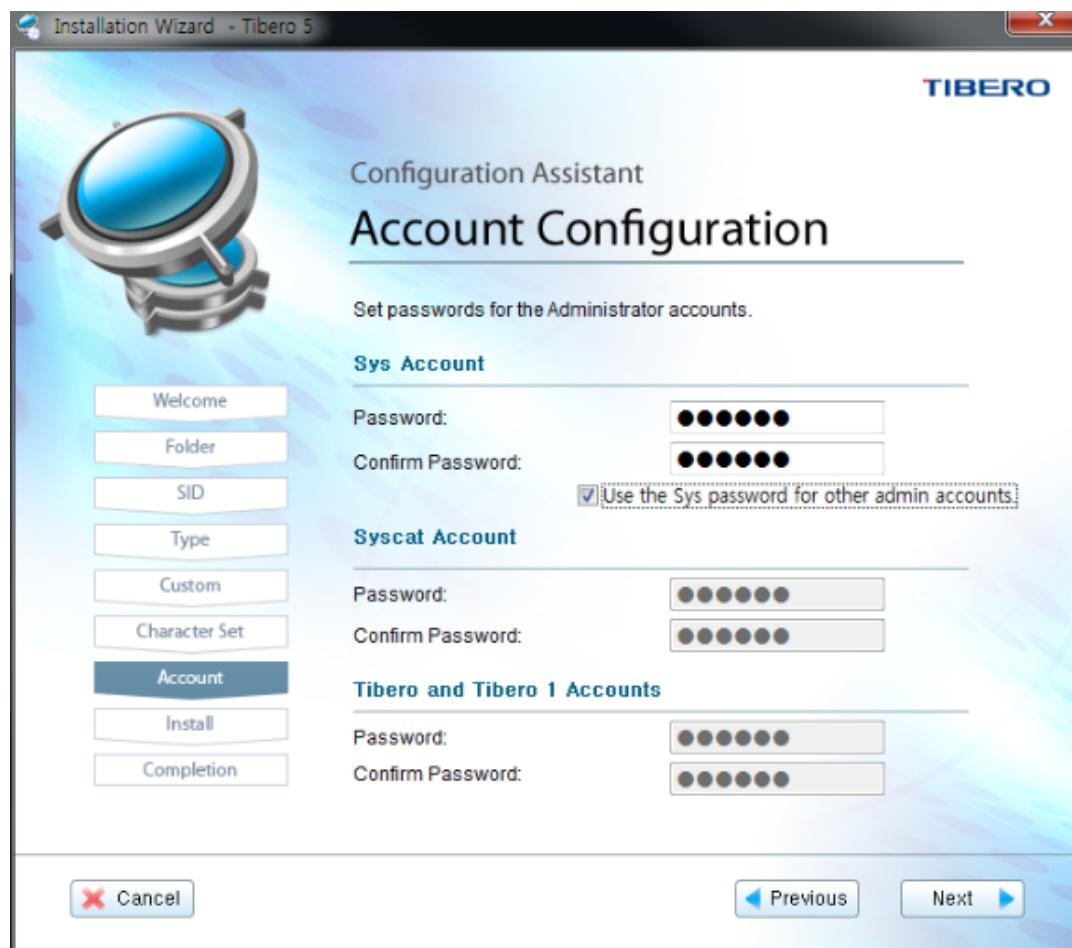
[Figure 4.8] Character Set Configuration



10 Tibero User Account Input

Enter information about the default user accounts (Sys, Syscat, Tibero, and Tibero1) provided by Tibero. Enter the password and re-enter it in the 'Confirm Password' field.

[Figure 4.9] Account Configuration

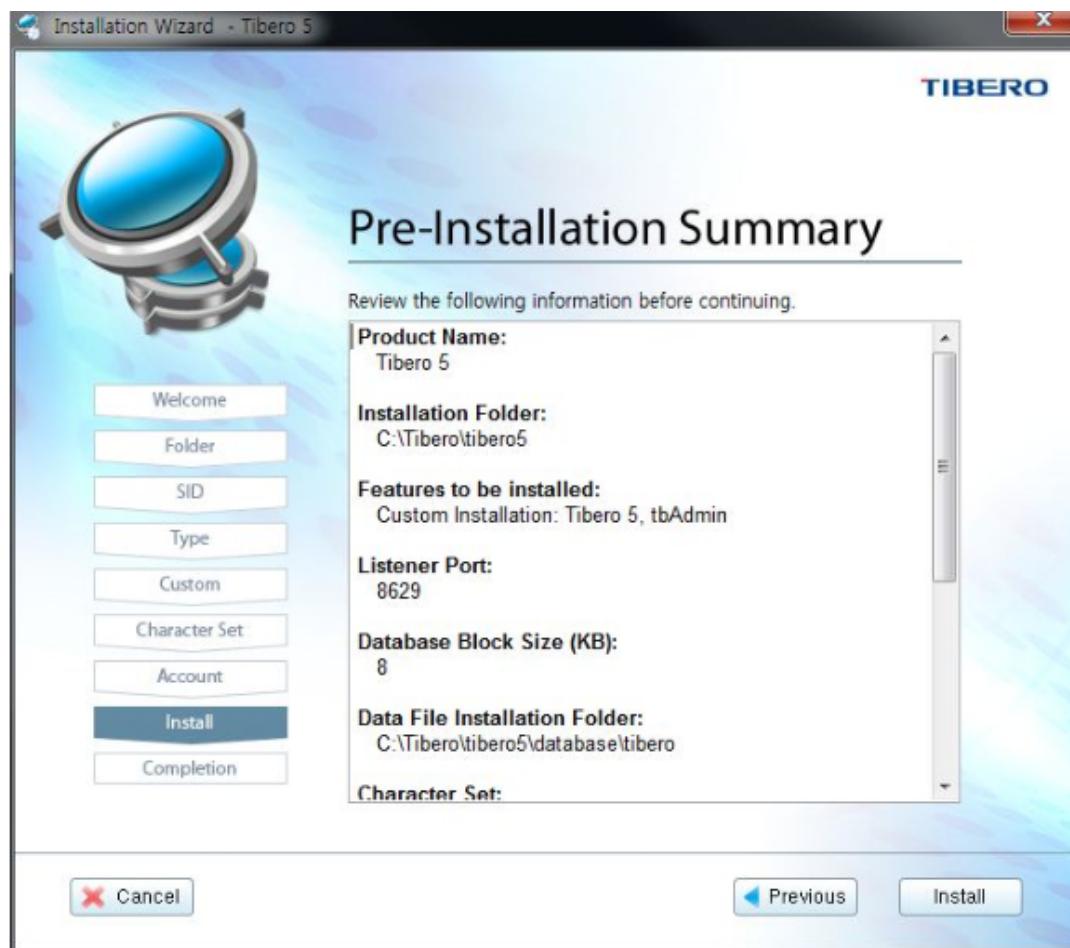


Once the password configuration is complete, click [Next] to proceed to the next step.

11. Installation Summary

The summary displays the most recent installation information. After confirming the configuration is correct, click [**Install**] to proceed to the next step.

[Figure 4.10] Pre-Installation Summary



To modify installation information, click [**Previous**] to go to the previous screen and modify.

12 Tibero Installation

Continue with the Tibero installation. The installation progress is displayed in the progress bar.

[Figure 4.11] Installing Tibero 5

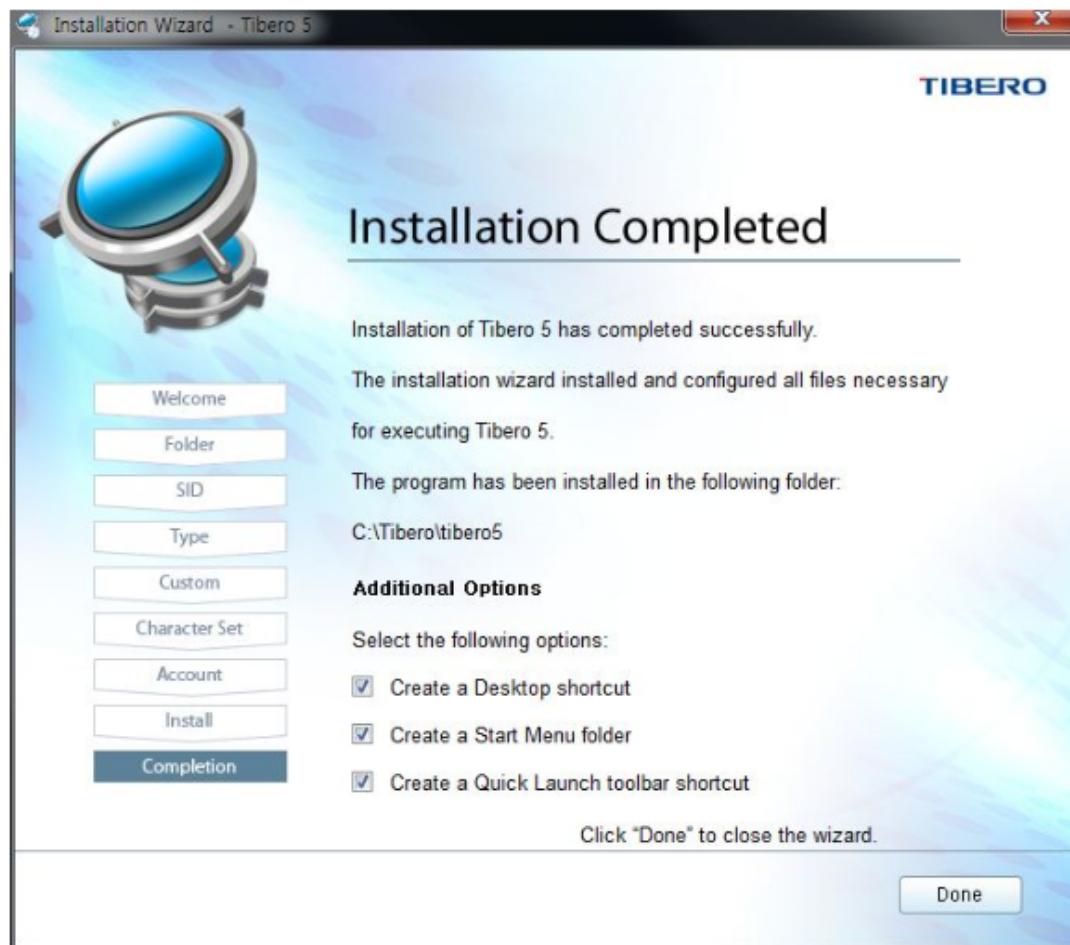


During installation, software copying, linking, database creation, and other tasks in the data file destination folder are completed.

13 Tibero Installation Completion

Once installation is complete, the following screen is displayed. Select the shortcut to be created and click [**Done**] to close installation.

[Figure 4.12] Installation Completed



4.2. Manual Mode

4.2.1. Installation

The following is the manual Tibero installation process in a Windows-like environment. During the installation process, all cmd windows must run with administrator rights.

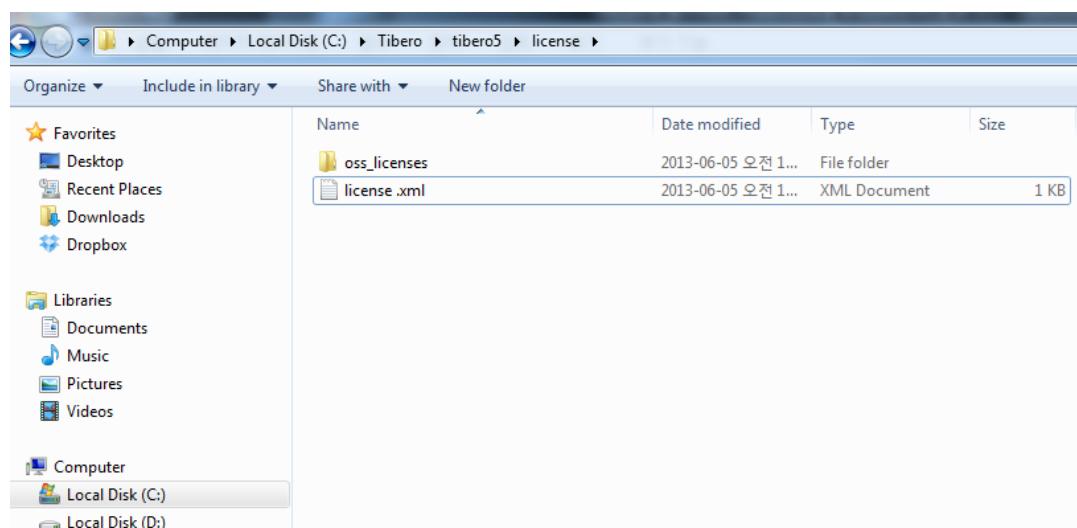
1. Installation-related File Preparation

Refer to "[2.1.7. License File Preparation](#)" and "[2.1.8. Installation File Preparation](#)" for detailed information about installation-related file preparation.

2. Creating the Tibero Installation Folder

- Create the Tibero installation folder. (E.g., C:\Tibero)
- Create the tbdata folder where data files, log files that can be dualized, and control files will be stored.
(E.g., C:\Tibero\tbdata)
- Unzip the binary and create the tibero5 folder in the Tibero installation path. (E.g., C:\Tibero\tibero5)
- Copy license.xml to the license folder. (E.g., C:\Tibero\tibero5\license\license.xml)

[Figure 4.13] license.xml



3. Environment Variable Configuration

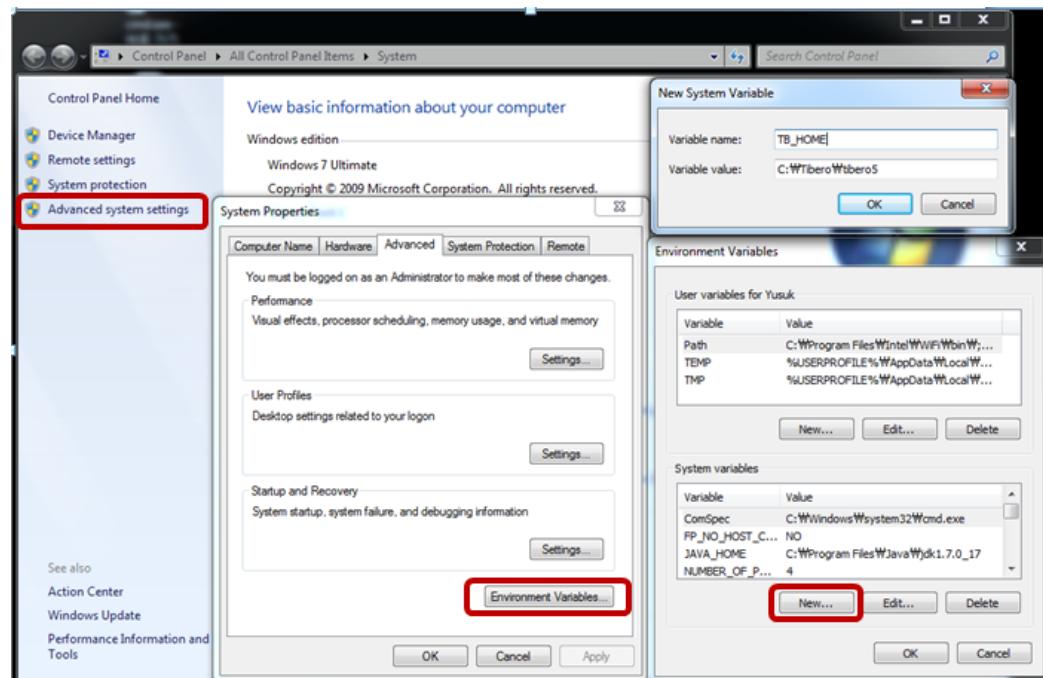
After clicking the right mouse button on [Computer], select [Attributes] > [Advanced system settings] > [Environment Variables] and configure it at [System Variable].

- Tibero 5 Engine Path Configuration

- Configuration Example

```
TB_HOME=C:\Tibero\tibero5
```

[Figure 4.14] TB_HOME Configuration

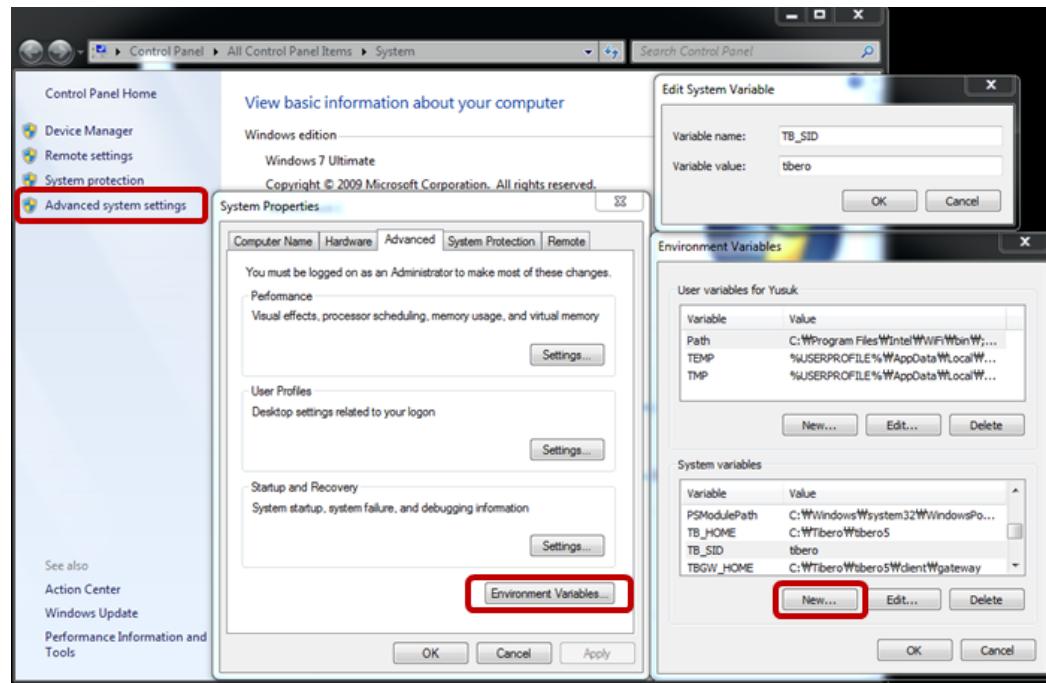


- Tibero SID Configuration

- Configuration Example

```
TB_SID=tibero
```

[Figure 4.15] TB_SID Configuration



- Path Configuration

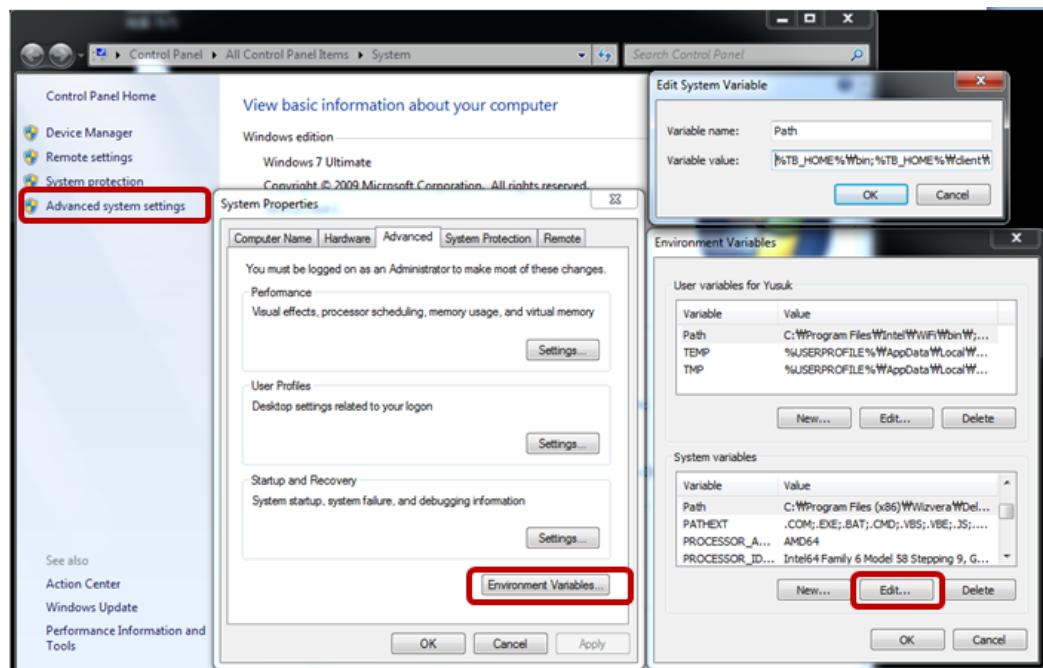
- Configuration Example

```
%TB_HOME%\bin;%TB_HOME%\client\bin;
```

Note

Configure the first part of the existing path so that commands can be executed from any location.

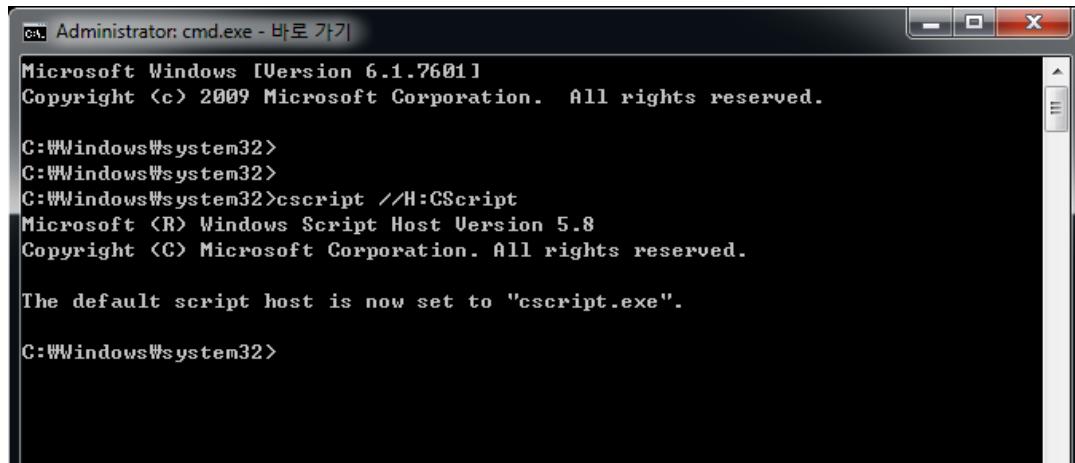
[Figure 4.16] PATH Configuration



4. cscript Configuration

If a pop-up message continues to pop up during the installation progress, execute **cscript //H:CScript** in the cmd window to prevent the message from being displayed in the screen.

[Figure 4.17] cscript Configuration



The screenshot shows a Windows Command Prompt window titled "Administrator: cmd.exe - 바로 가기". The window displays the following text:

```
Microsoft Windows [Version 6.1.7601]
Copyright <c> 2009 Microsoft Corporation. All rights reserved.

C:\Windows\system32>
C:\Windows\system32>
C:\Windows\system32>cscript //H:CScript
Microsoft (R) Windows Script Host Version 5.8
Copyright (C) Microsoft Corporation. All rights reserved.

The default script host is now set to "cscript.exe".

C:\Windows\system32>
```

5. Service Registration

Register services in the cmd window.

- Registration Method

```
tbinstall.vbs <TB_HOME Path> <TB_SID Name>
```

- Registration Example

```
tbinstall.vbs %TB_HOME% %TB_SID%
```

Note

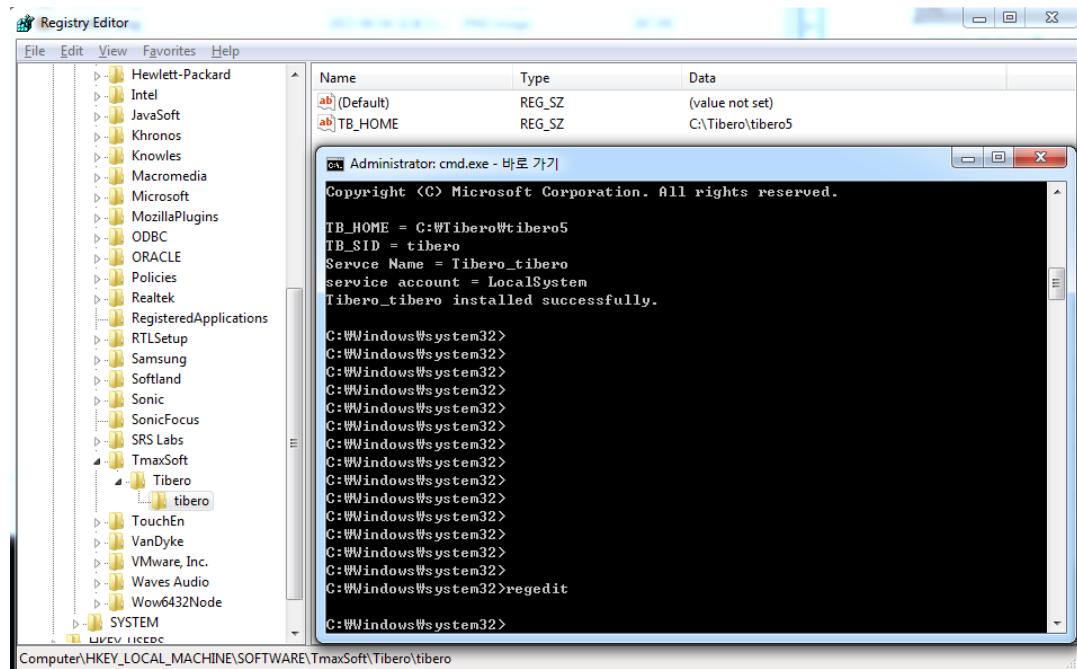
1. If the service cannot be registered, register it in the "C:\Tibero\tibero5\bin" path.
 2. The service can be canceled by executing tbuninstall.vbs. The registry history is automatically canceled too.
-

[Figure 4.18] Service

```
C:\> Administrator: cmd.exe - 바로 가기  
C:\Windows\system32>thinstall %TB_HOME% %TB_SID%  
Microsoft (R) Windows Script Host Version 5.8  
Copyright (C) Microsoft Corporation. All rights reserved.  
  
TB_HOME = C:\Tibero\tibero5  
TB_SID = tibero  
Service Name = Tibero_tibero  
service account = LocalSystem  
Tibero_tibero installed successfully.  
  
C:\Windows\system32>  
C:\Windows\system32>
```

Verify the registered TB_HOME and TB_SID by executing **regedit** in the cmd window.

[Figure 4.19] Regedit



6. System Rebooting

Reboot the system after environment variable configuration and service registration are complete. Check the environment variable settings by executing the **set** command in the cmd window after rebooting.

[Figure 4.20] set



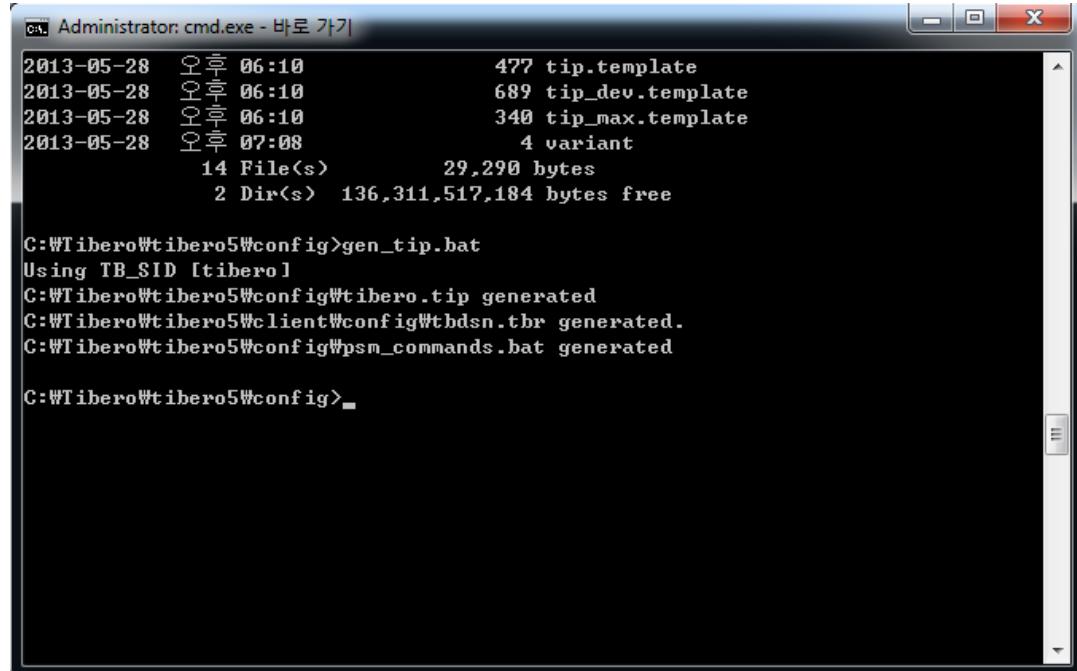
```
C:\Windows\system32>set
ALLUSERSPROFILE=C:\ProgramData
APPDATA=C:\Users\Yusuk\AppBarData\Roaming
CommonProgramFiles=C:\Program Files\Common Files
CommonProgramFiles(x86)=C:\Program Files (x86)\Common Files
CommonProgramW6432=C:\Program Files\Common Files
COMPUTERNAME=YUSUK-ULTRA
ComSpec=C:\Windows\system32\cmd.exe
FP_NO_HOST_CHECK=NO
HOMEDRIVE=C:
HOMEPath=\Users\Yusuk
JAVA_HOME=C:\Program Files\Java\jdk1.7.0_17
LOCALAPPDATA=C:\Users\Yusuk\AppData\Local
LOGONSERVER=WWWYUSUK-ULTRA
NUMBER_OF_PROCESSORS=4
ORACLE_HOME=C:\oracle\product\11.2.0\instantclient_11_2_64
OS=Windows_NT
Path=C:\Tibero\tibero5\bin;C:\Tibero\tibero5\client\bin;C:\Program Files (x86)\Wizvera\Delphino;C:\oracle\product\11.2.0\instantclient_11_2_64;C:\Program Files\Java\jdk1.7.0_17\bin;C:\Program Files (x86)\Intel\iCLS Client;C:\Program Files\Intel\iCLS Client;C:\Windows\system32;C:\Windows;C:\Windows\System32\WBem;C:\Windows\System32\WindowsPowerShell\v1.0\;C:\Program Files\Intel\Intel(R) Management Engine Components\DAL;C:\Program Files\Intel\Intel(R) Management Engine Components\IPT;C:\Program Files (x86)\Intel\Intel(R) Management Engine Components\IPT;C:\Program Files (x86)\Intel\OpenCL SDK\2.0\bin\x64;C:\Program Files\Intel\WiFi\bin\;C:\Program Files\Common Files\Intel\WirelessCommon\;C:\Program Files\Diskeeper Corporation\ExpressCache\;C:\Program Files\VanDyke Software\Clients\;C:\Program Files (x86)\WIDM Computer Solutions\UltraEdit\;
PATHEXT=.COM;.EXE;.BAT;.CMD;.VBS;.UBE;.JS;.JSE;.WSF;.WSH;.MSC
PROCESSOR_ARCHITECTURE=AMD64
PROCESSOR_IDENTIFIER=Intel64 Family 6 Model 58 Stepping 9, GenuineIntel
PROCESSOR_LEVEL=6
PROCESSOR_REVISION=3a09
ProgramData=C:\ProgramData
ProgramFiles=C:\Program Files
ProgramFiles(x86)=C:\Program Files (x86)
ProgramW6432=C:\Program Files
PROMPT=$P$G
PSModulePath=C:\Windows\system32\WindowsPowerShell\v1.0\Modules\
PUBLIC=C:\Users\Public
SystemDrive=C:
SystemRoot=C:\Windows
TBGW_HOME=C:\Tibero\tibero5\client\gateway
TB_HOME=C:\Tibero\tibero5
TB_SID=tibero
TEMP=C:\Users\Yusuk\AppData\Local\Temp
TMP=C:\Users\Yusuk\AppData\Local\Temp
TNS_ADMIN=C:\oracle\product\11.2.0\instantclient_11_2_64
USERDOMAIN=Yusuk-ULTRA
```

7. gen_tip.bat Execution and Configuration

- Initial Parameter Creation

Execute %TB_HOME%/config/gen_tip.bat.

[Figure 4.21] gen_tip



```
Administrator: cmd.exe - 바로 가기
2013-05-28 오후 06:10          477 tip.template
2013-05-28 오후 06:10          689 tip_dev.template
2013-05-28 오후 06:10          340 tip_max.template
2013-05-28 오후 07:08          4 variant
                           14 File(s)    29,290 bytes
                           2 Dir(s)   136,311,517,184 bytes free

C:\Tibero\Tibero5\Config>gen_tip.bat
Using TB_SID [tibero]
C:\Tibero\Tibero5\Config\tibero.tip generated
C:\Tibero\Tibero5\Client\Config\tbdsn.tbr generated.
C:\Tibero\Tibero5\Config\psm_commands.bat generated

C:\Tibero\Tibero5\Config>
```

Field	Description
%\$TB_HOME%/config/%TB_SID%.tip	Tibero's parameter file
%TB_HOME%/client/config/tbdsn.tbr	Tibero's client connection configuration file
%\$TB_HOME%/config/psm_commands.bat	The old PL/SQL's compilation script

- tip File Modification

Open the %\$TB_HOME%/config/%TB_SID%.tip file with a text editor to modify it.

```
#-----
#
# RDBMS initialization parameter
#
#-----
```



```
DB_NAME=tibero
LISTENER_PORT=8629
CONTROL_FILES="C:/Tibero/tbdata/c1.ctl"
CERTIFICATE_FILE="C:/Tibero/tibero5/config/svr_wallet/tibero.crt"
#PRIVKEY_FILE="C:/Tibero/tibero5/config/svr_wallet/tibero.key"
```

```

#WALLET_FILE="C:/Tibero/tibero5/config/svr_wallet/WALLET"

DB_CREATE_FILE_DEST=C:/Tibero/tbdata
LOG_ARCHIVE_DEST= C:/Tibero/arch

MAX_SESSION_COUNT=10

TOTAL_SHM_SIZE=512M

```

Field	Description
DB_NAME	Set to match \$TB_SID.
LISTENER_PORT	Listener Port number
CONTROL_FILES	Control files storage location. Dualization is recommended to prepare for the event of a failure.
CERTIFICATE_FILE	Specifies the location of the certificate.
PRIVKEY_FILE	Specifies the location of the private key.
WALLET_FILE	Specifies the location of the security wallet.
DB_CREATE_FILE_DEST	Data files storage location.
LOG_ARCHIVE_DEST	Archive files storage location. Specifies when archive logs are used.
MAX_SESSION_COUNT	The number of simultaneously connectable sessions
TOTAL_SHM_SIZE	Specify the size of the entire shared memory used by Tibero. (The recommended value: the entire memory size * 0.5)

Note

1. Control files are created in the instance by default. However, control and data files should be stored in a folder outside the Tibero engine area. (E.g., C:\Tibero\tbdata)
2. If LISTENER_PORT is to be modified, the LISTENER_PORT section of the \$TB_HOME\client\config\tbdsn.tbr file must be modified. At this time, the port numbers of the \$TB_SID.tip file and the tbdsn.tbr file must be identical to connect.

- tbdsn.tbr File Modification

```

#-----
# C:\Tibero\tibero5\client\config\tbdsn.tbr
# Network Configuration File.
# Generated by gen_tip.bat at 6 6 12:10:32      2013
tibero=

```

```

        ( INSTANCE=(HOST=192.168.1.1)
          (PORT=8629)
          (DB_NAME=tibero)
        )
      )

```

Field	Description
HOST	Specifies the IP address of the DB server to be accessed.
PORT	Specifies the port number of the DB server to be accessed.
DB_NAME	Specifies the DB name of the DB server to be accessed.

4.2.2. Database Creation

- After starting Tibero in NOMOUNT mode (**tbboot -t nomount**), connect with tbsql (**tbsql sys/tibero**).

[Figure 4.22] **tbboot nomount**

```

Administrator: cmd.exe - 바로 가기 - tbsql sys/tibero
C:\WTibero\Tibero5\config>
C:\WTibero\Tibero5\config>tbboot -t nomount

Tibero instance started up <NOMOUNT mode>.
C:\WTibero\Tibero5\config>
C:\WTibero\Tibero5\config>tbsql sys/tibero

tbSQL 5

Copyright <c> 2008, 2009, 2011, 2012 Tibero Corporation. All rights reserved.

Connected to Tibero.

SQL>

```

- Create a DB.

The following is an example of creating a DB creation script file (cre_db.sql).

```

CREATE DATABASE "tibero"           -- DB Name @(If DB Name is blank, %TB_SID%
is entered.)@
USER SYS IDENTIFIED BY TIBERO

```

```

MAXDATAFILES 4096
CHARACTER SET MSWIN949          -- @Specify UTF8,EUCKR,ASCII, and MSWIN949
# character set.@
LOGFILE GROUP 0 ('redo01.redo') SIZE 50M,
GROUP 1 ('redo11.redo') SIZE 50M,
GROUP 2 ('redo21.redo') SIZE 50M
MAXLOGFILES 100
MAXLOGMEMBERS 8
NOARCHIVELOG           -- @Archivelog mode status@
DATAFILE 'system001.dtf' SIZE 256M
AUTOEXTEND ON NEXT 16M MAXSIZE 3072M
DEFAULT TABLESPACE USR
DATAFILE 'usr001.dtf' SIZE 128M
AUTOEXTEND ON NEXT 16M MAXSIZE 3072M
DEFAULT TEMPORARY TABLESPACE TEMP
TEMPFILE 'temp001.dtf' SIZE 512M
AUTOEXTEND ON NEXT 16M MAXSIZE 10240M
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
UNDO TABLESPACE UNDO
DATAFILE 'undo001.dtf' SIZE 512M
AUTOEXTEND ON NEXT 16M MAXSIZE 10240M
EXTENT MANAGEMENT LOCAL AUTOALLOCATE;

```

- Once the DB is created, exit tbsql and restart the DB in NORMAL mode. (**tbboot**)

[Figure 4.23] tbboot

The screenshot shows a Windows Command Prompt window titled "Administrator: cmd.exe - 바로 가기". The command history and output are as follows:

```

C:\WTibero>
C:\WTibero>tbsql sys/tibero
tbSQL 5

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Connected to Tibero.

SQL>
SQL> @cre_db

Database created.

File finished.

SQL> q
Disconnected.

C:\WTibero>tbboot

Tibero instance started up (NORMAL mode).
C:\WTibero>

```

4. Enter the **system.vbs** command in the %TB_HOME%/scripts directory to create the data dictionary and the system package.

```
C:\Tibero\tibero5\scripts>system.vbs
Microsoft (R) Windows Script Host Version 5.8
Copyright (C) Microsoft Corporation. All rights reserved.

Enter SYS password:
tibero
Enter SYSCAT password:
syscat
Creating the role DBA...
    Running C:\Tibero\tibero5\scripts\create_dba_gen.sql...
Creating system users & roles?(Y/N):
y
Creating system users & roles...
    Running C:\Tibero\tibero5\scripts\system_users.sql...
Creating virtual tables(1)...
    Running C:\Tibero\tibero5\scripts\vt_drop_gen.sql...
Creating virtual tables(2)...
    Running C:\Tibero\tibero5\scripts\vt_create_gen.sql...
Granting public access to _VT_DUAL...
    Running C:\Tibero\tibero5\scripts\vt_dual.sql...
Creating the system generated sequences...
    Running C:\Tibero\tibero5\scripts\create_seq.sql...
Creating internal dynamic performance views...
    Running C:\Tibero\tibero5\scripts\dpvx.sql...
Creating outline table...
    Running C:\Tibero\tibero5\scripts\outln.sql...
Creating system packages:

    Running C:\Tibero\tibero5\scripts\pkg\pkg_standard.sql...
    Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_output.sql...
    Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_lob.sql...
    Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_utility_internal.sql...

    Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_utility.sql...
    Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_obfuscation.sql...
    Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_transaction.sql...
    Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_space_admin.sql...
```

```
Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_space.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_random.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_lock.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_system.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_job.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_utl_raw.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_utl_i18n.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_utl_file.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_utl_str.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_tb_utility.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_rowid.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_repair.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_application_info.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_java.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_utl_encode.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_utl_url.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_utl_http_internal.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_utl_http.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_utl_tcp.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_session.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_crypto.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_tool_utility.sql...
Running C:\Tibero\tibero5\scripts\pkg\pkg_htp.sql...
```

```
Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_result_cache.sql...

Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_flashback.sql...

Running C:\Tibero\tibero5\scripts\pkg\pkg_seaf.sql...
Creating packages for sql:

Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_types.sql...

Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_sql.sql...
Creating public synonyms for system packages...
Running C:\Tibero\tibero5\scripts\pkg\pkg_synonym.sql...
Creating auxiliary tables used in static views...
Running C:\Tibero\tibero5\scripts\systbl_gen.sql...
Creating system system tables related to profile?(Y/N):
y
Creating system tables related to profile...
Running C:\Tibero\tibero5\scripts\sys_profile.sql...
Creating static views...
Running C:\Tibero\tibero5\scripts\catalogview.sql...
Creating static view descriptions...
Running C:\Tibero\tibero5\scripts\sv_dict.sql...
Creating packages for statistics:

Running C:\Tibero\tibero5\scripts\pkg\pkg_sys_util.sql...

Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_stats_internal.sql...

Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_stats.sql...
Creating packages for log errors:

Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_errlog.sql...
Creating packages for mvview:

Running C:\Tibero\tibero5\scripts\rewrite_table.sql...

Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_mvview_util.sql...

Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_mvview.sql...

Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_mvview_refresh_util.sql

Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_redefinition_stats.sql
```

```
Running C:\Tibero\tibero5\scripts\pkg\pkg_dbms_redefinition.sql...
Creating packages for text:

    Running C:\Tibero\tibero5\scripts\pkg\pkg_text.sql...
Creating remaining public synonyms for system packages...
    Running C:\Tibero\tibero5\scripts\pkg\pkg_synonym2.sql...

    Running C:\Tibero\tibero5\scripts\iparam_desc_gen.sql...

    Running C:\Tibero\tibero5\scripts\trace_event_desc_gen.sql...
Creating dynamic performance views...
    Running C:\Tibero\tibero5\scripts\dpv.sql...
Creating dynamic performance view descriptions...
    Running C:\Tibero\tibero5\scripts\dpv_dict.sql...
Check APM status..
    Running C:\Tibero\tibero5\scripts\apm_check_status.sql...
Stop APM..
    Running C:\Tibero\tibero5\scripts\apm_stop.sql...
Dropping tables used in APM...
    Running C:\Tibero\tibero5\scripts\apm_drop.sql...
Creating auxiliary tables used in APM...
    Running C:\Tibero\tibero5\scripts\apm.sql...
Creating packages for APM...
    Running C:\Tibero\tibero5\scripts\pkg/pkg_dbms_apm.sql...
Start APM
    Running C:\Tibero\tibero5\scripts\apm_start.sql...
Creating spatial meta tables and views ...
    Running C:\Tibero\tibero5\scripts\create_gis.sql...
Creating internal system tables...
    Running C:\Tibero\tibero5\scripts\sys_tbl.sql...
Done.
For details, check C:\Tibero\tibero5\instance\tibero\log\system_init.log.
```

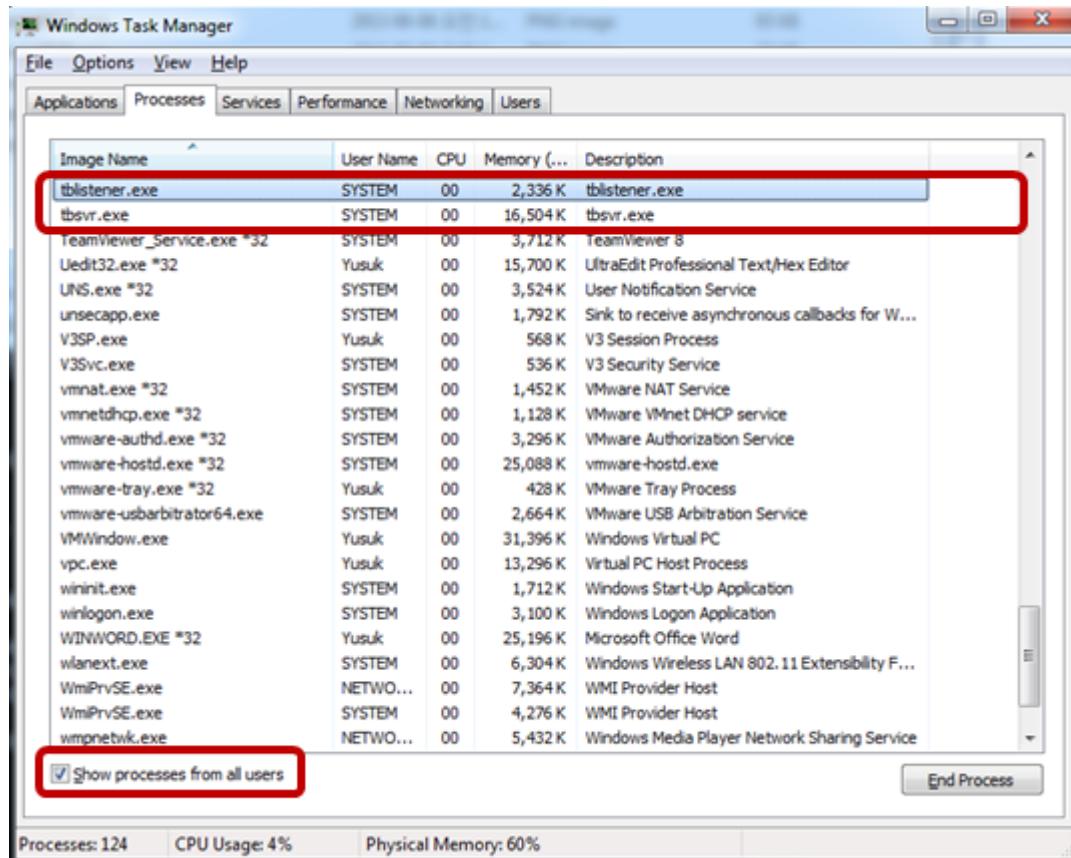
Note

Check the %TB_HOME%/instance/%TB_SID%/log/system_init.log file to confirm the data dictionary and system package were created successfully.

4.2.3. Installation Verification

Use the task manager to verify the Tibero process is running.

[Figure 4.24] Task Manager



Chapter 5. Tibero 5 Installation Failure Guide

This chapter describes how to respond possible failures when installing Tibero 5.

5.1. Error Type

timeout while trying to open port 8629

- Error Screen

```
listener port = 8629 Error: timeout while trying to open port 8629 Tibero
instance startup failed!
```

Description	This error occurs when the port number configured in the \$TB_HOME/config/\$TB_SID.tip file is used in other places.
Response	<p>Check if the port number is being used by entering \$netstat -an grep 8629 in the shell. If the number cannot be used, consult the administrator and change the port number.</p> <p>The port number can be changed in the following files.</p> <ul style="list-style-type: none">– \$TB_HOME/config/\$TB_SID.tip– \$TB_HOME/client/config/tbdsn.tbr

Tibero initialization parameter (tip) file error (1)

- Error Screen

```
*** Tibero initialization parameter (tip) file error:
Error (-7200) occurred while processing parameter 'LISTENER_PORT' and value
'280000'
(LISTENER_PORT must be between 1024 and 65535).
tip file path = /home/tb_hws/tibero5/config/tbhws.tip
```

Description	This error occurs when the LISTENER_PORT configuration of the \$TB_HOME/config/\$TB_SID.tip file is incorrect.
Response	LISTEN_PORT must be set to within the allowable range: 1024 to 65535.

Tibero initialization parameter (tip) file error (2)

- Error Screen

```
*** Tibero initialization parameter (tip) file error:  
Parameter 'LOG_ARCHIVE_DEST' defined twice at line 13.  
tip file path = /home/tb_hws/tibero5/config/tbhws.tip
```

Description	This error occurs when redundant parameters exist in the \$TB_HOME/config/\$TB_SID.tip file.
Response	Check the redundant parameters and remove them.

Tbdown failed to connect

- Error Screen

```
$tbdown tbdown failed to connect.
```

Description	Control and data files specified in the \$TB_HOME/config/\$TB_SID.tip file may be lost.
Response	Check if the control and data files specified in the \$TB_HOME/config/\$TB_SID.tip file exist. Restore the control and data files using the backups. Refer to "Tibero Backup and Restoration".

can't open the license file

- Error Screen

```
listener port = 8629  
*****  
* ERROR: Can't open the license file !!  
* (1) Check the license file - /home/tibero/tibero5/license/license.xml  
*****  
Tibero instance startup failed!
```

Description	This error occurs when a license does not exist or is invalid.
Response	Obtain a valid license and put it in the \$TB_HOME/license folder.

.proc info file is deleted

- Error Screen

```
*****
* BOOT FAILED.
* tbsvr is still running, or garbage files remain unerased.
* Please run "ttdown clean" and retry.
*****
```

Description	This error occurs when the .porc.list file with the process information related to starting Tibero, which is created in \$TB_HOME/instance/\$TB_SID, is lost.
Response	Check whether Tibero executed. If the tbsvr process is not running, terminate Tibero by executing ttdown clean.

tbsql: error while loading shared libraries

- Error Screen

```
listener port = 28000
tbsvr : error while loading shared libraries: libtbclnt.so: cannot open
shared
object file: No such file or directory
Tibero instance startup failed!
```

Description	This error occurs when a library file necessary to execute tbsql cannot be accessed.
Response	Add the \$TB_HOME/client/lib path to the library path of the .profile file. The following are library parameters for each OS. <ul style="list-style-type: none"> – Linux, Solaris: LD_LIBRARY_PATH(_64) – AIX: LIB_PATH – HP: SHLIB_PATH

Tip file open error

- Error Screen

```
Tip file open error: No such file or directory
Filename: /home/tb_hws/tibero5/config/tbhws.tip
```

Description	This error occurs when the \$TB_SID.tip file cannot be read during startup.
Response	Create the \$TB_SID.tip file by executing gen_tip.sh in the \$TB_HOME/config folder.

DSN(Database Source Name) file is not found

- Error Screen

```
tbsvr@tb_hws:/home/tb_hws/tibero5/client/config # tbsql sys/tibero
tbSQL 5
Copyright (c) 2008, 2009, 2011, 2012 Tibero Corporation. All rights reserved.
Driver can not be initialized. DSN file is not found or corrupted.
```

Description	This error occurs when the \$TB_HOME/client/config/tbdsn.tbr file is not created.
Response	Create the tbdsn.tbr file by executing \$TB_HOME/config/gen_tip.sh.

Data source not found

- Error Screen

```
tbsvr@tb_hws:/home/tb_hws/tibero5/client/config # tbsql sys/tibero
tbSQL 5
Copyright (c) 2008, 2009, 2011, 2012 Tibero Corporation. All rights reserved.
TBR-2004: DSN (Database Source Name) file format is invalid. at line 9,
column 1: # Generated by gen_tip.sh at Tue Mar 12 16:28:32 KST 2013
```

Description	This error occurs when the Alias information of \$TB_SID is not in the \$TB_HOME/client/config/tbdsn.tbr file.
Response	Add the Alias of \$TB_SID\$TB_SID to the file.

Generic I/O error

- Error Screen

```
tbsvr@tb_hws:/home/tb_hws/tibero5/client/config # tbsql sys/tibero
tbSQL 5
Copyright (c) 2008, 2009, 2011, 2012 Tibero Corporation. All rights reserved.
TBR-2131: Generic I/O error.
```

Description	This error occurs when a connection is attempted when Tibero is not running.
Response	<p>Check if Tibero is running. If the tbsvr process is not running, start Tibero in Normal mode and connect to it.</p> <p>Use the \$ ps -ef grep tbsvr command to determine if Tibero is running.</p>

Tibero instance startup failed!

- Error Screen

```
efiltdb51:tibero:/tibero # tbboot nomount
listener port = 8629
change core dump dir to /tibero/tibero5/bin/prof
Tibero instance startup failed!
```

Description	This error occurs when a hostname larger than 8 bytes is configured in HP-UX.
Response	Apply a parameter 'uname_eoverflow=1' and set the hostname to smaller than 8 byte.

