12

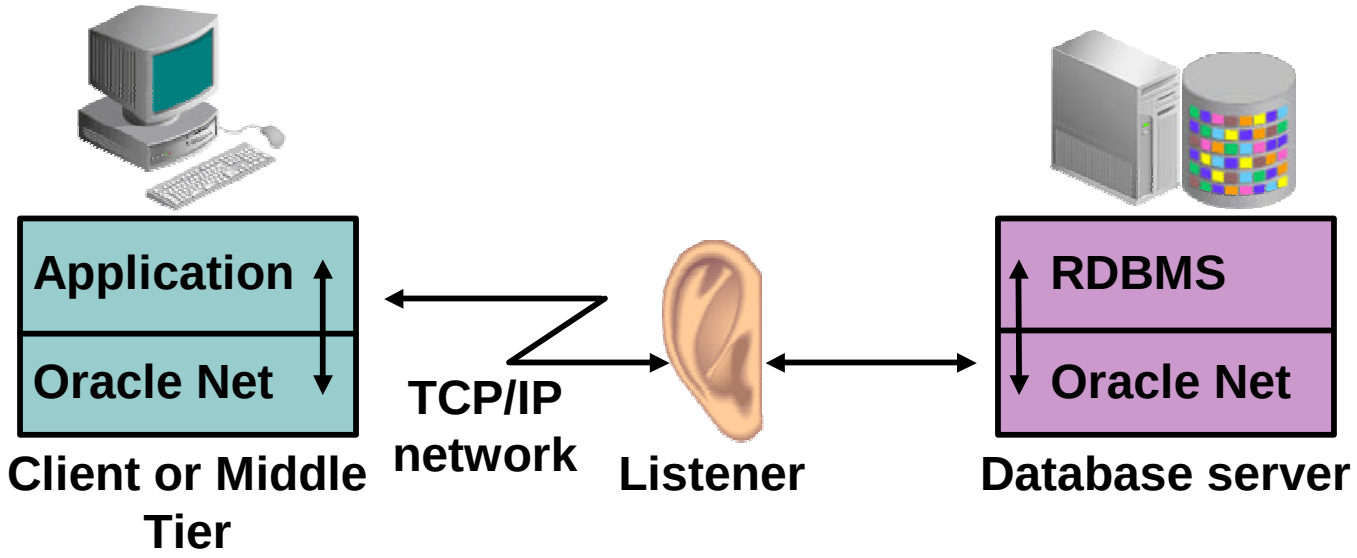
Oracle Net Services

Objectives

After completing this lesson you should be able to do the following:

- Use Database Control to
  - Create additional listeners
  - Create Oracle Net service aliases
  - Configure connect time failover
  - Control the Oracle Net listener
- Use the Oracle Net Manager to configure client and middle-tier connections.
- Use TNSPING to test Oracle Net connectivity

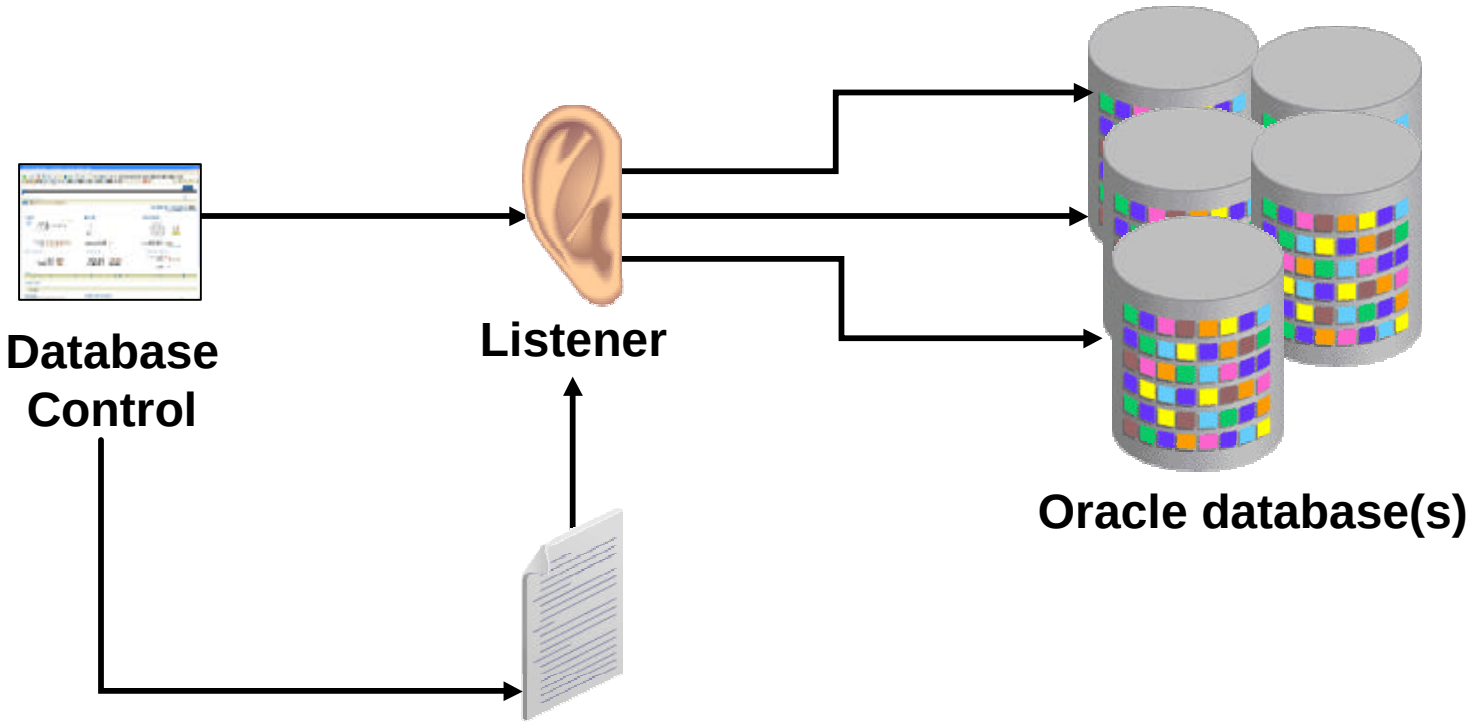
Oracle Net Services



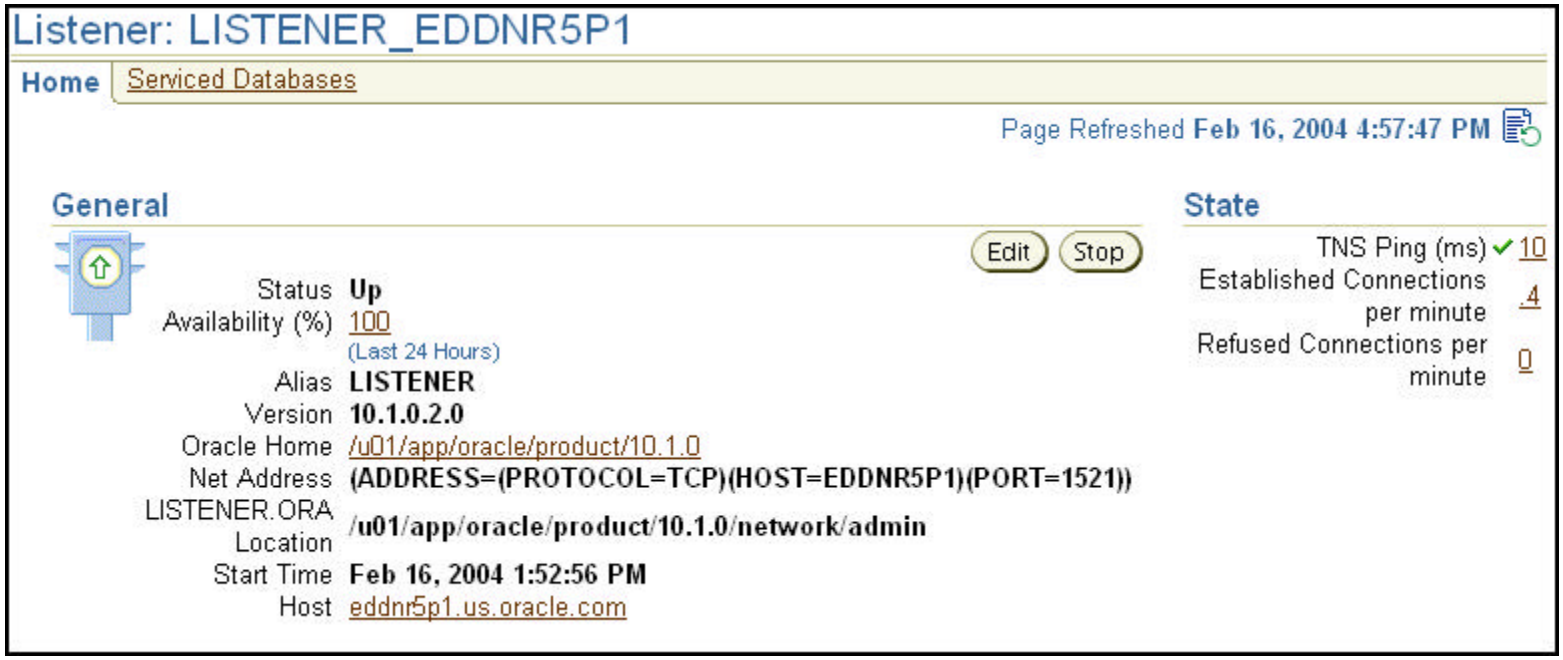
Oracle Net configuration files

Oracle Net configuration files

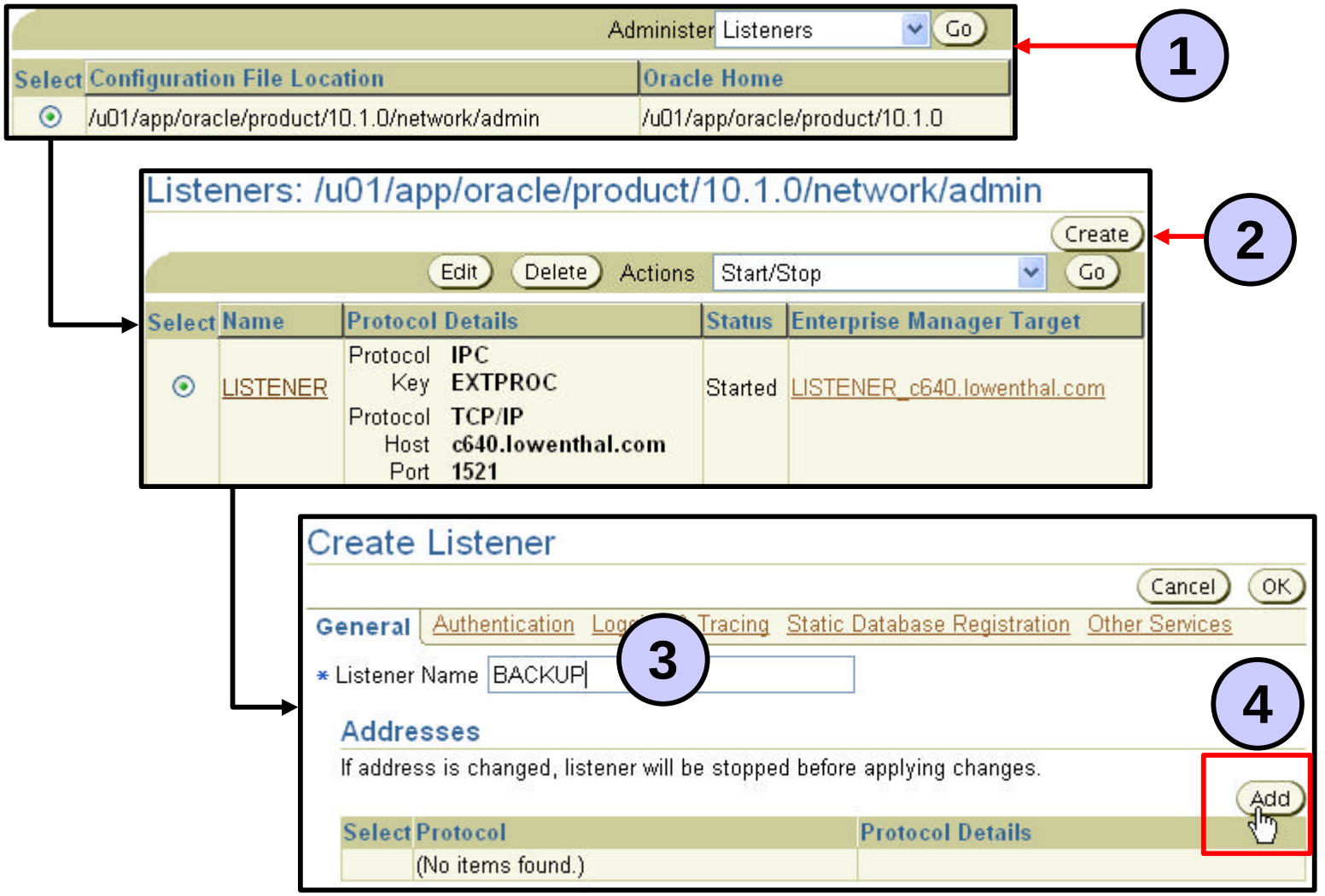
Oracle Net Listener



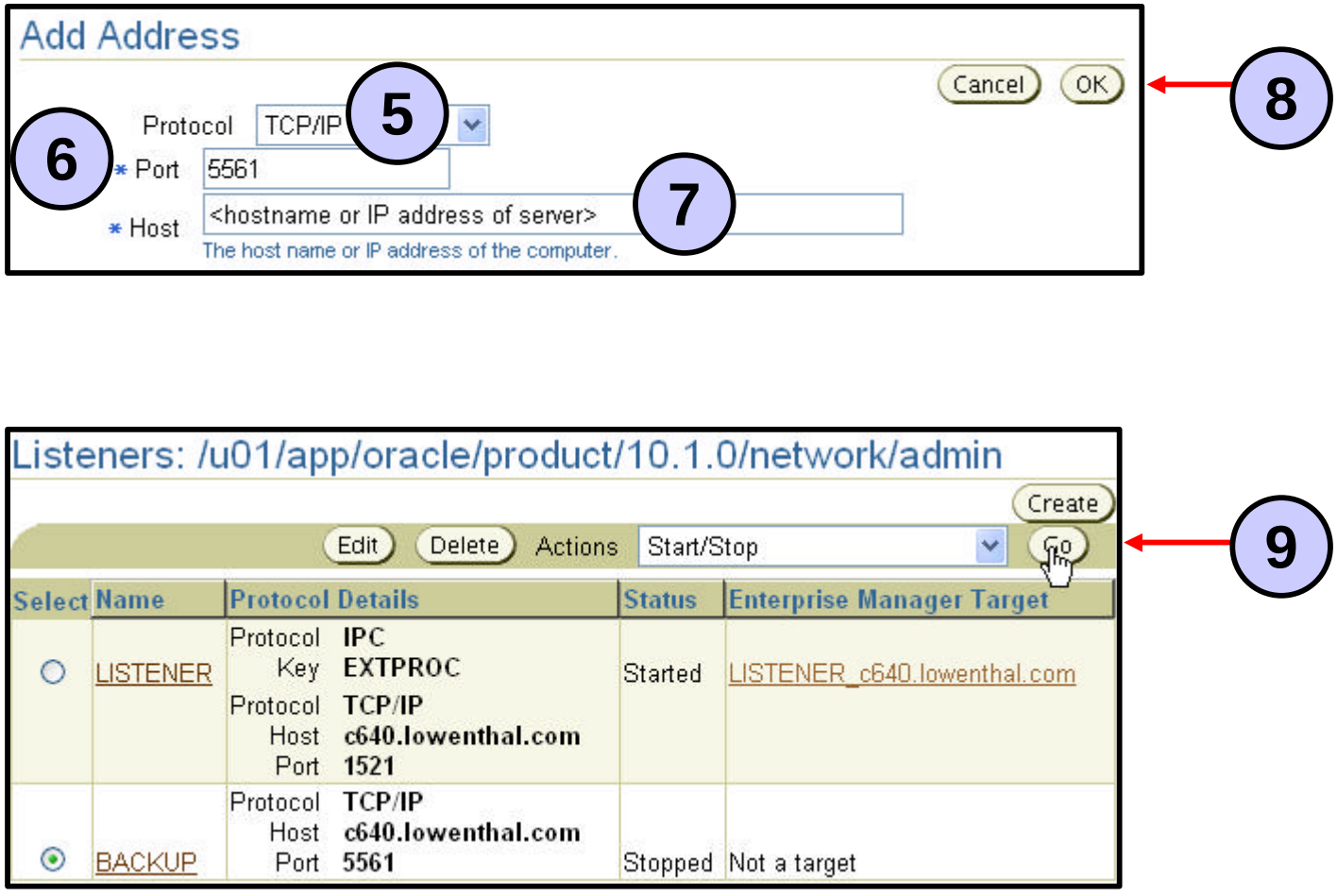
Monitoring the Listener



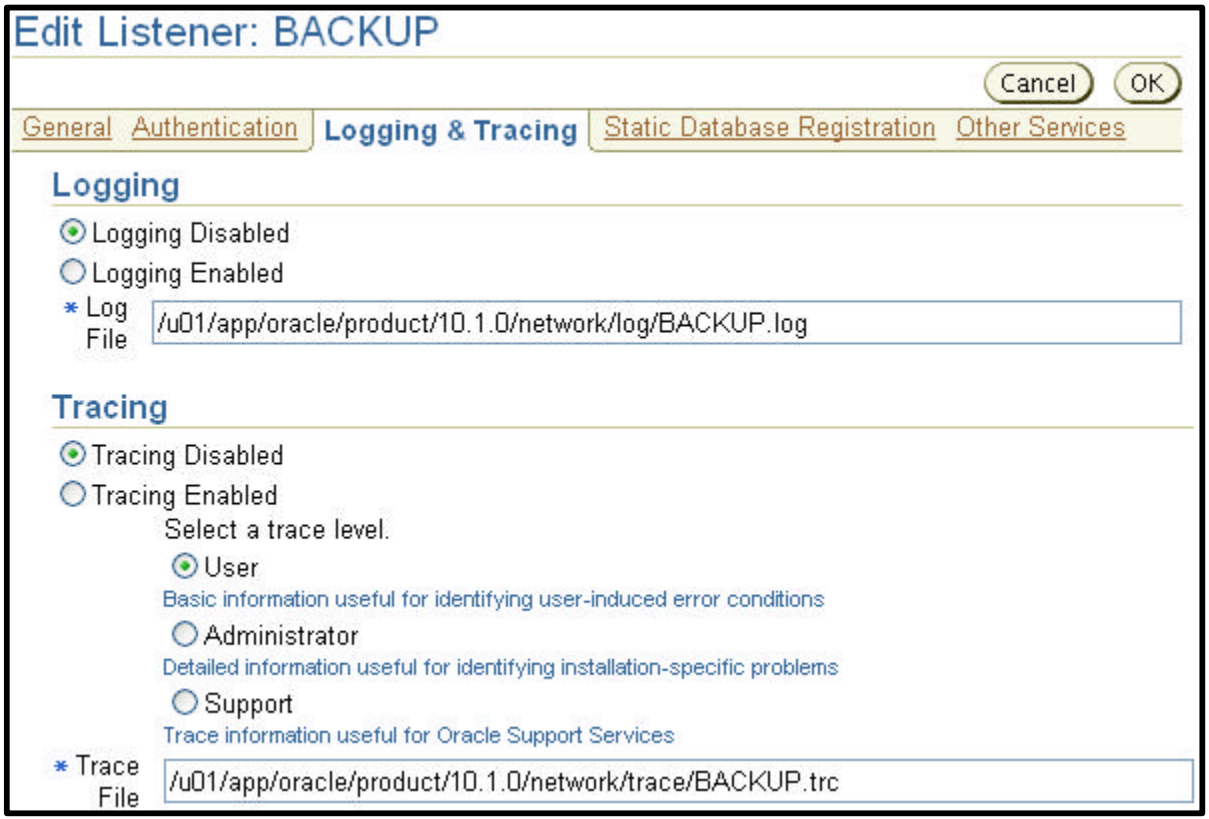
Creating a Listener



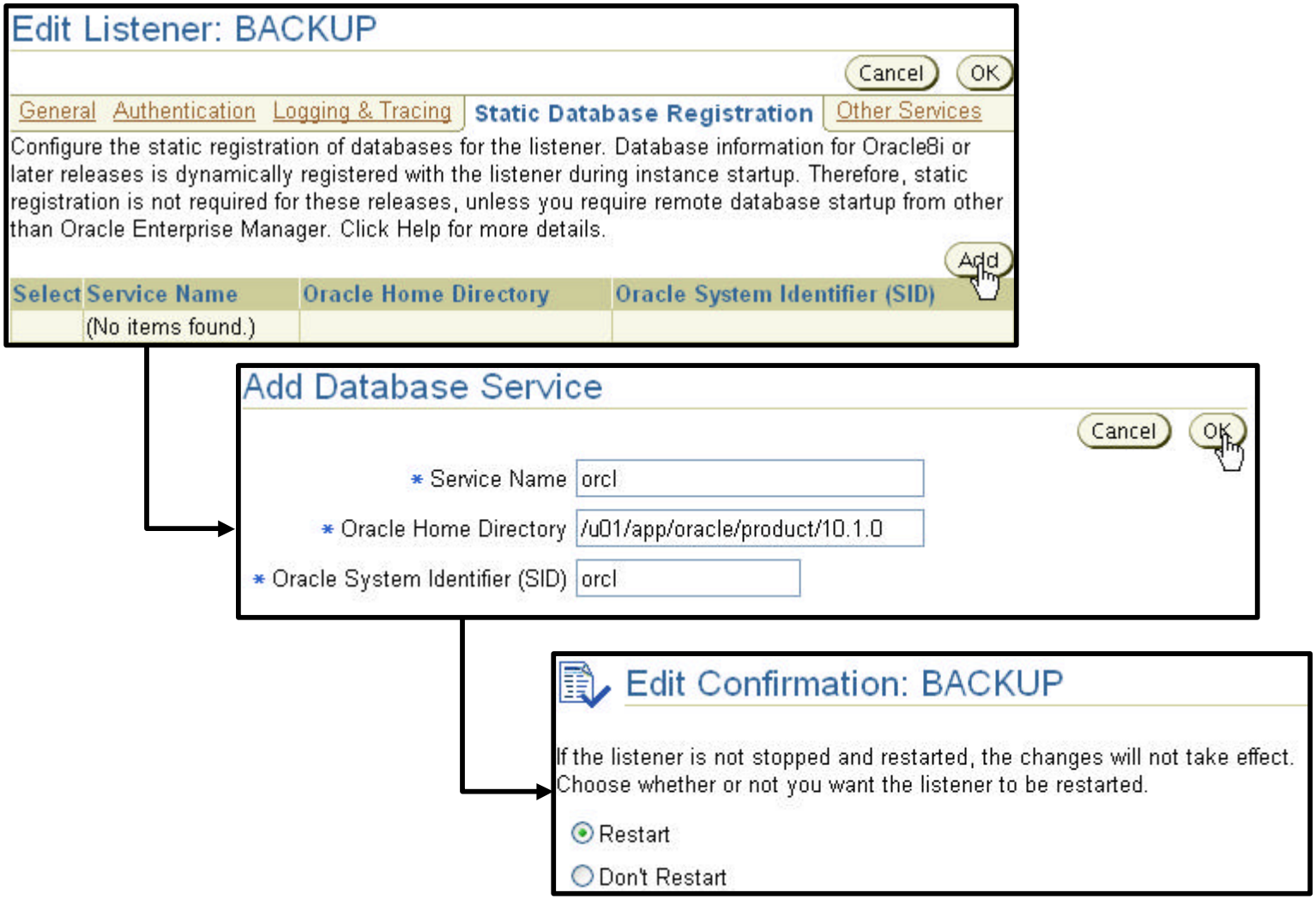
Listening Addresses



Configuring Optional Parameters



Static Database Registration



Listener Control Utility

Oracle Net listeners can also be controlled with the command-line `lsnrctl` utility.

```
#lsnrctl
LSNRCTL for Linux: Version 10.1.0.1.0 on 05-NOV-2003 13:27:51
Copyright (c) 1991, 2003, Oracle. All rights reserved.
Welcome to LSNRCTL, type "help" for information.
LSNRCTL> help
The following operations are available
An asterisk (*) denotes a modifier or extended command:

start               stop                status
services            version             reload
save_config         trace               spawn
change_password     quit                exit
set*                show*
```

Listener Control Utility Syntax

Commands from the listener control utility can be issued from the command-line or from the `LSNRCTL` prompt.

- **UNIX or Linux command-line syntax:**

```
# lsnrctl <command name>
# lsnrctl start
# lsnrctl status
```

- **Prompt syntax:**

```
LSNRCTL> <command name>
LSNRCTL> start
LSNRCTL> status
```

Monitoring with Listener Control

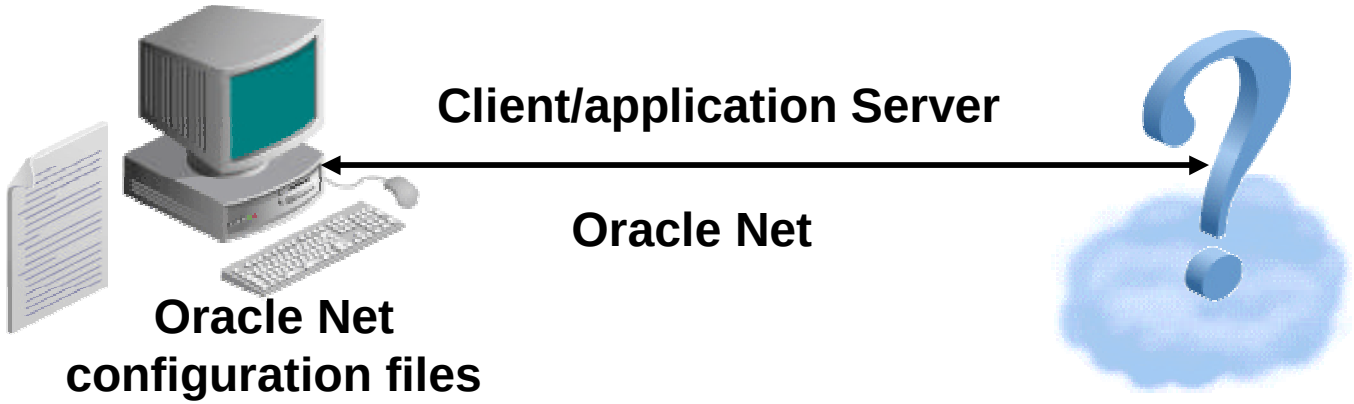
Listener control provides two monitoring options, `services` and `status`.

```
LSNRCTL> SERVICES
Connecting to
(DESCRIPTION=(ADDRESS=(PROTOCOL=IPC)(KEY=EXTPROC)))
Services Summary...
Service "dba10g" has 1 instance(s).
  Instance "dba10g", status READY, has 1 handler(s)for
this service...
    Handler(s):
      "DEDICATED" established:12 refused:0 state:ready
…
The command completed successfully
```

Oracle Net Connections

To make a client or middle-tier connection, Oracle Net requires the client to know the:

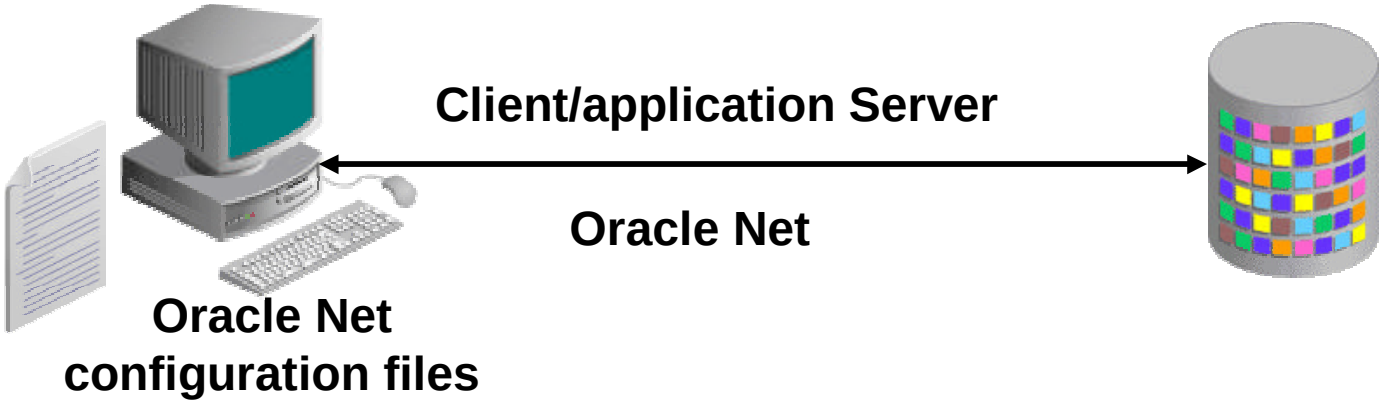
- **Host where the listener is running**
- **Port the listener is monitoring**
- **Protocol the listener is using**
- **Name of the service the listener is handling**



Names Resolution

Oracle Net supports several methods of resolving connection information:

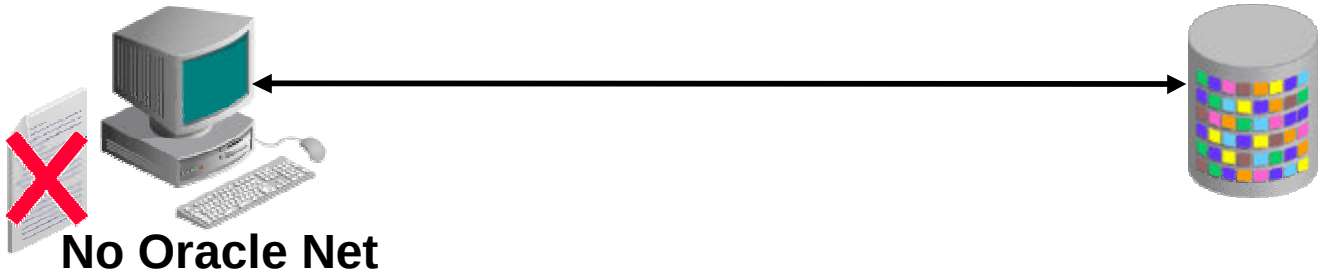
- **Easy Connect**
- **Local naming**
- **Directory naming**
- **External naming**



Easy Connect

- Enabled by default
- Requires no client-side configuration
- Supports only TCP/IP protocol (no SSL)
- No support for advanced connection options like:
  - Connect-time failover
  - Source routing
  - Load balancing

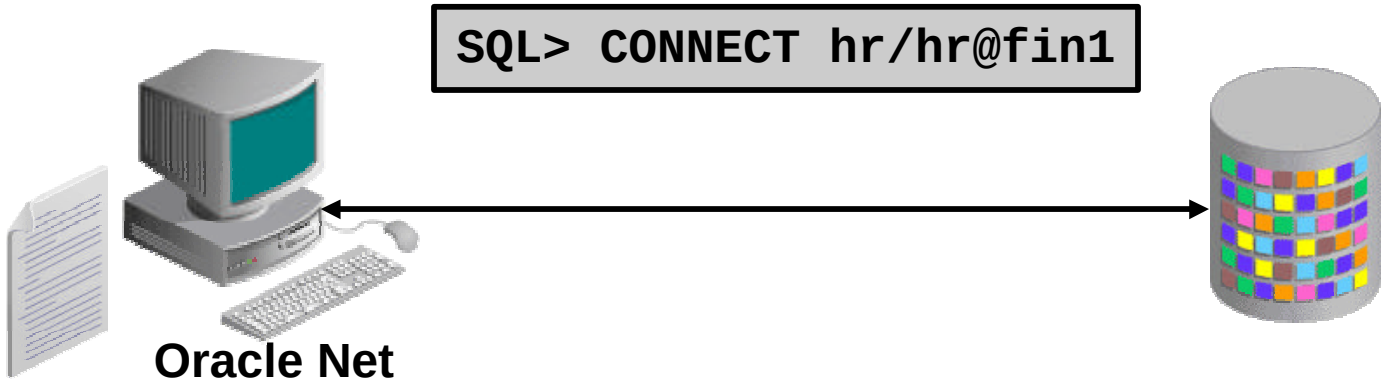
```
SQL> CONNECT hr/hr@db.us.oracle.com:1521/dba10g
```



No Oracle Net configuration files

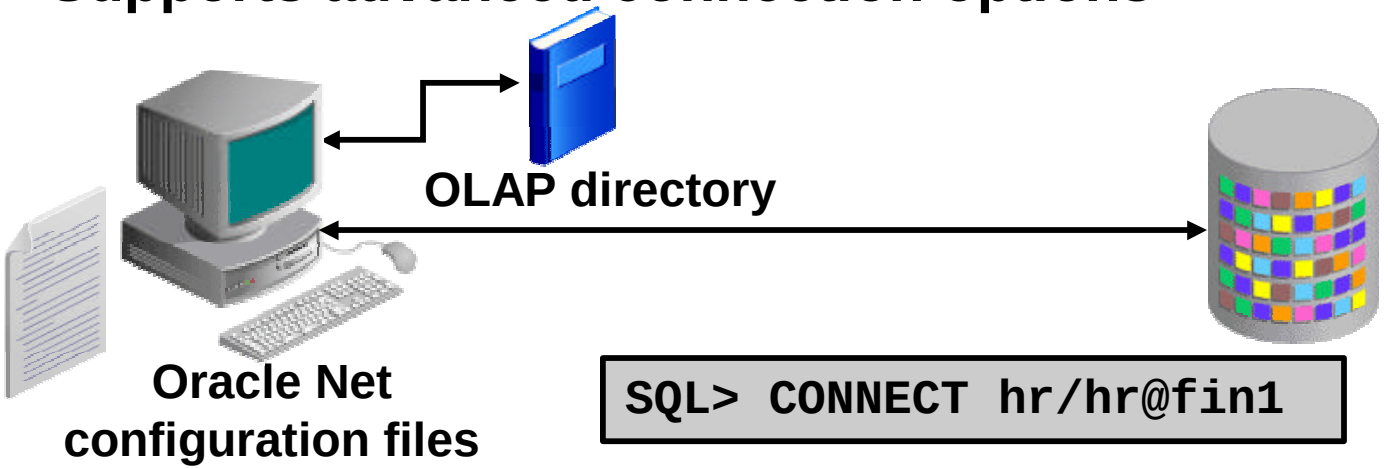
Local Naming

- Requires a client-side names resolution file
- Supports all Oracle Net protocols
- Supports advanced connection options like:
  - Connect-time failover
  - Source routing
  - Load balancing

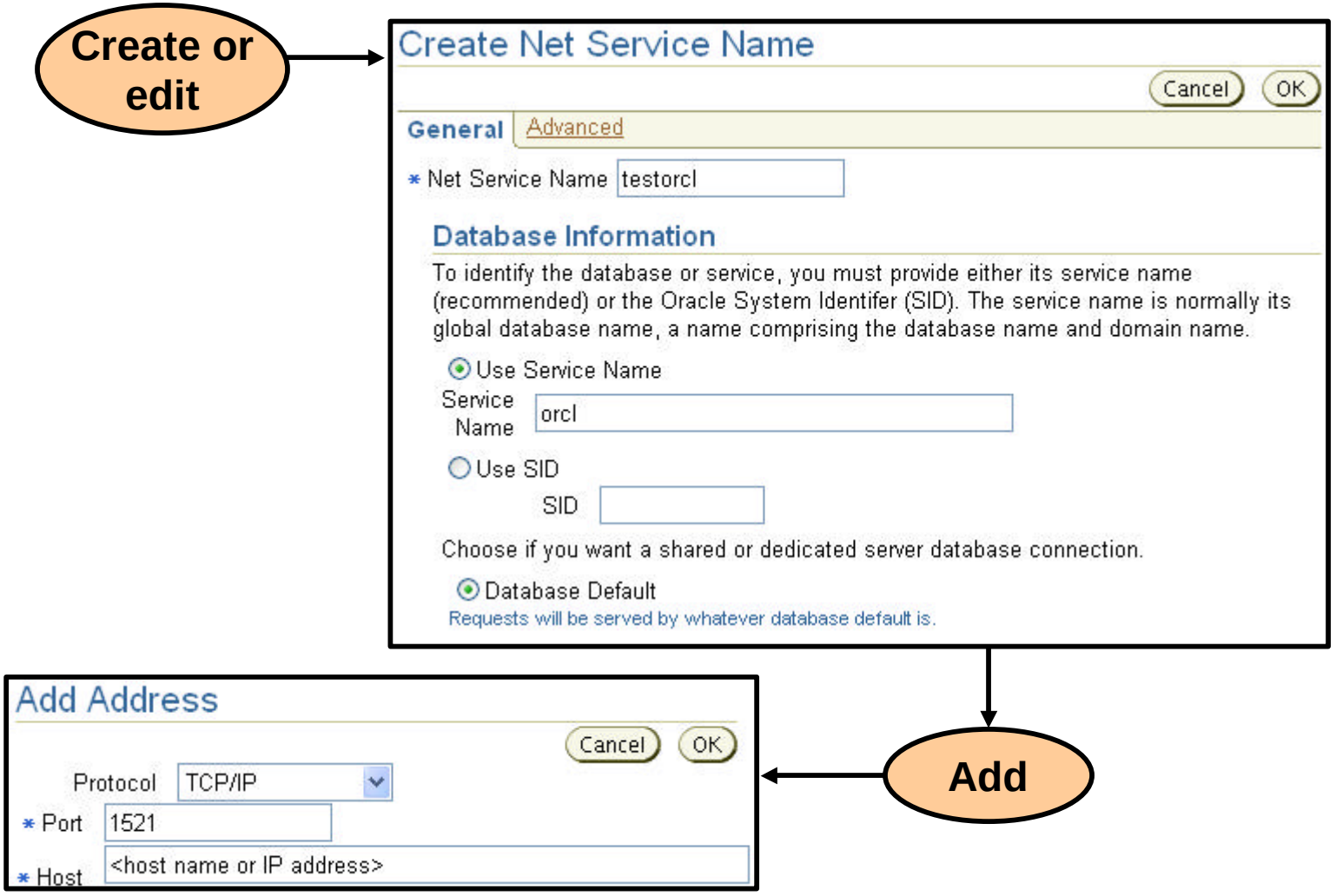


Directory Naming

- Requires a Lightweight Directory Access Protocol (LDAP) with Oracle Net names resolution information loaded
  - Oracle Internet Directory
  - Microsoft Active Directory Services
- Supports all Oracle Net protocols
- Supports advanced connection options



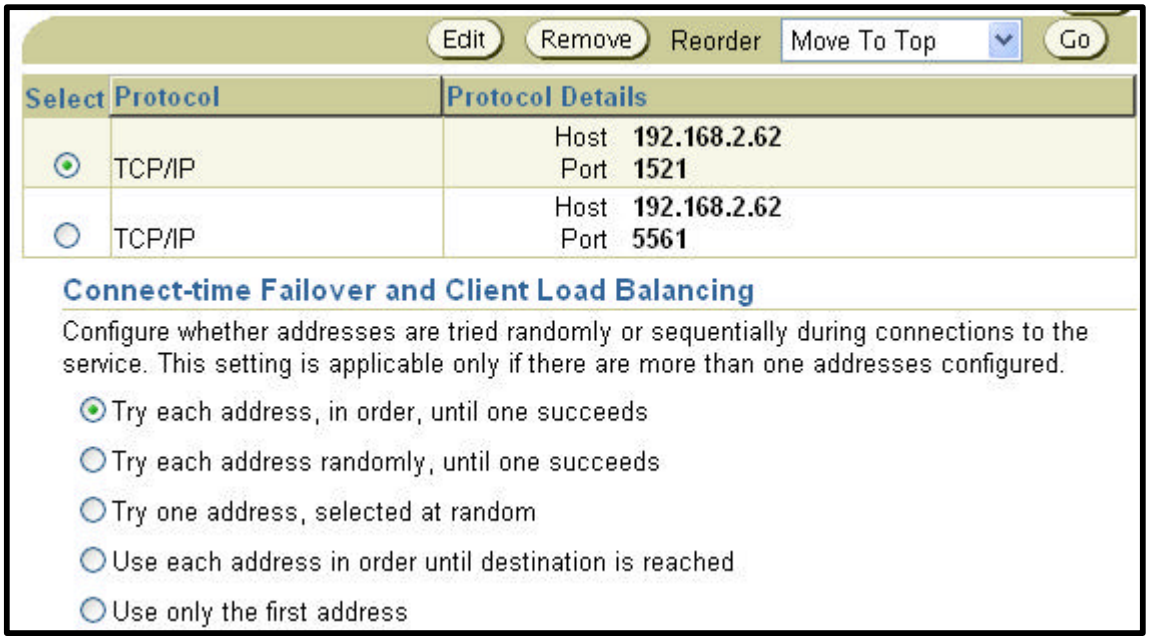
Configuring Service Aliases



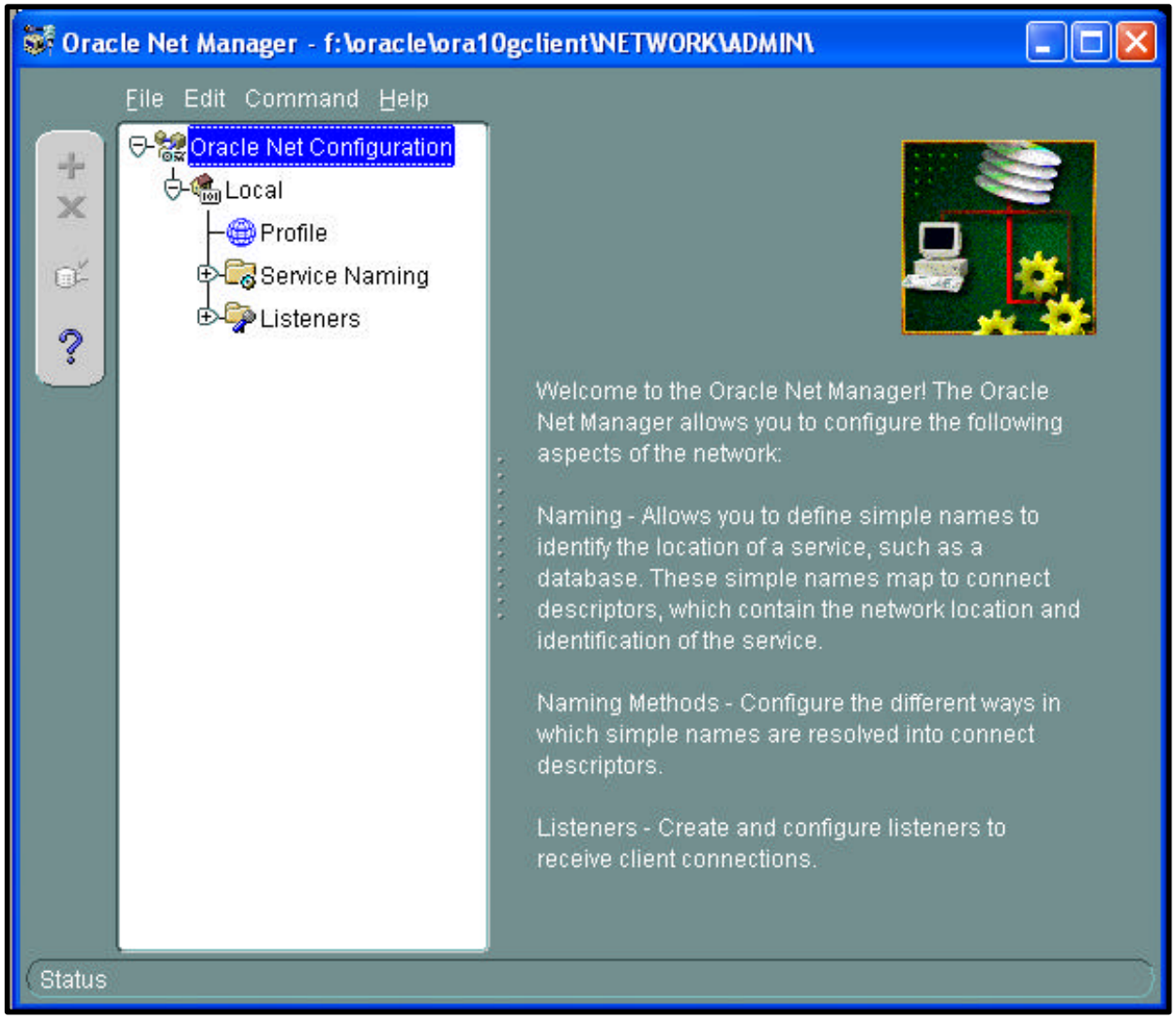
Advanced Connection Options

Oracle Net supports advanced connection options with local and directory naming

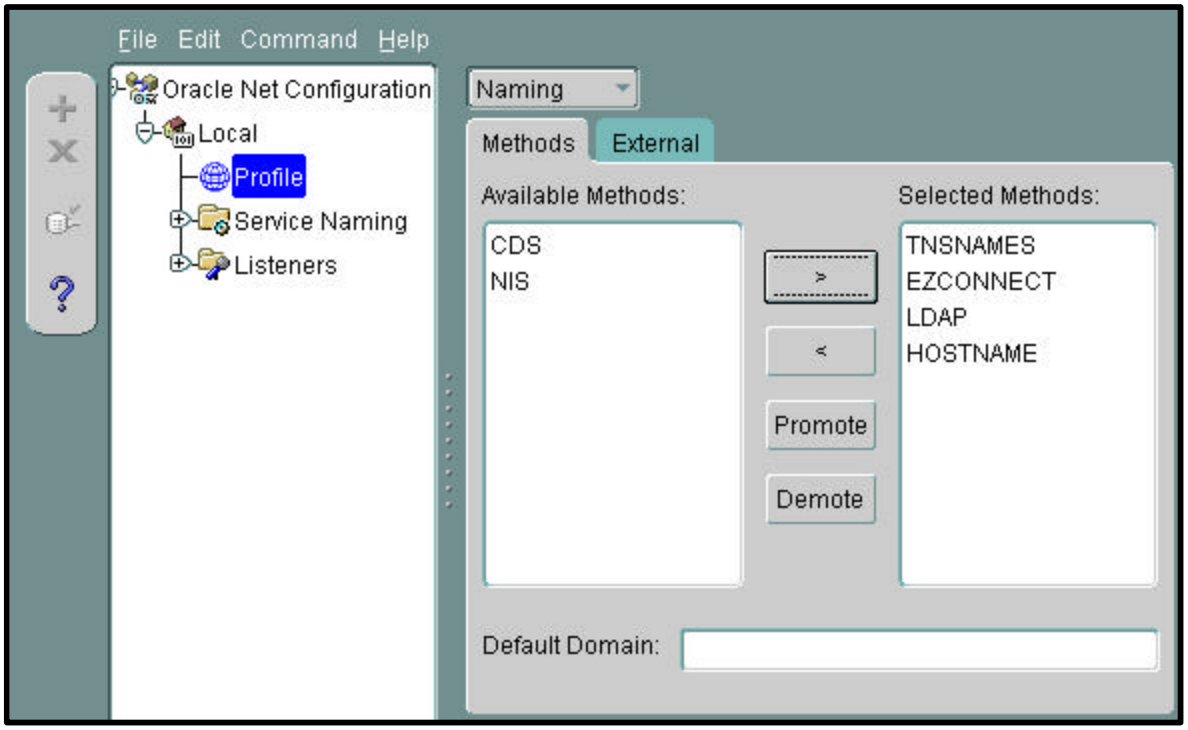
- **Connect-time failover**
- **Load balancing**
- **Source routing**



Oracle Net Manager

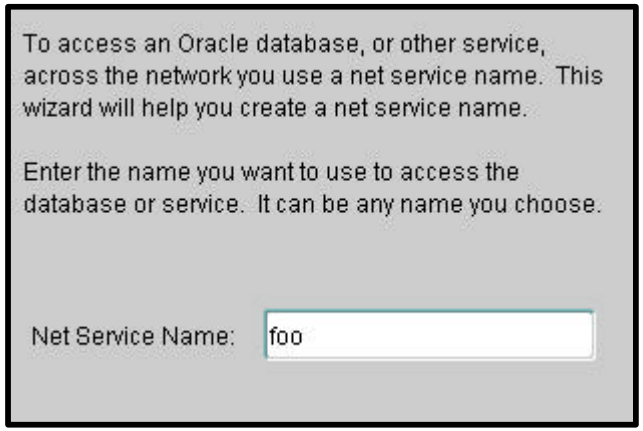


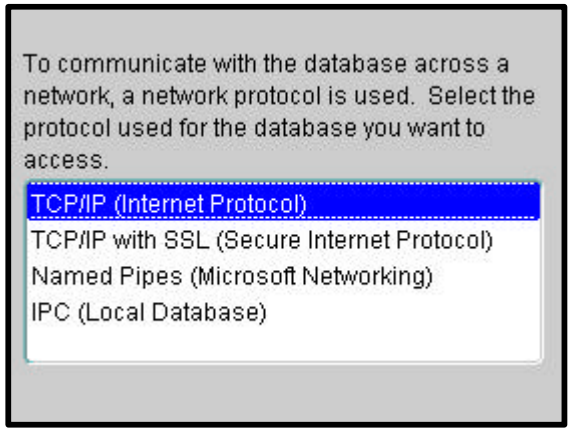
Choosing Naming Methods



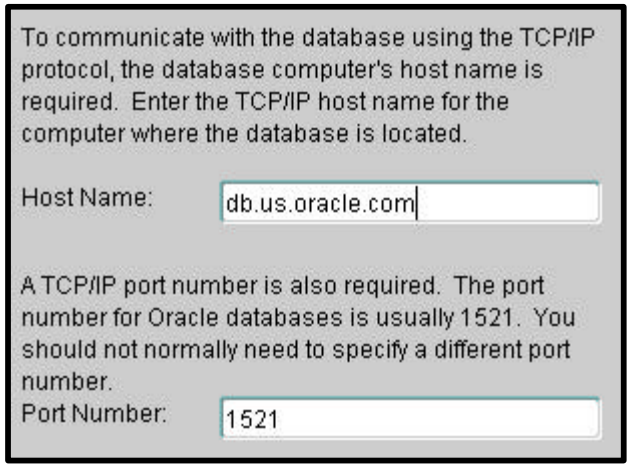
Oracle Net Manager configures the names resolution methods a client or middle-tier will use and the order in which they are checked.

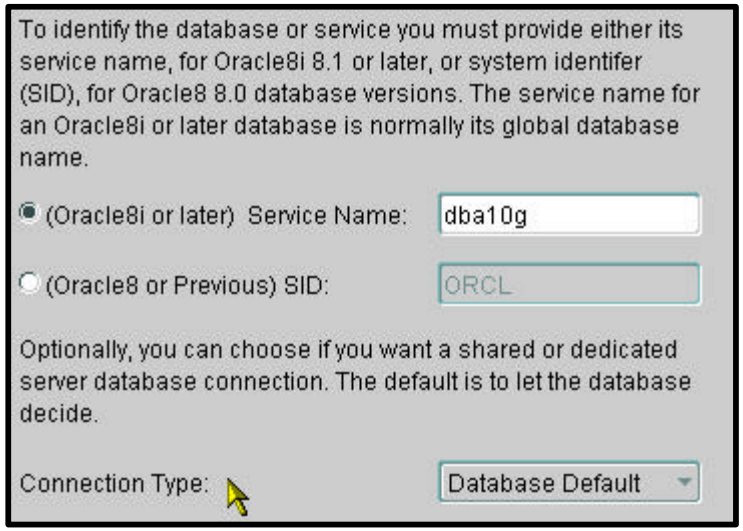
Configuring Service Aliases with Net Manager





Use Oracle Net Manager to configure local and directory naming aliases.

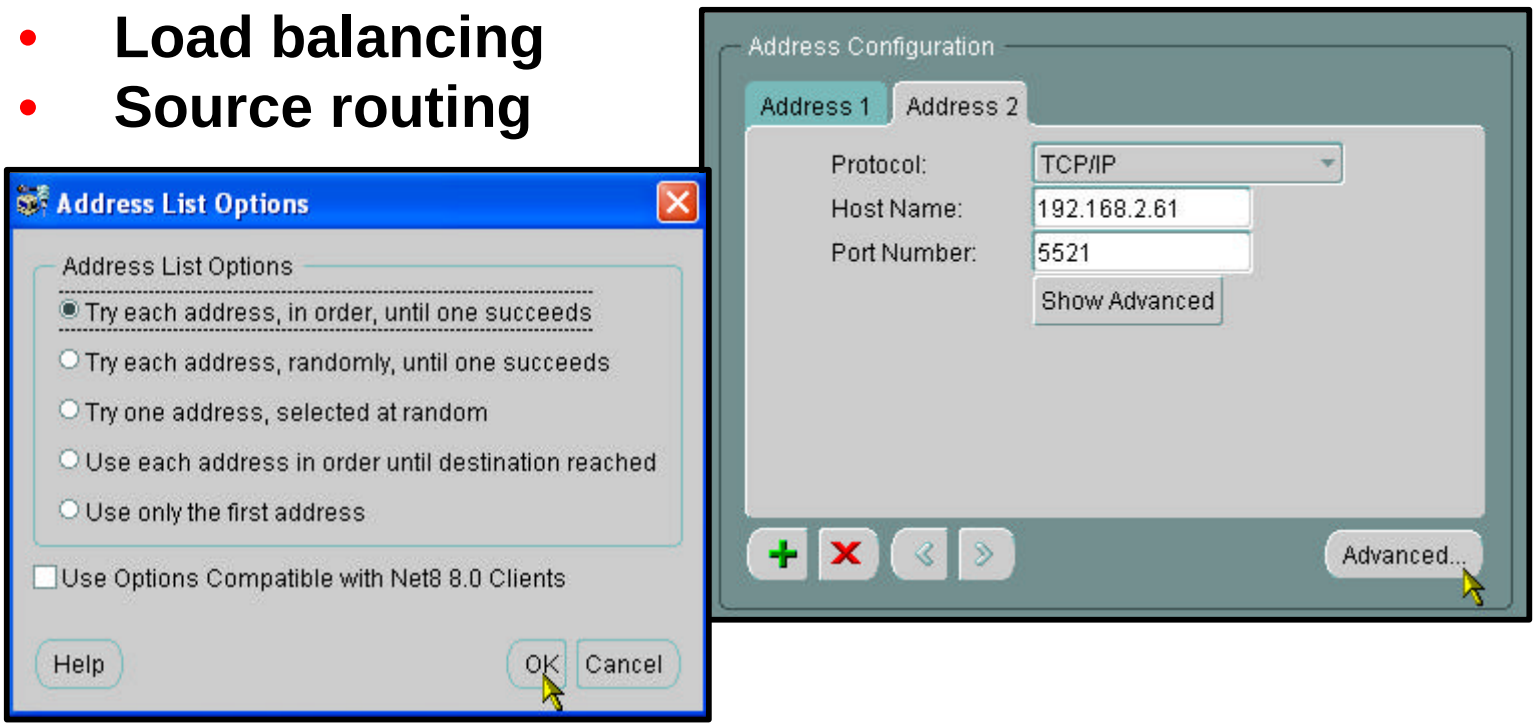




Advanced Connection Options Using Oracle Net Manager

Oracle Net supports advanced connection options with local and directory naming

- **Connect-time failover**
- **Load balancing**
- **Source routing**



Testing Oracle Net Connectivity

The `tnsping` utility tests Oracle Net service aliases.

- **Ensures connectivity between client and the Oracle Net listener**
- **Does not verify that the requested service is available**
- **Supports Easy Connect names resolution**

```
# tnsping db.us.oracle.com:1521/dba10g
```

- **Supports local and directory naming**

```
# tnsping foo
```

Summary

In this lesson you should have learned how to:

- **Use Database Control to:**
  - **Create additional listeners**
  - **Password-protect the listener**
  - **Create Oracle Net service aliases**
- **Control the Oracle Net listener**
- **Use the Oracle Net Manager to configure client or middle-tier connections**
- **Use `TNSPING` to test Oracle Net connectivity**

Practice 12 Overview: Oracle Net Services

This practice covers the following topics:

- **Creating a listener**
- **Configuring local names resolution**
- **Configuring connect time failover**