

Oracle® Solaris Remote Lab

User Guide for Release 1.01

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1. Introduction

Welcome to the Oracle Solaris Remote Lab (OSRL), part of the [Oracle Exastack Remote Labs](#), available through Oracle PartnerNetwork (OPN). The OSRL provides qualifying OPN members access to SPARC and x86 systems running the latest releases of Solaris to test and validate their applications. Upon completion of the testing and once the application supports the latest major release, the application qualifies you to participate in [Oracle Exastack Ready](#).

This document provides a brief introduction for Partners using the OSRL. The Partner is assumed to have a basic understanding of Solaris or other Unix-like operating systems. This User Guide is not intended to be an exhaustive document but an overall guide to use of the OSRL.

Purpose of the OSRL

The OSRL is intended to be used by Partners when they are ready to validate correct operation of their applications on Solaris 11. In this capacity use of the OSRL fits naturally into the testing phase and overlap into the maintenance phase of the classic software life cycle.

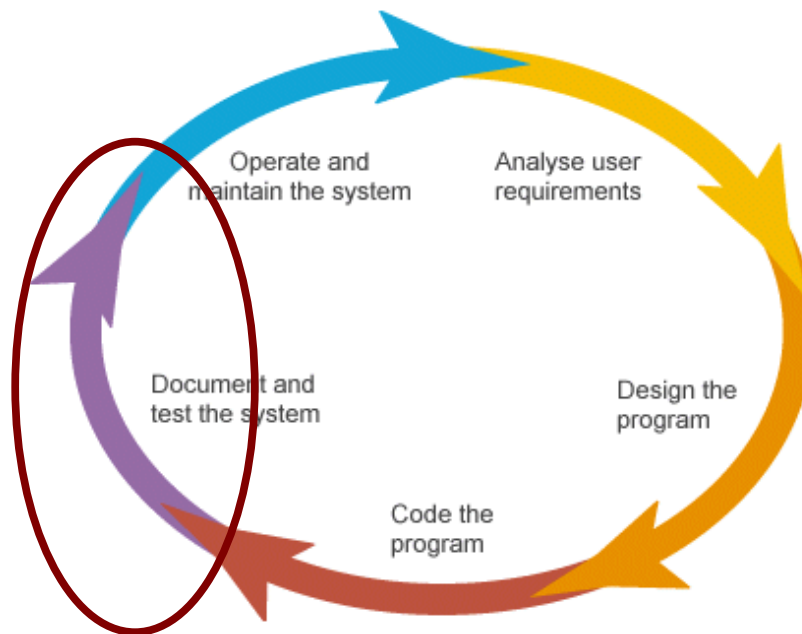


Figure 1-1: OSRL position in classic software life cycle

During the maintenance phase a Partner may need to return to the OSRL to validate new versions of their application on newer releases of Solaris 11.

To fill the continued testing role the OSRL provides the Partner the capability to create virtual machines (VMs) that reflect their requirements in a private network, upload their applications and test data from their home system to their private VMs in the OSRL, install their application, execute their tests and download results of their tests to their home systems.

Gaining Access to the OSRL

As one of the [Oracle Exastack Remote Labs](#), the OSRL provides qualifying OPN members with access to remotely accessible environments for purposes of testing and tuning their applications on the latest major release of Oracle Solaris. Per the [Oracle Exastack Remote Labs Addendum to the Oracle PartnerNetwork Agreement](#), approved partners have access to the labs for 45 days. Should you require additional time, please send your request to OracleExastack_ww@oracle.com.

Eligibility Criteria for access to the Oracle Exastack Remote Labs:

- You must be an OPN member at the Gold level or higher.
- You must have membership in the applicable OPN Knowledge Zone ([Oracle Solaris](#), [Oracle Linux](#), [Oracle Server Virtualization](#)).
- Your OPN PRM Administrator must complete the [Oracle Exastack Remote Labs](#) online application.
- You must provide an active URL that describes your application and verifies that your application is generally commercially available to commercial customers.
- You must have a published and current OPN Solutions Catalog profile for both your company and your application. [Click here](#) to view your current profile.
- You must achieve and maintain [Oracle Exastack Ready](#) status for the applicable Oracle product within the Oracle Exastack Remote Labs offering within two months of announcing general availability of your application support of the [latest major release](#) of Oracle Solaris, Oracle Linux and/or Oracle VM.
- You agree to update your application to be fully compatible and function with the applicable Oracle product within the Oracle Exastack Remote Labs offering within 24 months of Oracle's release of a new major release or version of the applicable Oracle Exastack Remote Labs offering.
- Your OPN PRM Administrator must accept the terms and conditions of the [Oracle Exastack Remote Labs Addendum to the Oracle PartnerNetwork Agreement](#).

Request access to the [Oracle Solaris Remote Lab](#)

Once a Partner applies and receives authorization notice from Oracle PartnerNetwork, they will receive a URL to access the OSRL. When the Partner accesses the lab they will be asked to register a username and password to be used to generate a user on the VMs the Partner creates in the OSRL. On all subsequent entries to the lab the Partner will be redirected to their Dashboard after entering their SSO credentials.

OSRL Overview

The OSRL is a self-service lab allowing Partners to allocate up to five virtual Machines (VMs) with a combination of SPARC and x86 processors. Each Partner's VMs share a NFS mounted file system in a private network that segregates all network traffic.

The Partner interacts with the OSRL via the OSRL User Interface (UI). The UI enables the Partner to create and delete VMs, start terminals and desktop sessions on the VMs and upload/download files to/from the Partner's NFS file system.

The Partner selects from various images to use as they create their VMs selecting from a menu including Default Solaris 11, Solaris 11 plus the Oracle Database, Solaris 11 plus WebLogic or Solaris 11 plus Apache, MySQL and php. At the same time the Partner selects the architecture (Sparc or x86) for the VM.

Once one or more VMs are created the Partner can selectively start terminals and/or desktops to interact with the individual VMs.

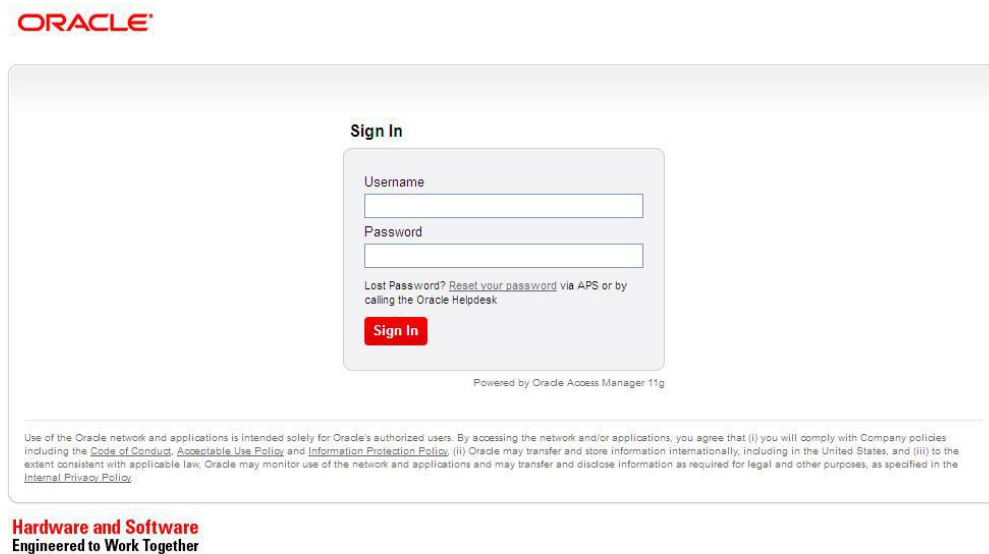
The Partner can also enable Client Drive Mapping (CDM – see Chapter 5), a feature of Secure Global Desktop (SGD), to allow transferring files between their client system and their VMs.

Once VMs are started they are persistent. A Partner's VMs continue to operate after the Partner has closed his OSRL UI session. In this way the VMs in the OSRL are similar to dedicated hardware in a lab. The VMs also continue to communicate with any associated terminals or desktops. This behavior allows the Partner to start long running tests and leave them running on their VMs just as they would leave a long running test running on dedicated hardware in their own lab.

The Partner needs to be aware of the persistent behavior of their VMs. If the Partner wants to be sure his terminals are not displaying information the Partner wants to protect he must be sure to lock his client system's desktop if he leaves it unattended or terminate any terminals and desktops he has opened to his VMs. If the Partner wants to be sure no tests are running while he leaves the VMs unattended he must halt his VMs and remember to boot them via the OSRL UI when he wants to resume work.

Registration in the OSRL

When accessing the OSRL the Partner will always be asked to sign on with their Oracle Single Sign On credentials.



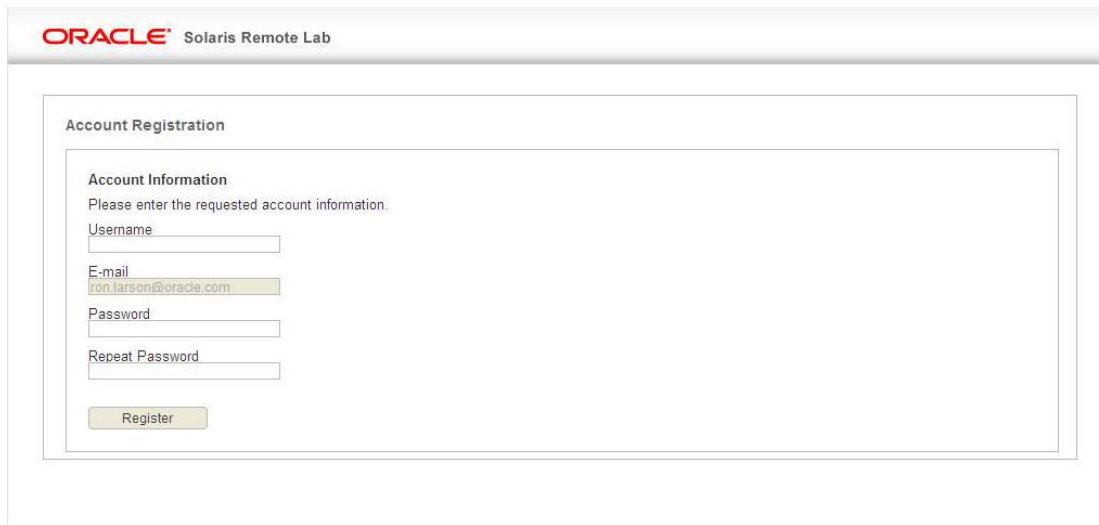
The screenshot shows the Oracle Single Sign On login interface. At the top left is the Oracle logo. The main content area is titled "Sign In" and contains a form with two input fields: "Username" and "Password". Below the password field is a link: "Lost Password? [Reset your password](#) via APS or by calling the Oracle Helpdesk". A red "Sign In" button is positioned below the link. At the bottom of the form area, it says "Powered by Oracle Access Manager 11g". Below the form area is a disclaimer: "Use of the Oracle network and applications is intended solely for Oracle's authorized users. By accessing the network and/or applications, you agree that (i) you will comply with Company policies including the [Code of Conduct](#), [Acceptable Use Policy](#) and [Information Protection Policy](#); (ii) Oracle may transfer and store information internationally, including in the United States; and (iii) to the extent consistent with applicable law, Oracle may monitor use of the network and applications and may transfer and disclose information as required for legal and other purposes, as specified in the [Internal Privacy Policy](#)."

Hardware and Software
Engineered to Work Together

Figure 2-1: SSO login

The Single Sign On credentials are usually your corporate email address and the password you use to login on the OPN portal.

The first time the Partner accesses the OSRL the Registration page will appear.



The screenshot shows the Oracle Solaris Remote Lab interface. At the top, the Oracle logo and 'Solaris Remote Lab' are displayed. Below this is a section titled 'Account Registration'. Inside this section, there is a sub-section titled 'Account Information' with the instruction 'Please enter the requested account information.' Below this instruction are four input fields: 'Username', 'E-mail' (containing 'ron.larson@oracle.com'), 'Password', and 'Repeat Password'. At the bottom of these fields is a 'Register' button.

Figure 2-2: Registering in the OSRL

Please fill in the information appropriately. The Partner will always use their Single Sign On username and password when they reference the OSRL URL. The username and password they create during the registration process will be used to create a user in the VMs they create in the OSRL.

Once the Partner has completed the registration process a pop-up will notify them of their success. The set up of the Partner's infrastructure will take about 15 minutes. The Partner will receive an email when the set up process is complete.

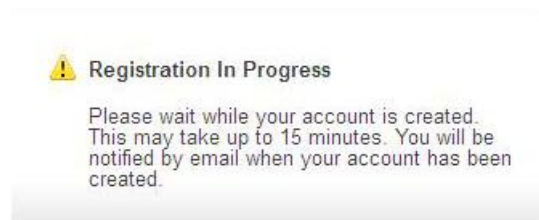


Figure 2-3: Registration complete pop-up

Once the Partner has received the email notifying them their registration is complete they reference the OSRL URL, login with their SSO credentials and they will be presented their dashboard.

OSRL Dashboard Information

The Partner Dashboard is the Partner's primary interface for identifying resources and performing most actions within the OSRL.

The screenshot shows the Oracle Solaris Remote Lab dashboard. At the top, the Oracle logo and 'Solaris Remote Lab' are on the left, and 'Welcome osrluser' with links for 'Home', 'Account', and 'Sign Out' are on the right. The main content area is titled 'Virtual Machine Instances' and contains a table with four VMs. To the right of the table is a 'Status' sidebar showing 'Active VMs: 4', 'Available VMs: 1', and 'Days Left: 33'. Below the status is a 'Resources' section with links to 'FAQ', 'User Guide', and 'Email ISV Support'. At the bottom right is a 'Become Oracle Solaris Ready' button with a 'Learn How' link.

Custom Name	Hostname	IP Address	Template	Date Created
sparc client	OAq6vRpQDz	10.196.0.227	General Purpose VM - SPARC	2013-01-03 15:24:44
x86 client	OAUFrb1BHW	10.196.0.228	General Purpose VM - X86	2013-01-03 15:33:13
data base	OAxeaSGkGD	10.196.0.229	Database 11gR2 VM - X86	2013-01-03 15:35:09
weblogic	OA3MKYe8VV	10.196.0.231	Weblogic 12c VM - X86	2013-01-03 15:44:46

Figure 2-4: Dashboard with four VMs

The Dashboard allows the Partner to create Virtual Machines, presents information regarding the VMs the Partner has created in the OSRL, identifies actions the Partner can perform on those VMs and provides Status regarding the resources the Partner has available to them in the OSRL. The Dashboard also includes links to additional information available to the Partner.

VM Information

The Dashboard also displays detailed information regarding the existing VMs including host name, IP address and VM Image loaded during VM.

This screenshot is identical to the one above, but the table containing the VM information is highlighted with a blue border to emphasize the data presented.

Figure 2-5: VM information available via the dashboard

Custom VM Names

A Virtual Machine's information line also includes a customizable field that allows the Partner to enter a Custom Name for the VM. This field can be set to any text the Partner desires such as a simple name for the VM or version numbers of the applications they install in the VM.

The screenshot shows the Oracle Solaris Remote Lab dashboard. The main section is titled "Virtual Machine Instances" and contains a table with the following data:

Custom Name	Hostname	IP Address	Template	Date Created
sparc client	OAq6vRpQDz	10.196.0.227	General Purpose VM - SPARC	2013-01-03 15:24:44
x86 client	OAUFRb1BHW	10.196.0.228	General Purpose VM - X86	2013-01-03 15:33:13
data base	OAxeaSGkGD	10.196.0.229	Database 11gR2 VM - X86	2013-01-03 15:35:09
weblogic	OA3MKYe8VV	10.196.0.231	Weblogic 12c VM - X86	2013-01-03 15:44:46

To the right of the table is a "Status" section with the following information:

- Active VMs: 4
- Available VMs: 1
- Days Left: 33

Below the status section is a "Resources" section with links to FAQ, User Guide, and Email ISV Support. At the bottom right is a banner for "Become Oracle Solaris Ready" with a "Learn How" link.

Figure 2-6: Customized name field for each VM

Status

The Status section of the Dashboard contains information regarding the number of VMs the Partner has created and the number of additional VMs the Partner can create. The number of days left in the Partner's OSRL reservation are also displayed.

The screenshot shows the Oracle Solaris Remote Lab dashboard. The main section is titled "Virtual Machine Instances" and contains a table with the following data:

Custom Name	Hostname	IP Address	Template	Date Created
sparc client	OAq6vRpQDz	10.196.0.227	General Purpose VM - SPARC	2013-01-03 15:24:44
x86 client	OAUFRb1BHW	10.196.0.228	General Purpose VM - X86	2013-01-03 15:33:13
data base	OAxeaSGkGD	10.196.0.229	Database 11gR2 VM - X86	2013-01-03 15:35:09
weblogic	OA3MKYe8VV	10.196.0.231	Weblogic 12c VM - X86	2013-01-03 15:44:46

To the right of the table is a "Status" section with the following information:

- Active VMs: 4
- Available VMs: 1
- Days Left: 33

Below the status section is a "Resources" section with links to FAQ, User Guide, and Email ISV Support. At the bottom right is a banner for "Become Oracle Solaris Ready" with a "Learn How" link.

Figure 2-7: Status Information

Additional Resources






The Resources section of the Dashboard contains links to where the Partner can get further help in using the OSRL. The FAQ link will download the current list of Frequently Asked Questions regarding the OSRL and its use. The User Guide link leads to this document. And the Email ISV Support link brings up a mail client to send mail directly to the ISV Support team.

ORACLE Solaris Remote Lab

Welcome osrluser Home | Account | Sign Out

Virtual Machine Instances

Create New Virtual Machine... ▾

Custom Name	Hostname	IP Address	Template	Date Created
sparc client	OAq6vRpQDz	10.196.0.227	General Purpose VM - SPARC	2013-01-03 15:24:44
x86 client	OAUFrb1BHW	10.196.0.228	General Purpose VM - X86	2013-01-03 15:33:13
data base	OAxeaSGkGD	10.196.0.229	Database 11gR2 VM - X86	2013-01-03 15:35:09
weblogic	OA3MKYe8VV	10.196.0.231	Weblogic 12c VM - X86	2013-01-03 15:44:46

Status

Active VMs4

Available VMs1

Days Left33

Resources

> FAQ

> User Guide

> Email ISV Support

ORACLE SOLARIS READY

Become Oracle Solaris Ready [Learn How](#) ▶

Figure 2-8: Links to additional resources

Actions

There are several action buttons on the dashboard to perform actions on VMs and also upload and download files from the Partner's client system to their environment in the Lab.

The screenshot shows the Oracle Solaris Remote Lab dashboard. At the top, there is a header with the Oracle logo, "Solaris Remote Lab", and a welcome message "Welcome osrluser" with links for "Home", "Account", and "Sign Out". The main content area is titled "Virtual Machine Instances". It features a table with columns: "Custom Name", "Hostname", "IP Address", "Template", and "Date Created". The table lists four VMs: "data base", "weblogic", "x86 client", and "sparc client". Above the table, there is a "Create New Virtual Machine..." button and a set of action icons (terminal, desktop, reboot, delete, upload, download) which are highlighted with a blue box. To the right of the table, there is a "Status" section showing "Active VMs: 4", "Available VMs: 1", and "Days Left: 33". Below the status section is a "Resources" section with links for "FAQ", "User Guide", and "Email ISV Support". At the bottom right, there is a banner for "ORACLE SOLARIS READY" with the text "Become Oracle Solaris Ready Learn How".

Custom Name	Hostname	IP Address	Template	Date Created
data base	OAxeaSGkGD	10.196.0.229	Database 11gR2 VM - X86	2013-01-03 15:35:09
weblogic	OA3MKYe8VV	10.196.0.231	Weblogic 12c VM - X86	2013-01-03 15:44:46
x86 client	OAUFRb1BHW	10.196.0.228	General Purpose VM - X86	2013-01-03 15:33:13
sparc client	OAq6vRpQDz	10.196.0.227	General Purpose VM - SPARC	2013-01-03 15:24:44

Figure 2-9: Actions available thru the dashboard

Several actions can be performed on VMs using buttons in the Actions section including opening a terminal window for command line work, opening a desktop for work requiring graphics displays, rebooting the VM or deleting the VM. Clicking on a VM to be acted on makes these actions selectable. Pause your pointer over the icons in the Action section of the dashboard to see a pop-up describing the action performed by selecting each of the icons. To perform an action first select the VM to be acted on by clicking its line in the Dashboard and then clicking on the action to perform in the Action section. Pop-up boxes ask for confirmation to protect against accidental actions.

This screenshot is identical to the one in Figure 2-9, showing the Oracle Solaris Remote Lab dashboard with the same table of VM instances, action icons, and status/resources sections.

Figure 2-10: VM actions available thru the dashboard

The action buttons for uploading and downloading files between the Partner's client system and their environment in the Lab are not dependent on selecting a VM and are always available for selection. The upload and download files processes are described in more detail in section 5

Solaris Remote Lab

Welcome osrluser
Home | Account | Sign Out

Virtual Machine Instances

Create New Virtual Machine...

Custom Name	Hostname	IP Address	Template	Date Created
data base	OAxeaSGkGD	10.196.0.229	Database 11gR2 VM - X86	2013-01-03 15:35:09
weblogic	OA3MKYe8VV	10.196.0.231	Weblogic 12c VM - X86	2013-01-03 15:44:46
x86 client	OAUFRb1BHW	10.196.0.228	General Purpose VM - X86	2013-01-03 15:33:13
sparc client	OAq6vRpQDz	10.196.0.227	General Purpose VM - SPARC	2013-01-03 15:24:44

Status

Active VMs4
Available VMs1
Days Left33

Resources

[FAQ](#)
[User Guide](#)
[Email ISV Support](#)

Become Oracle Solaris Ready [Learn How](#)

Figure 2-11: File upload and download actions available thru the dashboard

Creating and Deleting Virtual Machines in the OSRL

Virtual Machines (VMs) are created and deleted via actions on the Dashboard

Initial OSRL Dashboard

Initially the Virtual Machine area of the Dashboard is empty because no Virtual Machines have been created.



Figure 2-12: Empty Dashboard

Note that the Status section of the empty Dashboard indicates the Partner has no VMs and is able to create up to five VMs

Creating Virtual Machines

Virtual Machines are created from the Dashboard.

New VM Instances are created and started with predefined Virtual Machine Templates. Virtual Machine Templates are bootable Solaris 11 images with additional software pre-installed. An Application Template including compilers and libraries is available. Additionally there are Virtual Machine Templates available pre-installed with the Oracle Data Base, Weblogic software or Apache, MySQL and PHP. All of these Virtual Machine Templates are available in both SPARC and x86 versions.

To create a Virtual Machine the Partner selects a Virtual Machine Template from the Virtual Machine Template menu.



Figure 2-13: Pull down menu of VM templates available for creating a new VM

Creating the Virtual Machine takes a few minutes as a host system is identified, the VM Template is cloned and the local file system is created.

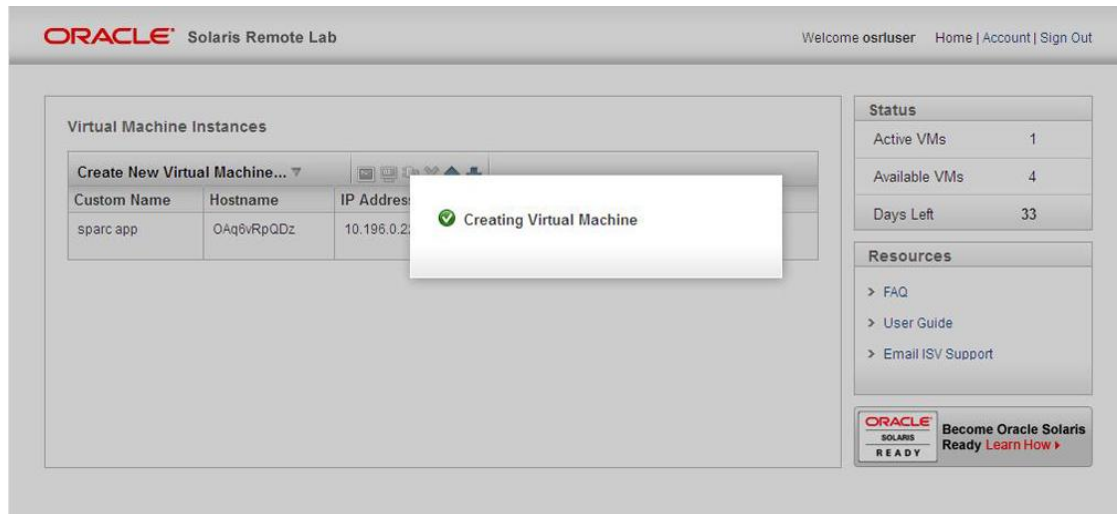


Figure 2-14: VM creation pop-up

While the VM is being created an activity bar indicates progress.

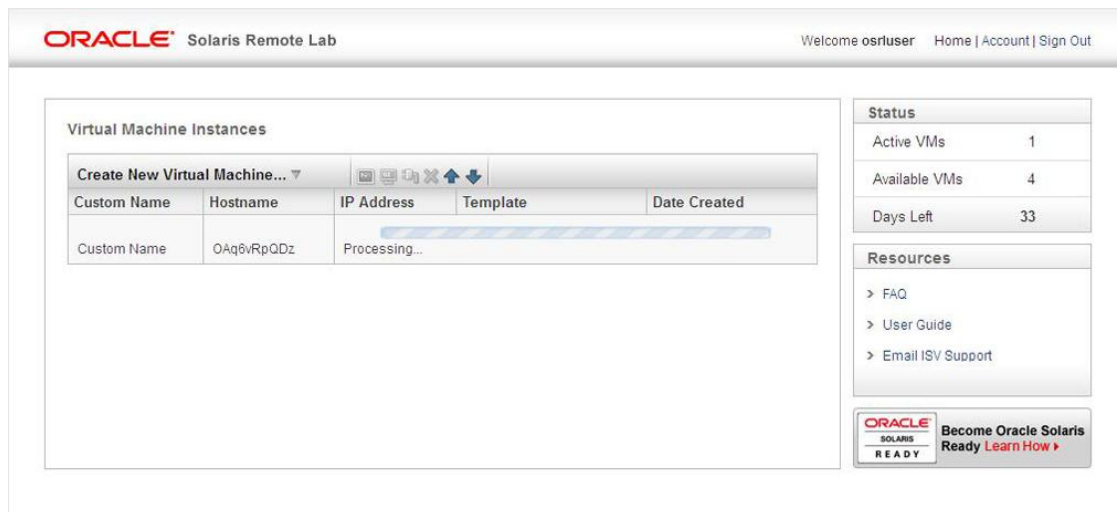
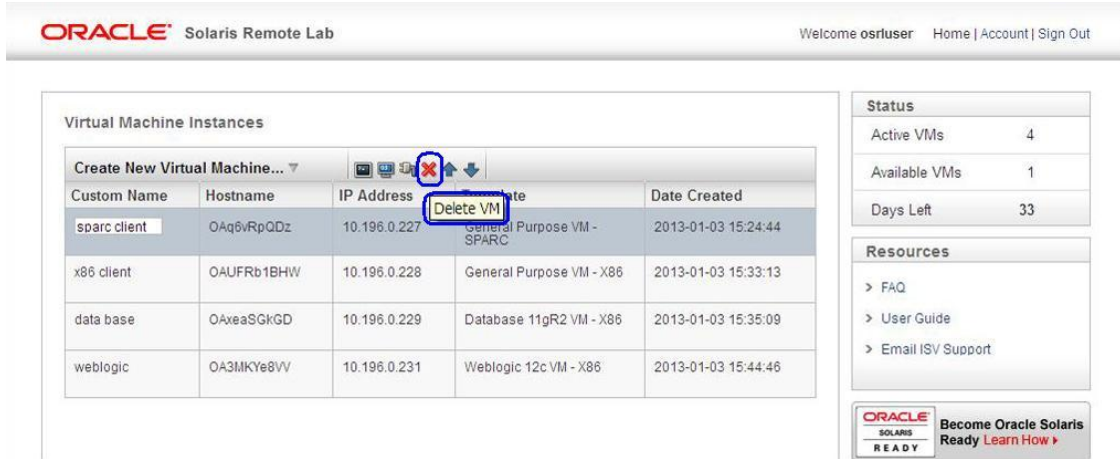


Figure 2-15: Delay bar during VM creation

Deleting Virtual Machines

Virtual Machines are deleted by clicking on the VM to be deleted in the dashboard and then selecting the Delete action:



The screenshot shows the Oracle Solaris Remote Lab dashboard. At the top, there is a header with the Oracle logo and "Solaris Remote Lab" on the left, and "Welcome osrluser" with links for "Home", "Account", and "Sign Out" on the right. The main content area is titled "Virtual Machine Instances". It features a table with columns: Custom Name, Hostname, IP Address, Action, and Date Created. The first row is highlighted, and the "Delete VM" button in the Action column is circled in red. To the right of the table, there is a "Status" section showing "Active VMs: 4", "Available VMs: 1", and "Days Left: 33". Below that is a "Resources" section with links for "FAQ", "User Guide", and "Email ISV Support". At the bottom right, there is a banner for "ORACLE SOLARIS READY" with the text "Become Oracle Solaris Ready Learn How" and a red arrow.

Custom Name	Hostname	IP Address	Action	Date Created
sparc client	OAq6vRpQDz	10.196.0.227	Delete VM	2013-01-03 15:24:44
x86 client	OAUFrb1BHW	10.196.0.228		2013-01-03 15:33:13
data base	OAxeaSGkGD	10.196.0.229		2013-01-03 15:35:09
weblogic	OA3MKYe8VV	10.196.0.231		2013-01-03 15:44:46

Figure 2-16: Deleting a VM from the dashboard

Account Information

There are a few activities that are performed off of the Dashboard page. The Account link in the upper right takes the Partner to a page where they can perform activities such as changing the password they entered during the registration process or terminate their account in the OSRL. Once the Partner's account is terminated either by the Partner's actions or by expiration, the Partner will not be able to register to use the OSRL. To regain entry to the OSRL the Partner must submit a new request via the OPN Partner's site.

The screenshot shows the Oracle Solaris Remote Lab interface. At the top, the Oracle logo is followed by "Solaris Remote Lab". On the right, a navigation bar says "Welcome osrluser" and includes links for "Home | Account | Sign Out".

The main content area is titled "Account Settings" and contains two sections:

- Change Password**: A section with the text "Change the login password for each of your VM instances." and a "Change Password" button.
- Delete Account**: A section with the text "Once deleted, there is no way to retrieve any of your virtual machine instances or the data on them." and a "Delete Account" button.

On the right side of the page, there is a "Status" section with a table:

Status	
Active VMs	4
Available VMs	1
Days Left	33

Below the status table is a "Resources" section with links:

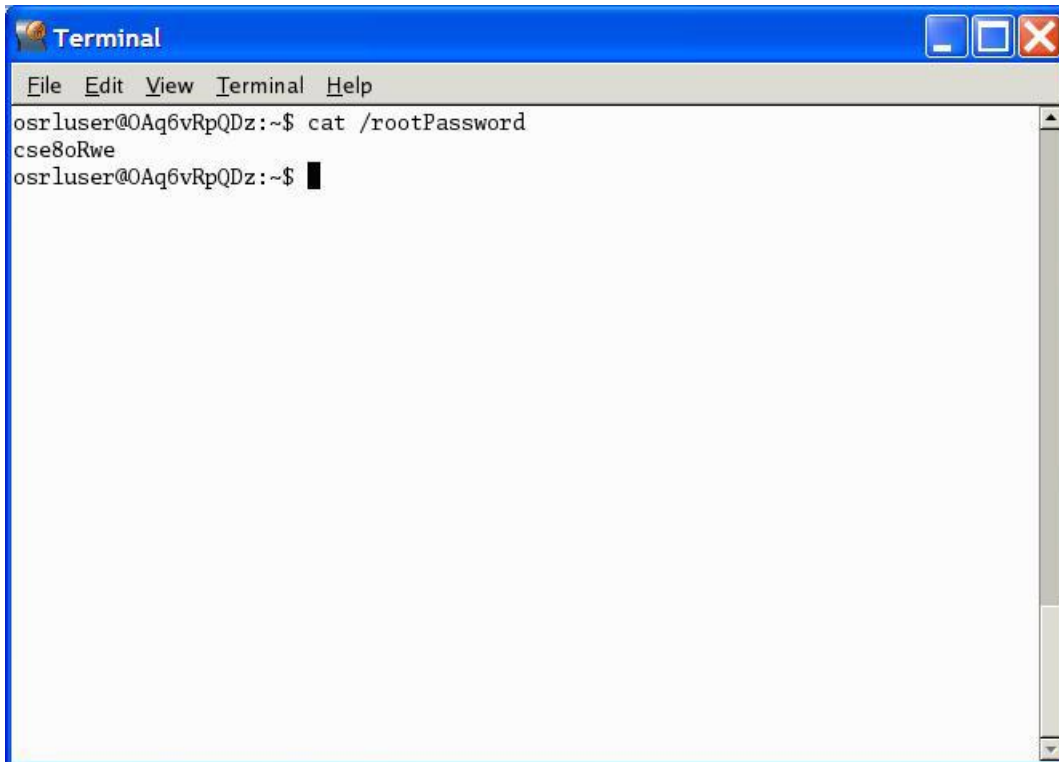
- > FAQ
- > User Guide
- > Email ISV Support

At the bottom right, there is a banner for "ORACLE SOLARIS READY" with the text "Become Oracle Solaris Ready [Learn How](#)".

Figure 2-17: Account Information

Virtual Machine Root Password

Many applications require the root password of the system to complete their installation. Each Virtual Machine in the OSRL has a root password created from a randomly generated string and saved in `/rootPassword`. To see the root password simple open a terminal session on the VM and list the contents of `/rootPassword`.

A screenshot of a terminal window titled "Terminal". The window has a blue title bar with standard window controls (minimize, maximize, close). Below the title bar is a menu bar with "File", "Edit", "View", "Terminal", and "Help". The main area of the terminal shows a command prompt "osrluser@OAq6vRpQDz:~\$" followed by the command "cat /rootPassword". The output of the command is "cse8oRwe". The prompt then returns to "osrluser@OAq6vRpQDz:~\$" with a cursor. A vertical scrollbar is visible on the right side of the terminal window.

```
osrluser@OAq6vRpQDz:~$ cat /rootPassword
cse8oRwe
osrluser@OAq6vRpQDz:~$
```

Figure 2-18: Listing the root password of a Virtual Machine

Virtual Machine Templates

There are currently four Virtual Machines Templates available to choose from when creating a new VM instance. These templates allow a developer to quickly and easily create an environment in which they can test applications for Solaris 11 readiness. Each template is available on both SPARC and x86.

Application Template

This template installs the latest version of the Application image on your virtual machine.

This image contains:

1. Oracle Solaris Studio 12.3

Oracle Solaris Studio 12.3, Oracle's advanced C, C++ and Fortran development tool suite, delivers the latest in compiler optimizations, multithread performance, and powerful analysis tools for the best application performance and reliability on Oracle Solaris

All software was installed from the tarfile available on the Oracle Technology Network and has directory layout as per the following details :

	Configuration
Oracle Solaris Studio 12.3	Installation located at: /opt/SolarisStudio12.3-solaris-x86-bin/solarisstudio12.3/

Weblogic 12c Template

This template installs the latest version of the Weblogic image on your virtual machine.

This image contains:

1. Oracle WebLogic Server 12c (12.1.1)-
<http://www.oracle.com/technetwork/middleware/weblogic/overview/index.html>
Oracle WebLogic Server 12c is the industry's best application server for building and deploying enterprise Java EE applications with support for new features for lowering cost of operations, improving performance, enhancing scalability and supporting the Oracle Applications portfolio.

All software was installed from the tarfile available on the Oracle Technology Network and has directory layout as per the following details:

	Port or Connection URL	Configuration	Logins and Passwords
Oracle WebLogic Server		WebLogic home = /home/wluser Full install with samples. Next steps: http://docs.oracle.com/cd/E24329_01/doc.1211/e24492/postins.htm#g1097842	su - wluser password1 (you will need to update on login)

SAMP Template

This template installs the latest version of the Solaris-Apache-PHP-MySQL (SAMP) image on your virtual machine. All these components are configured to work together and provide best performance and user experience for Solaris 11 users.

This SAMP image contains:

1. **Apache HTTP server** - <http://httpd.apache.org/>
The Apache HTTP Server Project is an effort to develop and maintain an open-source HTTP server for modern operating systems. The goal of this project is to provide a secure, efficient and extensible server that provides HTTP services in sync with the current HTTP standards. Apache httpd has been the most popular web server on the Internet since April 1996.
2. **PHP** - <http://www.php.net/>
PHP is a widely-used general-purpose scripting language that is especially suited for Web development and can be embedded into HTML.
3. **MySQL Server** - <http://www.mysql.com/>
MySQL is the world's most popular open source database. Whether you are a fast growing web property, technology ISV or large enterprise, MySQL can cost-effectively help you deliver high performance, scalable database applications
4. **phpmyadmin** - <http://www.phpmyadmin.net>
phpMyAdmin is a free software tool written in PHP, intended to handle the administration of MySQL over the World Wide Web. phpMyAdmin supports a wide range of operations with MySQL. The most frequently used operations are supported by the user interface (managing databases, tables, fields, relations, indexes, users, permissions, etc), while you still have the ability to directly execute any SQL statement.

All software were installed from default Solaris 11 repository with standard directory layout so you will be able to update them or install additional Apache modules.

	Port or Connection URL	Accept Remote Connections	Logins and Passwords
Apache HTTP server	80	Yes	
MySQL server	3306	No	'root' password is same as server's 'root' password
phpmyadmin	<a href="http://<zonename or zone ip address>/phpmyadmin">http://<zonename or zone ip address>/phpmyadmin	Yes	'root' password is same as server's 'root' password

Oracle Database 11gR2 Template

This template installs the latest version of the Oracle Database image on your virtual machine. Whenever possible, the Oracle Database image was installed and configured to use the default choices as per the Oracle Database installation guide.

This Oracle Database image contains:

1. **Oracle Database 11g Release 2 (11.2.0.3) for Solaris**

Oracle Database 11g Release 2 provides the foundation for IT to successfully deliver more information with higher quality of service, reduce the risk of change within IT, and make more efficient use of IT budgets.

2. Oracle Enterprise Manager 11g

All software was installed from the default Solaris 11 repository with standard configurations and has directory layout as per the following details:

	Port or Connection URL	Configuration	Logins and Passwords
Oracle Database	1521	SID : orcl Port : 1521 ORACLEHOME : /u01/app/oracle/product/ 11.2.0/dbhome_1	Oracle DBA user/password : sys/oracle123 Oracle User/Password in zone : oracle/oracle123
Oracle Enterprise Manager	https://<zonename or zone ip address>:1158/em/		Oracle DBA user/password : sys/oracle123

Customizing Virtual Machines

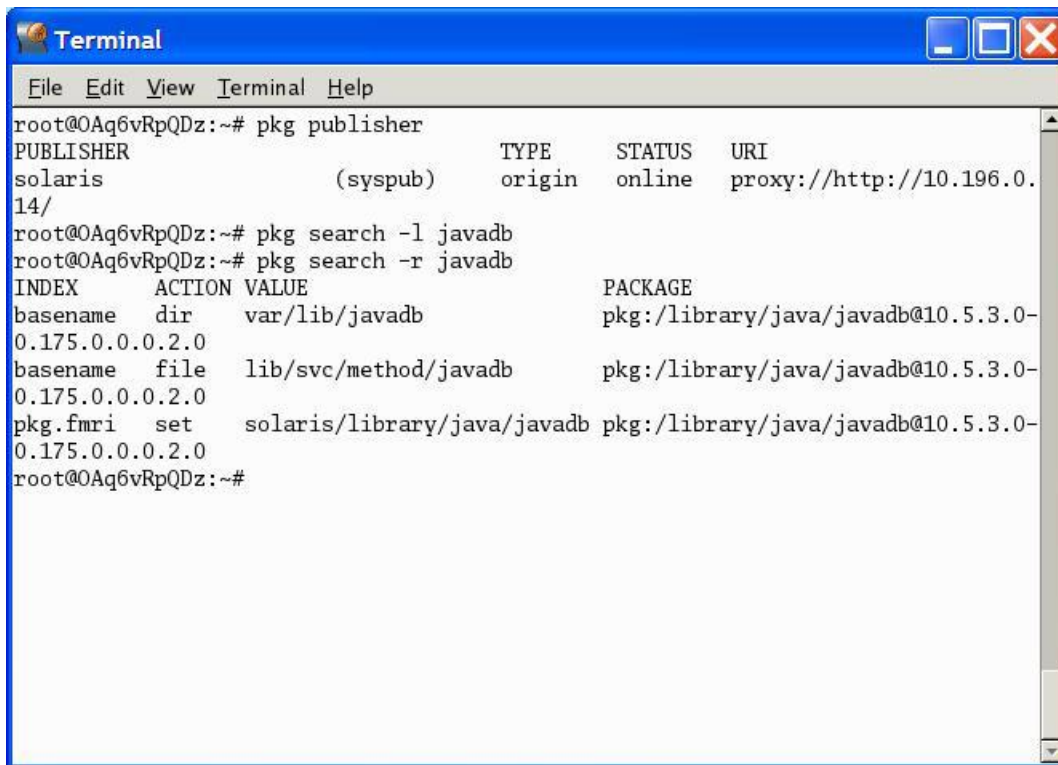
All OSRL Virtual Machines are created with a standard baseline configuration atop Oracle Solaris 11 11/11. This chapter describes pertinent characteristics of newly-created Virtual Machines, and details how Partners can make best use of these characteristics when installing, configuring and running their applications.

At their core, all OSRL Virtual Machines are instances of Oracle Solaris 11 non-global Zones, and as such are bound to the limitations of Zones, which are immaterial to most applications and their users.

Unless explicitly noted, everything in this section pertains to both SPARC and X86 Virtual Machines, regardless of the Template from which they were created.

Solaris Packages and IPS

The Image Packaging System (IPS) is the standard packaging mechanism for Oracle Solaris 11, and all OSRL Virtual Machines are created with access to a standard IPS Solaris Repository. Whether using the Package Manager GUI or the `pkg(1)` command line tool, Partners will see that their VM is already configured to use this Repository (via standard Zone proxy mechanisms for IPS Repositories).

A terminal window titled "Terminal" with a menu bar (File, Edit, View, Terminal, Help) and standard window controls. The terminal shows the following commands and output:

```
root@OAq6vRpQDz:~# pkg publisher
PUBLISHER                                TYPE    STATUS    URI
solaris                                (syspub)  origin    online    proxy://http://10.196.0.14/

root@OAq6vRpQDz:~# pkg search -l javadb
root@OAq6vRpQDz:~# pkg search -r javadb
INDEX      ACTION VALUE                                PACKAGE
basename   dir    var/lib/javadb                        pkg:/library/java/javadb@10.5.3.0-0.175.0.0.0.2.0
basename   file  lib/svc/method/javadb              pkg:/library/java/javadb@10.5.3.0-0.175.0.0.0.2.0
pkg.fmri    set   solaris/library/java/javadb          pkg:/library/java/javadb@10.5.3.0-0.175.0.0.0.2.0
root@OAq6vRpQDz:~#
```

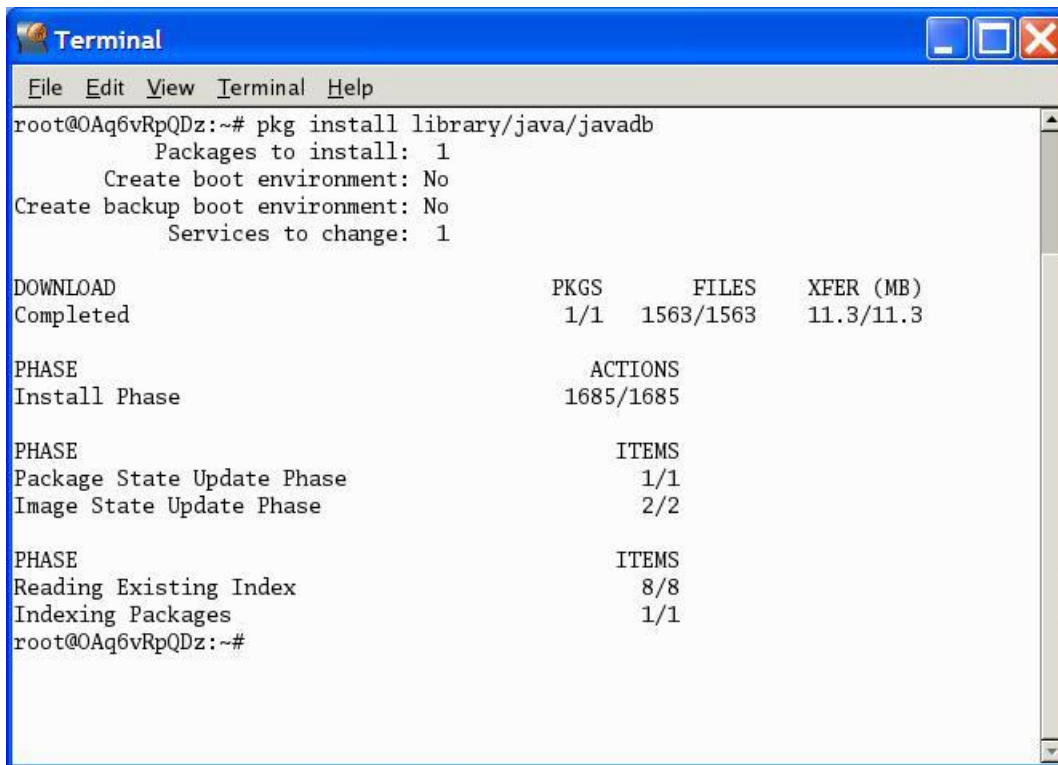
Figure 4-1: Local IPS Repository

Access to additional repositories is only possible if those repositories are local to the Virtual Machine, as there is no external network access. Package or Repositories must be copied locally before they can be used.

All OSRL Virtual Machines are based on Oracle Solaris 11 11/11 (the first general release), and there is no access to Oracle Support Repository Updates.

Example – Deploying an Application and its Solaris Dependencies

User application suite FOOapp installs from a single compressed tar(1) archive. It also possesses a dependency on the javadb implementation of Apache Derby. javadb is an example of an open-source offering available through the standard Solaris 11 IPS Repository, so the Partner can install it just as simply here as on any other Solaris 11 system.

A terminal window titled "Terminal" with a menu bar (File, Edit, View, Terminal, Help) and window control buttons. The terminal shows the command "pkg install library/java/javadb" being executed. The output displays installation statistics: 1 package, 1563 files, and 11.3 MB transfer. It then lists the phases of the installation: Install Phase (1685 actions), Package State Update Phase (1 item), Image State Update Phase (2 items), Reading Existing Index (8 items), and Indexing Packages (1 item).

```
root@OAq6vRpQDz:~# pkg install library/java/javadb
    Packages to install: 1
    Create boot environment: No
    Create backup boot environment: No
    Services to change: 1

DOWNLOAD                                PKGS      FILES    XFER (MB)
Completed                               1/1    1563/1563    11.3/11.3

PHASE                                ACTIONS
Install Phase                        1685/1685

PHASE                                ITEMS
Package State Update Phase           1/1
Image State Update Phase              2/2

PHASE                                ITEMS
Reading Existing Index                8/8
Indexing Packages                     1/1
root@OAq6vRpQDz:~#
```

Figure 4-2: Installing package javadb from local repository

FOOapp may now be installed and run successfully.

Transferring Files to/from the OSRL

File transfers between the Partner's client systems and Virtual Machines in the OSRL are accomplished using file upload and download actions on the dashboard. The Partner's dashboard actions include an up arrow for uploading files to the Partner's environment and a down arrow for retrieving files from the Partner's environment.

The upload and download of files always transfers files between the Partner's client machine and their private NFS file system in the OSRL. Uploaded files are transferred to the /data directory and NFS mounted on all of the Partner's VMs. Downloaded files are taken from the /data directory and transferred to the Partner's client system.

The Partner's private NFS server is independent of the VMs in the Partner's private configuration. Therefore files can be transferred without identifying a VM to participate in the transfer. In fact the Partner can transfer his installation and test files to his /data directory without having created a single VM. Similarly output files saved in /data can be retrieved after the Partner has released all of the VMs and before terminating the OSRL account.

Upload files to the /data directory

When the Partner left clicks on the up arrow in the actions section of the dashboard a pop-up box requests the Partner for his credentials in the OSRL. The credentials required are the user name and password the Partner created during the process of registering for the lab the first time they accessed osrl.oracle.com. The Username is pre-populated with the username and cannot be changed.

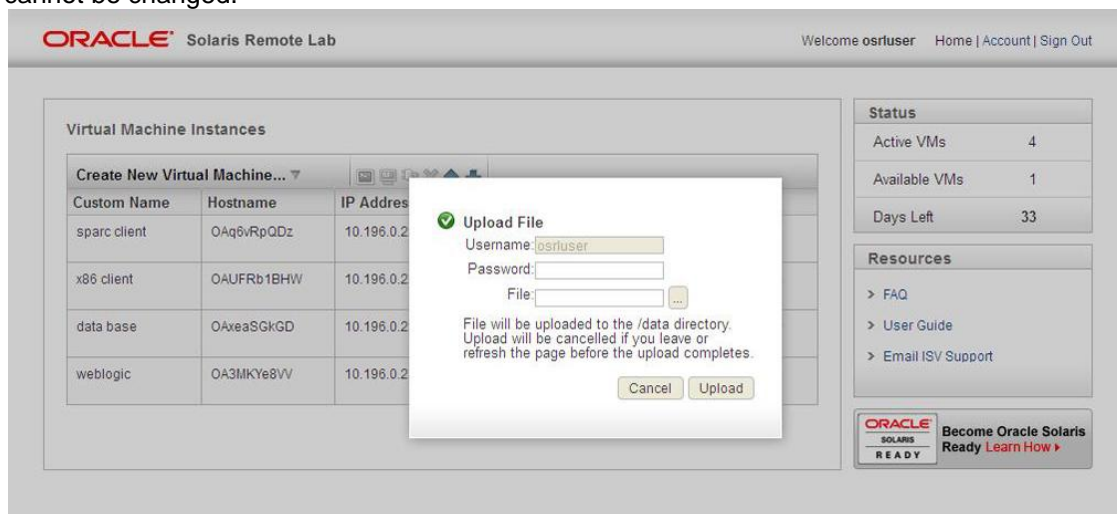


Figure 5-1: Selecting the file to transfer and authorizing the transfer

When the Partner left clicks on the File: area to specify the file to upload a browser pops up to allow the Partner to select the file they wish to transfer.

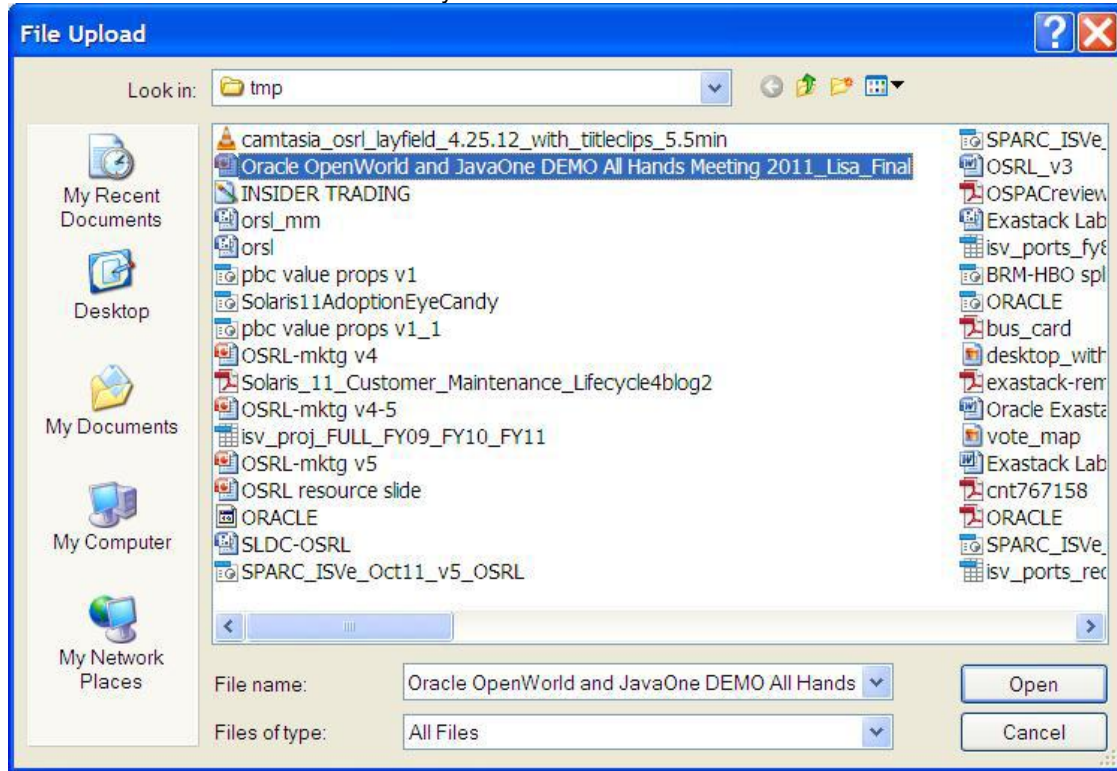


Figure 5-2: Selecting the file to upload to /data

During the transfer progress is reported in a pop-up window.

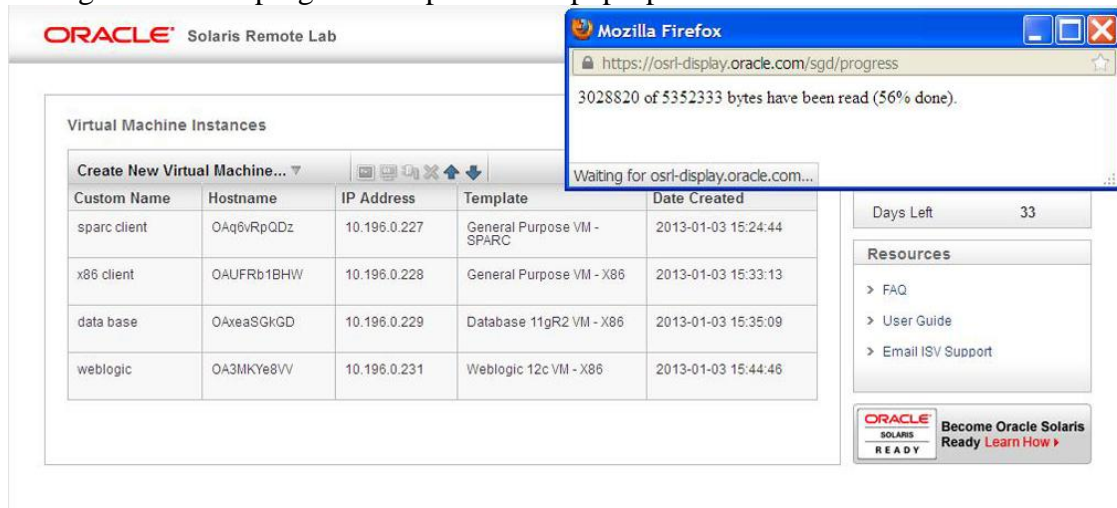
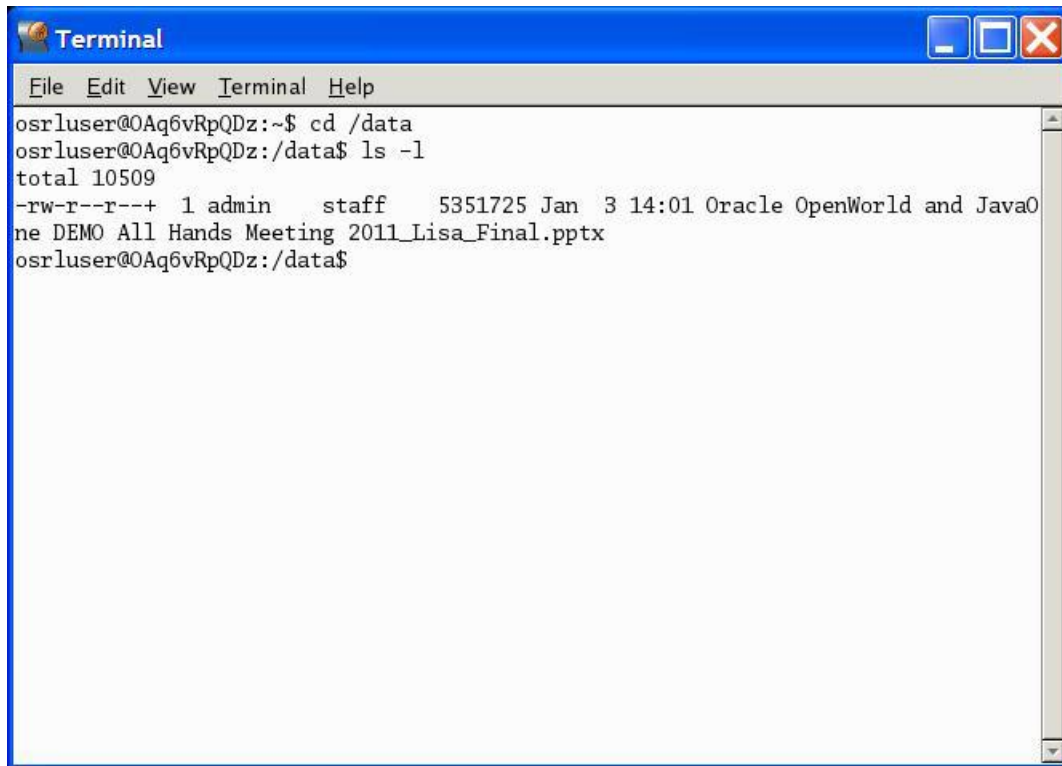


Figure 5-3: Upload progress reporting

Once the upload is completed the file is located in the /data directory on all of the Partner's VMs.

A screenshot of a terminal window titled "Terminal". The window has a blue title bar with standard window controls (minimize, maximize, close). Below the title bar is a menu bar with "File", "Edit", "View", "Terminal", and "Help". The terminal content shows the user "osrluser@OAq6vRpQDz" navigating to the "/data" directory and listing its contents. The output shows a single file named "Oracle OpenWorld and Java0ne DEMO All Hands Meeting 2011_Lisa_Final.pptx" with permissions "-rw-r--r--+", size "5351725", and date "Jan 3 14:01".

```
osrluser@OAq6vRpQDz:~$ cd /data
osrluser@OAq6vRpQDz:/data$ ls -l
total 10509
-rw-r--r--+ 1 admin    staff    5351725 Jan  3 14:01 Oracle OpenWorld and Java0
ne DEMO All Hands Meeting 2011_Lisa_Final.pptx
osrluser@OAq6vRpQDz:/data$
```

Figure 5-4: Locating the uploaded file in /data

Downloading files from /data

When the Partner left clicks on the down arrow in the actions area of the dashboard a dialog box pops up for selection of the file to be transferred and authorize the transfer. The credentials required are the user name and password the Partner created during the process of registering for the lab the first time they accessed osrl.oracle.com. The Partner also enters the name of the file to be transferred from /data.

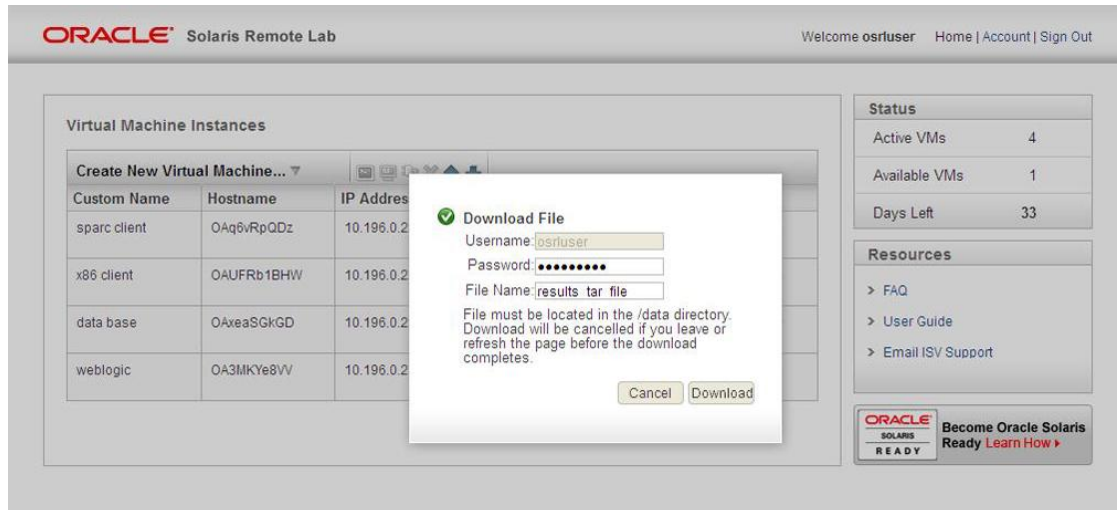


Figure 5-5: Specifying the file to download from /data and authorizing the transfer

During the transfer progress is reported by the browser on the Partner's client system

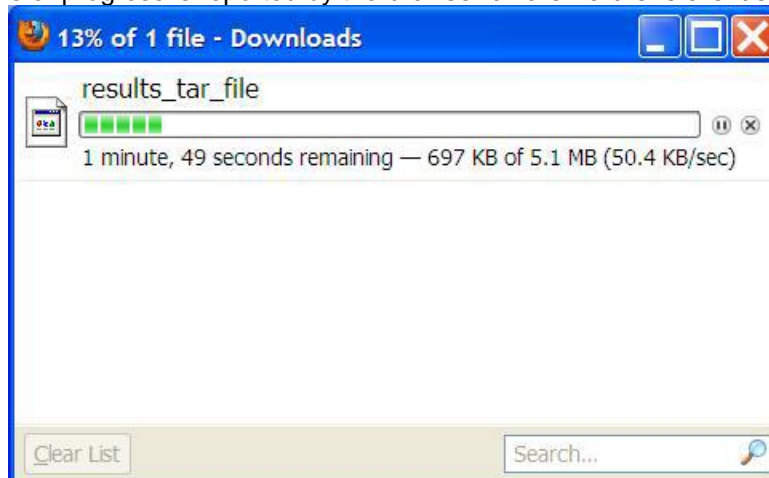


Figure 5-6: Download progress is reported by the browser

The placement of files on the client system is dependent on the type of client.

On a Windows system the files are placed in the user's Download directory, e.g. C:\Documents and Settings\username\My Documents\Downloads.

On a Mac the files are placed in the user's Download directory, e.g. /Users/username/Downloads.

Appendix 1: Virtual Machines and Client Access: Characteristics and Limitations

A. OSRL Virtual Machines

While OSRL Virtual Machines are intended to provide a complete machine environment, there are differences and limitations of which Partner should be aware.

Lifetime of a Virtual Machine

By default, OSRL Virtual Machines are created with a 45 calendar day lifetime, and Partners will receive status emails as that deadline draws close. Partners can request extensions to this lifetime, if needed.

Default Virtual Machine Resource Settings

- 4GB physical memory
- 4GB swap space
- 10GB local filesystem storage
- The root password for the Virtual Machine is contained in the file `/rootPassword`; initially, the 'sudo' command is not enabled for the default user, and the 'su' command will be required to access the Solaris 11 root role

Shared Filesystem

- 10GB filesystem NFS mounted on all the Partner's Virtual Machines

Networking Limitations

- The only external network routes are to Partner's other Virtual Machines
- There is no network routing to the Internet
- The SMB (CIFS) sharing protocol is not available between Virtual Machines

Device Access Limitations

- Applications that assume the existence of `/devices` will not run in a Virtual Machine
- Applications that use `eeeprom` to modify SPARC eeprom setting will not run in a Virtual Machine
- The following utilities do not work properly in Virtual Machines: `add_drv`, `disks`, `prtconf`, `prtdiag`, `rem_dev`

B. Client Access to OSRL

Access to OSRL is primarily via a Partner's browser. Several requirements and restrictions do exist for the Partner's environment:

Supported Operating System and Browsers

<i>Supported Client Platform</i>	<i>Supported Browsers</i>
Microsoft Windows 7 (32-bit and 64-bit)	Internet Explorer 8, 9 Mozilla Firefox 3.6, 10.0.0.3:ESR, 11 Chrome 17
Microsoft Windows XP Professional SP3 (32-bit)	Internet Explorer 7, 8 Mozilla Firefox 3.6, 10.0.0.3:ESR, 11 Chrome 17
Oracle Solaris (SPARC and X86 Platforms): Solaris 10 8/11 Solaris 11	Mozilla Firefox 3.6, 10.0.0.3:ESR, 11 Chrome 17
Mac OS X 10.6 and 10.7	Safari 5 Mozilla Firefox 3.6, 10.0.0.3:ESR, 11 Chrome 17
Oracle Linux 5.7, 5.8, 6.2, 6.3 (32-bit, 64-bit)	Mozilla Firefox 3.6, 10.0.0.3:ESR, 11 Chrome 17
Ubuntu Linux 10.04, 12.04 (32-bit, 64-bit)	Mozilla Firefox 3.6, 10.0.0.3:ESR, 11 Chrome 17

Note: all browsers must have JavaScript support enabled

Java Runtimes Supported

- **Note: Only Java 6 is supported on the client side.** Java 7 is not compatible with the OSRL at this time due to the OSRL's use of the Oracle Secure Global Desktop which has not yet been certified on Java 7.

We recommend that you work with your IT department to ensure that you have Java 6 installed on the client systems you will be using to access the OSRL. To help with this here are some recommended sites:

To check that you have the recommended version of java go the the following site:

<http://www.java.com/en/download/installed.js>

You can download Java 6 here:

http://www.java.com/en/download/faq/java_6.xml