For Virtual User Testing of SAP Applications

WELCOME TO RATIONAL LOADTEST

SAP **!**

Use this *Try it!* to discover how easy it is to test the performance of your SAP R/3 applications. In minutes, you'll understand the power behind Rational LoadTest (a component of Rational Suite PerformanceStudio) as you build tests that verify your system can handle:

▶ Large numbers of users concurrently executing transactions

▶ Contention among multiple clients accessing critical data

▶ 'Worst-case scenarios' occurring at busy times

If you're using SAP R/3 applications, you need Rational LoadTest, a component of Rational Suite™ PerformanceStudio.™ Rational LoadTest is the leader in automated performance testing of client/server, Web, and ERP applications.

Rational LoadTest lets you plan, develop, and execute performance tests against your SAP R/3 application, regardless of your R/3 hardware platform or database server type.

As you use the testing tips in this card on your SAP application, you'll quickly discover how easy it is to create performance tests using LoadTest.

To find out more about LoadTest and PerformanceStudio, be sure to take a look at the *Getting Started with Rational Suite PerformanceStudio* manual as well as the other PerformanceStudio documentation and online Help.

▸ ▸ ▸ Find out how Rational puts quality to the test. ▸ ▸ ▸

Rati⊘nal®
the **e-development** company™

Create a repository and log in

Before you can begin testing, you need to create a repository. A **repository** contains all of the information about your testing project including test documents, requirements, scripts, logs, defects, queries, and reports.
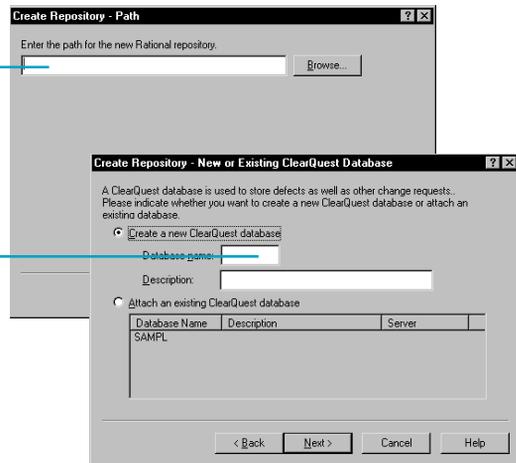
▶ ▶ ▶ *Try this:*

❶ Install Rational Robot according to the instructions in the *Getting Started with Rational Robot* manual. Also, make sure to install the SAP protocol license.

❷ Click **Start > Programs > Rational Suite PerformanceStudio > Rational Administrator**.

❸ Click **File > Create Repository**.

Type C:\SAPRepo for the name of the repository where you'll store your tests.

Click Next until you come to the Create Repository - New or Existing ClearQuest Database page. Type VU for the Rational ClearQuest database name. If your application has defects, you'll enter them in this database later on.

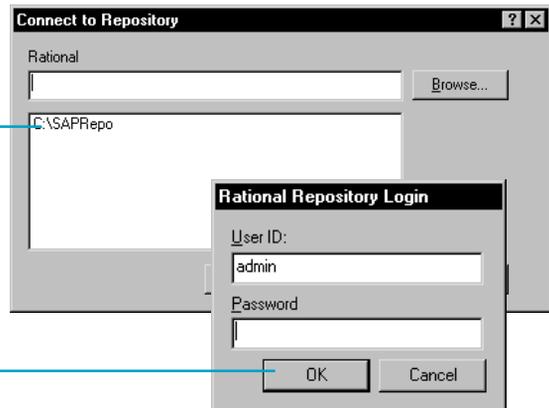*Continue to click Next to accept all of the defaults.*

At the end, click Finish, and then click OK.

Create Repository - Path

Enter the path for the new Rational repository.

Browse...

Create Repository - New or Existing ClearQuest Database

A ClearQuest database is used to store defects as well as other change requests.. Please indicate whether you want to create a new ClearQuest database or attach an existing database.

○ Create a new ClearQuest database

Database name:

Description:

○ Attach an existing ClearQuest database

Database Name	Description	Server
SAMPL		

< Back   Next >   Cancel   Help

❹ Click **File > Connect**.

Select C:\SAPRepo, and then click OK.

Connect to Repository

Rational

Browse...

C:\SAPRepo

Rational Repository Login

User ID:

admin

Password

Click OK to log in as the admin. No password is needed.
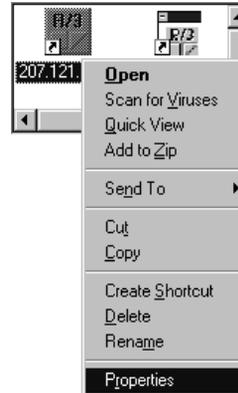
OK   Cancel

Determine the SAP host name and system number

Before you test your SAP application, you also need to determine the host name and system number. You can either ask your system administrator or follow the steps on this page to make a copy of the host name and system number.

► ► ► *Try this:*

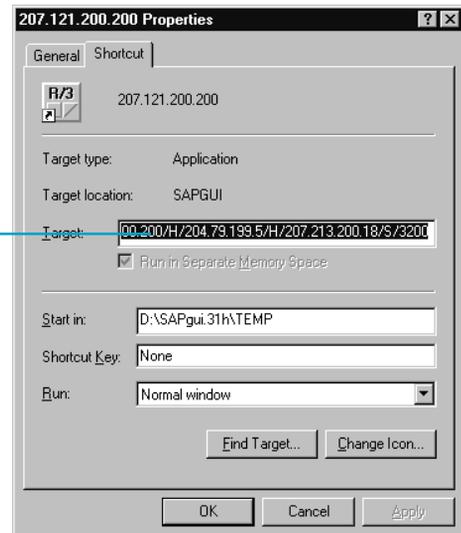❶ Right click the SAPGUI icon for your application, and then click **Properties**.

Open
Scan for Viruses
Quick View
Add to Zip
Send To ▶
Cut
Copy
Create Shortcut
Delete
Rename
Properties

❷ In the Properties dialog box, click the **Shortcut** tab.

❸ Copy the host name by highlighting it and pressing **CTRL+c**. You'll need it for the next set of steps.

The host name is a series of one or more computer names and/or IP addresses delimited by slashes and uppercase letters, often with a trailing port number.

You need the host name in order to connect to your application. (See the next page.)

207.121.200.200 Properties

General | Shortcut

R/3   207.121.200.200

Target type: Application

Target location: SAPGUI

Target: 00.200/H/204.79.199.5/H/207.213.200.18/S/3200

☑ Run in Separate Memory Space

Start in: D:\SAPgui.31h\TEMP

Shortcut Key: None

Run: Normal window

Find Target...   Change Icon...

OK   Cancel   Apply
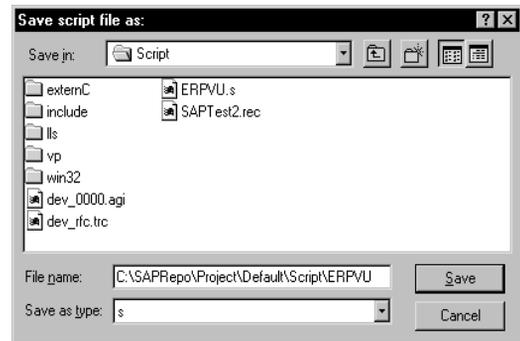
Capture a virtual user script

When you use Rational LoadTest to test the performance of your application, you'll record a script that emulates an actual user working with the SAP application. The script, called a **virtual user script**, captures the requests and responses that occur between the client application and the database server. For more information about creating virtual user scripts, see the *Using Rational LoadTest* manual and the online Help. For information about the VU scripting language, see the *VU Language Reference* and the online Help.

▶ ▶ ▶ *Try this:*

❶ Click **Start** > **Programs** > **Rational Suite PerformanceStudio** > **Rational ERP vu** to display two dialog boxes.

Before you record a script, you have to name it to create a placeholder for it. You then save it in the repository you are connected to.

❷ In the File Name box, *do not accept the default path*. Instead, make sure to type the following path: **C:\SAPRepo\Project\Default\Script\ERPVU** where SAPRepo is the repository you created, and ERPVU is the name for the script you'll record.
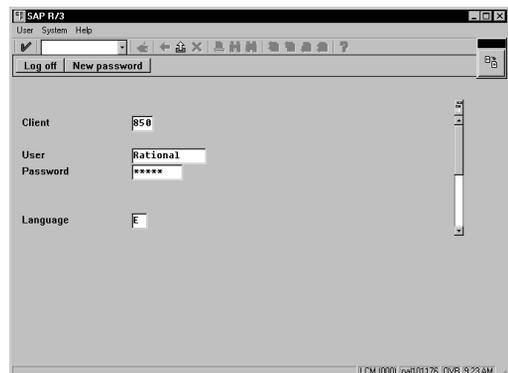
❸ Click **Save**.

❹ In the Host Name box, paste the host name and system number you just copied. If necessary, delete the program path, for example C:\SAPGUI31H\SAPGUI.EXE.
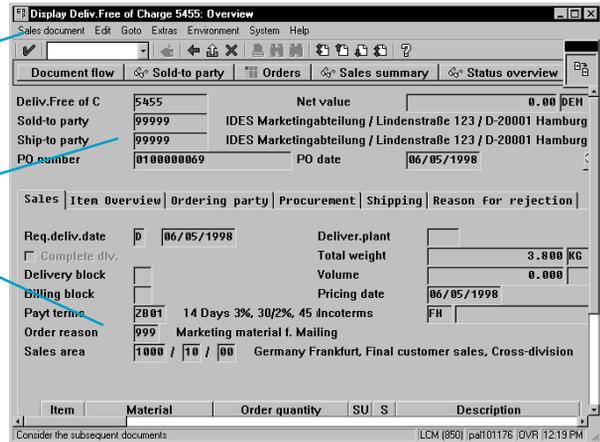
❺ Click **Connect**.

❻ Log in.

❼ Navigate through the application. **Rational ERP vu** records whatever you do. (Note: To record VU scripts other than SAP VU scripts, you would use Rational Robot.)

Make menu selections.
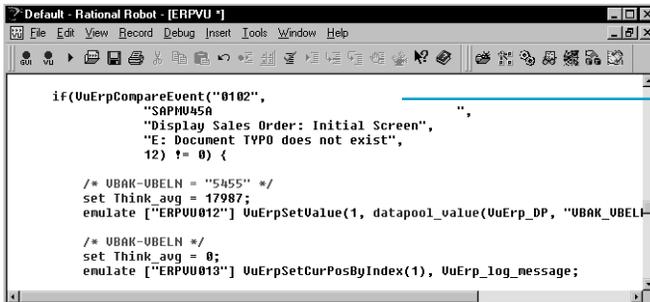
Enter keystrokes and transactions.

❽ Be sure to turn **Exception Handling** *on* if an unexpected, unwanted window appears during recording. You can turn it on in two ways:
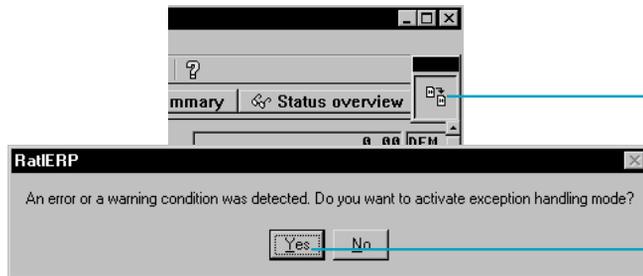
Either click this icon to turn on Exception Handling...

*...or, click **Yes** if this message appears.*

❾ Be sure to click the icon to turn **Exception Handling** *off* after you dismiss the unexpected window.

Turning on Exception Handling inserts an 'if' statement in the virtual user script to indicate the code for the unwanted window. This allows successful playback of the script if the unwanted window doesn't appear during playback.

❿ After you finish recording the script, log off from **Rational ERP vu**.

Build a LoadTest schedule

A LoadTest **schedule** represents the user load that you want to apply to your application. A schedule contains one or more user groups to emulate the types of people who use your application, as well as the number of users in each group. The schedule also contains scripts that emulate the activities that the users perform.

▶ ▶ ▶ *Try this:*

❶ Click **Start > Programs > Rational Suite PerformanceStudio > Rational LoadTest**.
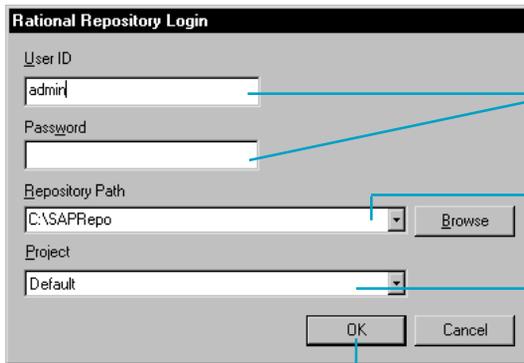
Rational Repository Login

User ID

admin

*Accept **admin** as the **User ID** and do not enter a **Password**.*

Password

Repository Path

C:\SAPRepo   Browse

*Select the repository you created — **SAPRepo**.*

Project

Default

*Accept **Default** as the project.*

OK   Cancel

*Click **OK** to log in.*

❷

*On the LoadTest toolbar, click **New Schedule**.*
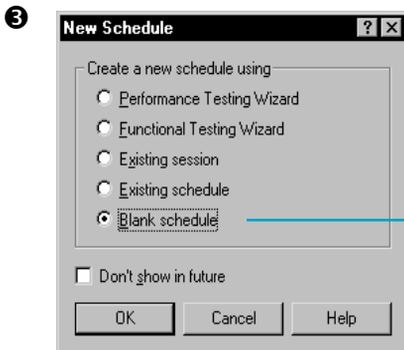
❸ **New Schedule**

Create a new schedule using

○ Performance Testing Wizard
○ Functional Testing Wizard
○ Existing session
○ Existing schedule
◉ Blank schedule

*Select **Blank Schedule**, and then click **OK** to continue.*

☐ Don't show in future

OK   Cancel   Help
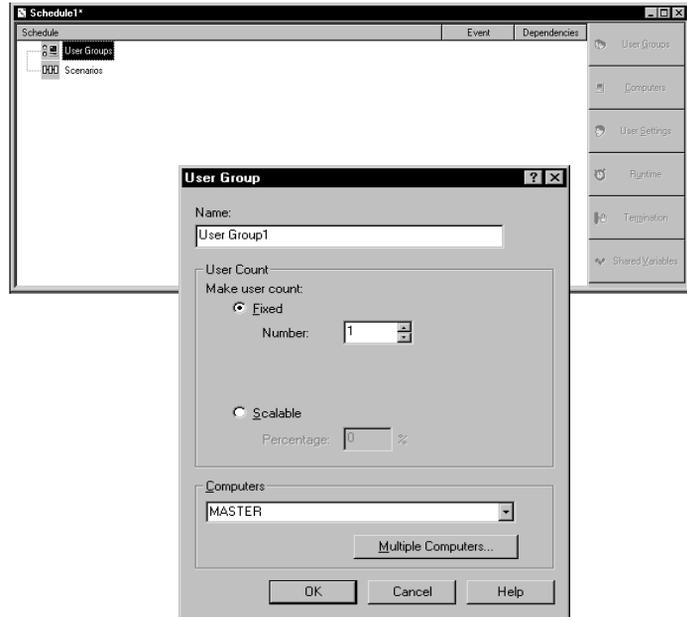
❹ Right-click **User Groups**, and then click **Insert > User Group**.

> *A user group represents one type of person who will use the application.*

❺ Accept **User Group1** as the name and **1** as the number of users, and then click **OK**.

> *You'll start with one user to test the schedule and then add more users to put load on the application.*

❻ Right-click **User Group1:1user(s)**, and then click **Insert > Script**.

❼ Make sure to type **ERPVU** for the script name, and click **OK**.

> *ERPVU was the script that you saved and created a placeholder for before you started to record.*

❽ Select **VU**, and then click **OK**.

❾ Click **File > Save As**, accept the default schedule name, and then click **OK**.
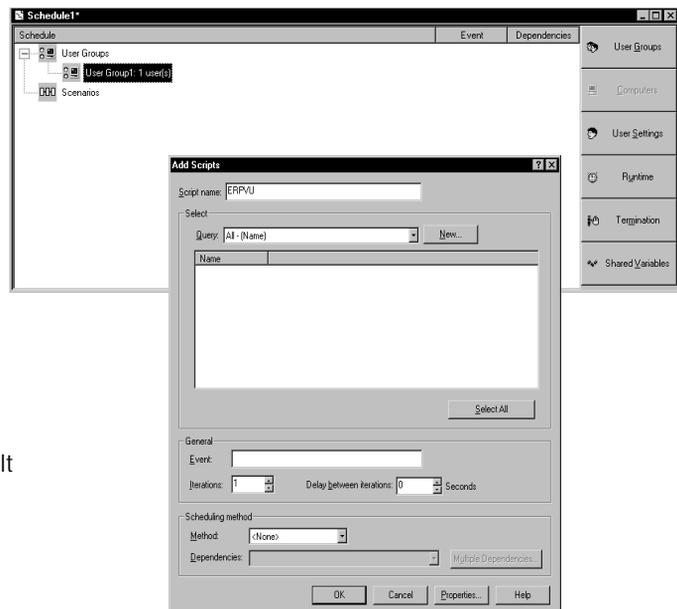
Play back the script

Now it's time to make sure that one virtual user works correctly by running the schedule you created. As the schedule runs, LoadTest provides numerous views so you can watch the progress of the test.

▶ ▶ ▶ *Try this:*

❶ From LoadTest, click **Run > Schedule**, accept **Schedule1** as the schedule name, and then click **OK**.

❷ After the schedule starts to run, click **Monitor > Script**.

LoadTest displays the log and the individual script commands as they execute.

Log ————————
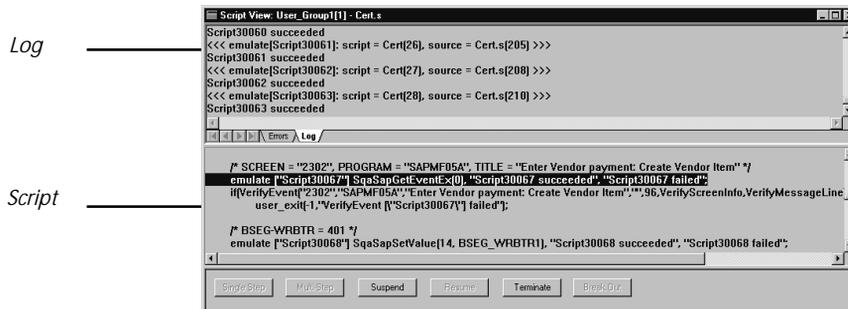
Script ————————

❸ After the schedule finishes running, click **File > Exit** to close LoadTest.

What's next

You have just recorded an SAP R/3 session and played it back with one virtual user. You can record scripts with different types of users. And, you can increase the number of users for each user group and build them into schedules to form a real-life performance test.

The value of schedules becomes even more apparent when you scale up the number of users in your test — to hundreds or thousands of virtual users — simply by increasing the number of users in a schedule. This lets you identify system performance errors and bottlenecks before you deploy your application.

For detailed playback instructions and more information about schedules, take a look at the *Using Rational LoadTest* manual and the online Help.