

Business / Technical Brie

How to Deploy Real User Experience Insight to Oracle Cloud and Monitor E-Business Suite

Step-by-step instructions for deploying Real User Experience Insight (RUEI) as an app on Oracle Cloud Marketplace and monitoring the E-Business Suite Demo application

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Purpose statement

This document provides an overview of features and enhancements included in Real User Experience Insight (RUEI) App on Oracle Cloud Marketplace. It is intended solely to help you assess the business benefits of using RUEI App and to plan your I.T. projects.

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Purpose

Oracle Real User Experience Insight (RUEI) monitors real-user experience, can be used to define Key Performance Indicators (KPIs) and Service Level Agreements (SLAs), and enables alert notifications when thresholds are crossed.

This white paper introduces RUEI as an app in Oracle Cloud Marketplace, and showcases how you can easily deploy, and start the monitoring of the Oracle E-Business suite (EBS) Demo application (Oracle EBS 12.2.9 Demo Install Image) running in the Oracle Cloud.



Introduction

Oracle Real User Experience Insight (RUEI) is a utility that reports real-user traffic from business-critical applications. For more than a decade, RUEI has been helping enterprises to maximize the value of their onpremises based Web infrastructures, by delivering insight into real end-user experiences. On the other hand, RUEI in the Cloud has been a popular enhancement request. To respond to the increasing customer demand, we have made the product available as an app on Oracle Cloud Marketplace. Setting up RUEI as an app drastically simplifies the product installation process as well as monitoring cloud-based and on-premises applications.

RUEI App in the Oracle Cloud Marketplace is a pre-configured stack which contains the RUEI server and repository, deployed on a single Linux host. By following the steps described in this paper, you can deploy RUEI on an OCI compartment without undergoing traditional RUEI installation steps.

The sample application monitored by RUEI in this example is the EBS Demo application (Oracle EBS 12.2.9 Demo Install Image), an app available in the Oracle Cloud Marketplace, deployed on the same Virtual Cloud Network (VCN).

Once the RUEI App and EBS App deployments are completed, there are additional steps to configure Virtual Ethernet Network TAP and Layer Two Tunneling Protocol (L2TP) tunnel, so that traffic flows from the EBS instance, to RUEI instance.



L2TP: Level 2 Tunnel Protocol

MTUN: L2TP Multiple Tunnel Aggregator Virtual Network Interface

Figure 1. RUEI and EBS deployed on Oracle Cloud Infrastructure

Deploy RUEI App in an Oracle Cloud compartment

There are two high-level steps involved in the setup of the RUEI app: **Deploy** the app and **Set Up** the tunneling.

This section provides instructions on deploying the RUEI app on an existing compartment in the Oracle Cloud. First, we will configure the Virtual Cloud Network, then launch the app from the Marketplace. The approximate time to complete the RUEI app deployment is 30 min.

Configure the Virtual Cloud Network

1. Go to Oracle Cloud console using the URL provided in the Welcome email. Enter the user name and password to log in.

	ORACLE Cloud
	Oracle Cloud Account Sign In
Licer Name	
·//////.com	
Password	
	Sign In
	Need help signing in? Click here

Figure 2. Oracle Cloud login screen

2. From the Main menu, select "Networking", then "Virtual Cloud Networks". In the Virtual Cloud Networks page, select the compartment from the pull-down menu.



Figure 3. Main menu - Virtual Cloud Networks

3. Click "Start VCN Wizard".



Figure 4. Virtual Cloud Networks in Compartment screen

4. "VCN with Internet Connectivity" is selected by default. Click "Start VCN Wizard".

Start VCN Wizard	Held Cancel
VCN with Internet Connectivity VCN with Internet Connectivity and Site-to-Site VPN Connect	Creates a VCN with a public subnet that can be reached from the internet through a NAT gateway, and also privately connect to the Oracle Services Network. Includes: VCN, public subnet, private subnet, internet gateway (IG), NAT gateway (NAT), service gateway (SG).
Start VCN Wizard Cance	1

Figure 5. Start VCN Wizard screen

5. The "Create a VCN with Internet Connectivity" page opens. Enter the basic information such as VCN name and compartment. In the example below, the VCN name is "RUEI_VCN" and the compartment is "RUEI_demo", which is created in our tenancy.

NOTE: To create a new compartment, select main menu Identity > Compartments, then Click "Create Compartment"

	Search for resources, services, and documentation	US
Create a VCN w	ith Internet Connectivity	
Configuration Review and Create	Configuration	
	 Important: Before starting: Limits: Ensure your tenancy has not reached its VCN limit. See <u>Service Limits</u>. Access: Ensure you have permission to work in the compartment you select. 	
	Basic Information	
	VCN NAME ()	
	RUEL_VCN	
	COMPARTMENT (i)	
	RUEI_demo \$	
	ytakatsu (root)/RUEL_demo	
	Configure VCN and Subnets	
	10.0.0.0/16	

Figure 6. Create a VCN with Internet Connectivity Screen

6. Scroll down to find "Configure VCN and Subnets" section. Modify or accept the default values. Click Next.

	ud Search for resources, services, and documentation	US W
Create a VCN	with Internet Connectivity	
Configuration Review and Create	Configure VCN and Subnets	
	VCN CIDR BLOCK (1)	
	10.0.0/16	
	If you plan to peer this VCN with another VCN, the VCNs must not have overlapping CIDRs. Learn more,	
	PUBLIC SUBNET CIDR BLOCK (1)	
	10.0.0/24	
	The subnet CIDR blocks must not overlap.	
	PRIVATE SUBNET CIDR BLOCK (\hat{l})	
	10.0.1.0/24	
	The subnet CIDR blocks must not overlap.	
	DNS RESOLUTION	
	USE DNS HOSTNAMES IN THIS VCN Bequired for instance hostname assignment if you plan to use VCN DNS or a third-party DNS. This choice cannot be change	đ
	after the VCN is created. Learn more,	
	Se Show Tagging Options	
Next Cancel		

Figure 7. Create a VCN with Internet Connectivity Screen

7. Review the configuration and click "Create".

	Search for resources, services, and documentation
Create a VCN with	Internet Connectivity
 Configuration Review and Create 	Review and Create
	Oracle Virtual Cloud Network (VCN)
	Oracle Virtual Cloud Network (VCN) Name: RUEL_VCN Compartment: RUEL_demo Tags: VCN: VCN-2020-09-01T23:24:49 CIDR: 10.0.0.016 DNS Labet: RUEIVCN DNS Domain Name: RUEIVCN.oracleven.com Subnets Public Subnet Subnet Name: Public Subnet-RUEL_VCN COR: 10.0.0.024 Security List Name: Default Security List for RUEL_VCN Route Table Name: Default Route Table for RUEL_VCN DNS Labet: sub09012325360 Private Subnet
	Subnet Name: Private Subnet-RUEL_VCN. CIDR: 10.0.1.0/24 Security List Name: Security List for Private Subnet-RUEL_VCN
	Route Table Name: Route Table for Private Subnet-RUEL_VCN DNS Label: sub09012325361
Previous Create Cancel	Catowaya

Figure 8. Create a VCN with Internet Connectivity Screen

8. Once the check marks are updated, click "View Virtual Cloud Network".

Configuration Review and Create	Created Virtual Cloud Network	
	Creating Resources	
	Virtual Cloud Network creation complete	
	Create Virtual Cloud Network (1 resolved)	Done 🥝
	Create Subnets (2 resolved)	Done 🔮
	Create Internet Gateway (1 resolved)	Done 🥥
	Create NAT Gateway (1 resolved)	Done 🔮
	Create Service Gateway (1 resolved)	Done 🥥
	Create Route Table for Private Subnet (1 resolved)	Done 🥑
	Create Security List for Private Subnet (1 resolved)	Done 🥥
	Update Route Tables (2 resolved)	Done 🥝
	Update Private Subnet (1 resolved)	Done 🔮

Figure 9. Create a VCN with Internet Connectivity Screen

Configure Security List settings

9. Once the VCN is created, click "Security List", which is located under "Resources".

	Search for resources, services, and documental	ion			US West (Phoenix) 🗸) 🗊 🤅	0 (
Networking - Virtual Cloud Networks - V	irtual Cloud Network Details							
	RUEI_VCN							
	Move Resource Add Tags Terminate							
VCN	VCN Information Tags							
	CIDR Block: 10.0.0.0/16			OCID:4uo4hq Show Copy				
	Compartment Demo (root)			Default Route Table: Default Route Table	for RUEL VCN			
AVAILABLE	Created: Tue, Sep 1, 2020, 23:10:47 UTC			DNS Domain Name: rueivon.oraclevon.co	m			
Resources Subnets (2)	Subnets in Demo (ro	ot) Compartmei	nt					
Route Tables (2)	Name	State	CIDR Block	Subnet Access	Created		•	
Dynamic Routing Gateways (0)	Public Subnet-RUEL VCN	Available	10.0.0/24	Public (Regional)	Tue, Sep 1, 2020, 23:10:52 UTC			÷
Network Security Groups (0)	Private Subnet-RUEL VCN	 Available 	10.0.1.0/24	Private (Regional)	Tue, Sep 1, 2020, 23:10:49 UTC			:
Security Lists (2)						Showing 2 Item	s < 1 of 1	1 >
DHCP Options (1)								
Local Peering Gateways (0)								
NAT Gateways (1)								
Service Gateways (1)								
VLANs (-)								
Coope								
Terms of Use and Privacy Cookie Preference	95				Copyright @ 2020, 0	Dracle and/or its affilia	tes. All rights	reserved.

Figure 10. Virtual Cloud Network page

10. Click "Default Security List for < VCN name>" link from the table. This is the default security list for your public subnet.

	Search for resources, services, and documentation		US West (Phoenix) 🗸 🖒 🤇	₽⊕0
Networking - Virtual Cloud Networks -	Virtual Cloud Network Details - Security Lists RUEI_VCN Move Resource Add Tags Terminate VCN Information Tags CIDR Block: 10.00.0/16	OCID:wacang Sho	w Conv	
	Compartment: RUEI_demo	Default Route Table:	Default Route Table for RUEL VCN	
Resources Subnets (2)	Security Lists <i>in</i> RUEI_dem	o Compartment		
Route Tables (2)	Name	State	Created	•
Internet Gateways (1)	Security List for Private Subnet-RUEL VCN	Available	Tue, Sep 1, 2020, 23:26:14 UTC	:
Dynamic Routing Gateways (0)	Default Security List for RUEL VCN	Available	Tue, Sep 1, 2020, 23:26:13 UTC	1
Security Lists (2) DHCP Options (1)			Showing 2 Items	< 1 of 1 >
Local Peering Gateways (0) NAT Gateways (1)				

Figure 11. Security Lists screen in VCN page

11. Select "Ingress Rules" link. Ensure that there is a security rule configured for the port 22 by default. Click "Add Ingress Rules".

	earch for resources,	services, and documentatio	n				US West (Phoenix)	× N A Ø 🛡	• •
Networking - Wrtad Cloud Networks - RU	ELVCN - Security Lis Default Se Instance traffic is o Move Resource Security List	Details Country List for antrolled by frewall rules on o Add Tags Territorie Information Tags	RUEI_VCN	o this Security List					
AVAILABLE	ocid:6cbi7q Created: Tue, S	Show Corry ep 1, 2020, 23:10:47 UTC Ules			Compartn	nent: ytakatau (root)			
Ingress Rules (3)	Add Ingress Ru	es Edit Rentove							
Egress Rules (1)	Stateless	- Source	IP Protocol	Source Port Range	Destination Port Range	Type and Code	Allows	Description	
	No	0.0.0/0	тср	All	22		TCP traffic for ports; 22 SSH Remot e Login Protocol		1
	C No	0.0.0.0/0	ICMP			3, 4	ICMP traffic for: 3, 4 Destination Unr eachable: Fragmentation Needed an d Don't Fragment was Set		:
	🗌 No	10.0.0/16	ICMP			3	ICMP traffic for: 3 Destination Unrea chable		1
	0 Selected							Showing 3 Items \checkmark	1 of 1 >
Terms of Use and Privacy Cookie Preferences							Copyright © 20	20, Oracle and/or its affiliates. All righ	its reserved.

Figure 12. Default Security List for VCN page

- 12. The "Ingress Rule" page opens. Enter the following entries to create new rules, then click "Add Ingress Rules".
 - Stateless: no, type: CIDR, source: 0.0.0.0/0, protocol: TCP, destination port: 443, description: web-https
 - Stateless: no, type: CIDR, source: 0.0.0.0/0, protocol: L2TP, description: L2TP

Add Ingress Rules					Cance
Ingress Rule 1					
Allows TCP traffic 443 HTTPS					
STATELESS (i)					
SOURCE TYPE	SOURCE CIDR			IP PROTOCOL (i)
CIDR \$	0.0.0.0/0			TCP	\$
	Specified IP addresses: 0.0.	0.0-255.255.255.255			
SOURCE PORT RANGE OPT	IONAL (i)	DESTINATION PORT RANGE	E OPI	TIONAL (Ì)	
All		443		0	
Examples: 80, 20-22		Examples: 80, 20-22			
DESCRIPTION OPTIONAL					
web-https					
Maximum 255 characters					
			+ A	dditional Ingre	ss Rule
Add Ingress Rules	Cancel				

Figure 13. Add Ingress Rules Screen – HTTPS

Add Ingress Rules				<u>Cancel</u>
Ingress Rule 1				
Allows L2TP traffic				
SOURCE TYPE		SOURCE CIDR	IP PROTOCOL	
CIDR	0	0.0.0/0	L2TP	\$
DESCRIPTION OPTION	IAL	Specified IP addresses: 0.0.0.0-255.255.255.255 (4,294,967,296 IP addresses)		
L2TP				
Maximum 255 character	5			
			+ Additional Ingres	ss Rule
Add Ingress Rules	Car	ncel		

Figure 14. Add ingress Rules screen – L2TP

13. Review the configuration change in the Ingress Rules screen for the default security list.

Add	Ingress Rules	Edit Remove							
	Stateless 👻	Source	IP Protocol	Source Port Range	Destination Port Range	Type and Code	Allows	Description	
Q	No	0.0.0/0	TCP	All	22		TCP traffic for ports: 22 S SH Remote Login Protoco I		
	No	0.0.0.0/0	ICMP			3, 4	ICMP traffic for: 3, 4 Desti nation Unreachable: Frag mentation Needed and Do n't Fragment was Set		
	No	10.0.0/16	ICMP			3	ICMP traffic for: 3 Destinat ion Unreachable		
D.	No	0.0.0/0	TCP	All	443		TCP traffic for ports: 443 HTTPS	web-https	
	No	0.0.0/0	L2TP				L2TP traffic	L2TP	

Figure 15. Ingress Rules Screen

Deploy the RUEI App

14. Next, deploy the RUEI App from the Marketplace. From the main menu, select "Marketplace", then "Applications".

	Search for resources, services, and
Resource Manager Email Delivery Application Integration Monitoring	Security List for Instance traffic is controlled by fi Move Resource Add Tags
Logging Developer Services Blockchain Platform	Security List Information
Marketplace VMware Solution	> Applications Deployed Applications

Figure 16. Main menu – Marketplace, Applications

15. In the Marketplace page, enter "Real User Experience Insight" to search for the RUEI App in the All Applications section. Click the RUEI App.



Figure 17. Marketplace page

16. Select the compartment, agree to the term and restrictions, and click "Launch Stack"



Figure 18. RUEI Application page

17. Enter the Name and Description. Optionally, you can select tags. Click Next.

ORACLE Cloud	Search for resources, services, and documentation
Create Stack	
Stack Information Configure Variables Beview	Your application will launch as part of a stack that includes the infrastructure resources required to ensure that the application deploys and runs properly.
	NAME OPTIONAL
	Oracle Real User Experience Insight-20200901163100
	DESCRIPTION OFFICIAL
	RUEI demo
	CREATE IN COMPARTMENT
	ylakatsu (root)/RUEL.demo
	TERRAFCIOLA VERDIVINI
	0.12.X
	TAGS
	Tagging is a metadata system that allows you to organize and track resources within your tenancy. Tags are composed of keys and values that can be attached to resources.
	Learn more about tagging
	TAG NAMESPACE TAG KEY VALUE Oracle-Tags CreatedBy Oracle Real User Experie
\frown	× 3.895 - 1.99
Next Cancel	

Figure 19. Create Stack page 1/5

18. In the "General Settings" section, select region, target compartment and availability domain.

E ORACLE Cloud	Search for resources, services, and documentation	
Create Stack		
Stack Information Configure Variables Review	Configure the variables for the infrastructure resources that this sta create when you run the apply job for this execution plan.	ck will
	BEDION	
	us-phoenix-1	\$
	The region in which to create the RUEI reporter	
	TARGET COMPARTMENT	
	RUEI_demo	0
	The target compartment for the RUEI reporter instance.	
	THE AVAILABILITY DOMAIN IN WHICH TO CREATE RESOURCES	
	xOIW:PHX-AD-1	0
	The availability domain for the RUEI reporter instance.	

Figure 20. Create Stack page 2/5

19. In the "RUEI reporter details" section, enter the RUEI password, select Instance shape, and enter SSH Public key. You will need the SSH key in order to access RUEI instance. Refer to <u>Creating a Key Pair</u> section in the OCI document for information on creating SSH keys.

ORACLE Cloud	Search for resources, services, and documentation
Create Stack	
	RUEI reporter details
 Configure Variables 	RUEI PASSWORD
U HEVIEW	Wated for the database SYS user, database RUEI schema, wallet and initial admin password. Must be 9 to 30 characters and contain at least 2 uppercase, 2 lowercase, 2 special, and 2 numeric characters. The special characters must be _ , . V or - RUEI INSTANCE SHAPE Image: Strange Stran

Figure 21. Create Stack page 3/5

20. In the "Networking details for RUEI and Oracle Database" section, select compartment, VCN and subnet. Select the VCN you created above. A Public subnet is selected in this example. Click Next.

	BLOCK VOLUME STORAGE SIZE (GB)
Stack Information	600
Configure Variables	The size of the block storage that will be used for collected RUEI data and database. The default is 600 GB, which is the recommended value. The recommended minimum is 300 GB. A lower value is only recommended for trial/evaluation purposes.
	SSH PUBLIC KEY
	ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQDJMCwNxHSU1AyDJZwGPYYLcn
	Use the corresponding private key to access the RUEI compute instances via SSH
	Networking details for RUEI & Oracle Database
	RUEI_demo 0
	The compartment where the existing VCN resides
	EXISTING VCN
	RUEI_VCN
	An existing Virtual Cloud Network (VCN) in which to create the RUEVDB compute instances, network resources, and load belancers.
	EXISTING SUBNET COMPARTMENT
	RUEL_demo Company to be subject variables
	Compariment where the existing suches resides
	Public Subnet-RUEI_VCN (Regional)

Figure 22. Create Stack page 4/5

21. Review the configuration and click "Create".

= ORACLE Cloud	Search for resources, services, and documenta	tion
Create Stack		
Stack Information Configure Variables Review	Verify your configuration variables, ar job will automatically run to create re- configuration. Due to limited space, v default values or that you edited.	Ind then create your stack. The apply sources specified in the ve show only variables without
	Stack Information	
	Name	Oracle Real User Experience Insight- 20200901163213
	Description	
	Compartment	2qskka Show Copy
	Terraform version	0.12.x
	Tags	
	Oracle-Tags.CreatedBy	Oracle Real User Experience Insight- 20200831132723
	General settings	
	Region	us-phoenix-1
	Target Compartment	2qskka Show Copy
	The availability domain in which to create resources	xOIW:PHX-AD-1
Back Create Cancel		

Figure 23. Create Stack page 5/5

22. The "Resource Manager Job" screen opens, and the Job starts to run. This takes approximately 10 to 12 minutes to complete.

	Search for resources, services, and documentation		US West (Phoenix) 🗸	Ŀ	Δ	0	•	0
Resource Manager - Stacks - Stack D	etalis - Job Detalis							1
	() While this job is running, only partial logs are available. You can get a complete log when the jo	b is finished.						
RMJ	ormjob20201112221147 Eskt Job Download Terraform Configuration Cancel Job Add Tags							~
	Job Information Tags							-
IN PROGRESS	To connect to the application running on this stack, see the Usage Instructions.			View	Usage	Instruct	ions	
	OCID:	Compartment: testruei (root)						
	Job Type: Apply	Plan Job ID: Automatically approved						
	State: In Progress Start Time: Thu, Nov 12, 2020, 22:11:47 UTC	Working Directory: Not specified End Time: N/A						
Resources	Logs							
Logs	Download Logs Show Timestamps							
Variables	Thitialiting provider plogina							
	Terraform has been successfully initialized!							
	You may now keepin working with Terratorm. Try running "terratorm play" to see any changes that are required for your infrastructure. All Terratorm commands should now work.							
	If you ever set or change modules or backend configuration for verrators, reren this example to residually your verking discretary. If you forget, other commands will detect it and restard you to do not it exectsary. data.oci_core_app_catalog_subscriptions.mp_image_subscription: Refreshing state							

Figure 24. Resource Manager Job page – In Progress

23. Once the job is completed, wait for few seconds and refresh the page. Repeat this until you see the "Application Information" tab. Alternatively, click the "Stack Details" in the breadcrumb. Then click the "Application Information" tab.

≡	ORACLE Cloud	Search for resources, services, and documentation	US West (Phoenix) 🗸	ÞΔ	0 🖻	•	0
Res	source Manager = Stacks = Stack De	tails - Job Details					
		ormjob20201112221147					
5		Edit Job Download Terratorm Configuration Download Terratorm State Add Tags					
	RIVIJ	Job Information Tags Application Information					
		To connect to the application running on this stack, see the Usage Instructions.		View Usaç	ge Instructio	ns	
	SUCCEEDED	OCID: Protect Compa	artment: testruei (root)				
		Job Type: Apply Plan Jo	lob ID: Automatically approved				
		State: Succeeded Workin	ng Directory: Not specified				
		Start Time: Thu, Nov 12, 2020, 22:11:47 UTC End Time	ime: Thu, Nov 12, 2020, 22:21:57 UTC				

Figure 25. Resource Manager Job page - Succeeded

24. Click the "Open RUEI" button. You can also see the RUEI URL on the screen.

	Search for resources, services, and documentation	US West (Phoenix) 🗸	▷ ↓ 0 ₽ €	9 0
Resource Manager » Stacks » Stack D	atails - Job Details			
RMJ	ormjob20201112221147 Edit Job Download Terraform Configuration Download Terraform State Add Tage Job Information Tags Application Information Oracle Real User Experience Insight User Experience Management using powerful Network Protocol Analysis (NPA) technology Resource Access Information RUEI reporter system URL: https://129.145.98 (yead	Open e IP: 10.0.2	RUEI View Instructions	
	Resource OCIDs Instance OCID of the reporter system: <u>64ecryseobospcna</u> Show Copy			

Figure 26. Resource Manager Job page – Application Information tab

25. This opens the RUEI login page in a new browser tab. Alternatively, you can copy the public IP address from the screen in the previous step, and type **https://<public IP address>/ruei/** in the address bar. Enter "admin" as a Username. The Password is the RUEI password you specified during the app deployment.

Oracle Real User Experience In × +					
← → C A Not Secure 129.146.50. /ruei/index.php	☆	0	*	٩	:
CRACLE Enterprise Manager Real User Experience Insight					
Please login [129.146.50]					
Options					
Username: admin					
Password:					
EN					
Copyright © 2002, 2020, Oracle and/or its affiliates. All rights reserved. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Version:	13.4.1.0.0 (W	ed, 03 Ju	ın 2020	02:36:03	2 -0700)

Figure 27. RUEI login page

26. You are now logged into the RUEI app deployed on Oracle Cloud. Congratulations!

← → C ▲ Not Secure 129.146.50. //ruei/main.php?frmInit=1	☆	٥	*	٩	:
System Help				-	
Dashboard Reports Browse data KPI overview Configuration System Dashboard					0
New dashboard					
Templates					
Name Pu	blished by	Dat	a acce	SS	
System Default		G	aeneric		

Figure 28. RUEI landing page

Deploy the E-Business Suite App

Next, you will need an application that you monitor with RUEI. In this example, we will use Oracle EBS 12.2.9 Demo Install Image to create another instance in the OCI compartment. The image includes EBS 12.2.2.9 and Oracle Database 19c running on Oracle Linux 7.

The deployment of the EBS 12.2.9 Demo App is not in the scope of this paper, but the details are documented in the MOS note "Provision a New Oracle E-Business Suite Installation on a Single Node on Oracle Cloud Infrastructure (Doc ID 2764690.1)".



Figure 29. EBS app setup instruction page

1. Follow the <u>step-by-step guide</u> to find the EBS 12.2.2.9 Demo image in the Oracle Cloud Marketplace, configure VCN and deploy the EBS App. The approximate time to complete this process is 30 minutes.



Figure 30. EBS 12.2.9 Demo Install Image page

2. In our example, the EBS App is configured on the same VCN with the RUEI app to simplify the security list settings. This way the EBS web entry port can be added to the same security list that the RUEI reporter uses.

NOTE: See the <u>EBS app setup document</u>, section 3, step 3.5 for more details on configuring the VCN for the EBS App.

reate Compute Instance	
VM.Standard2.1 Virtual Machine, 1 core OCPU, 15 GB memory, 1 Gbps network bandwidth	ape
nfigure networking	
VIRTUAL CLOUD NETWORK COMPARTMENT	
RUEI_demo	\$
ytakatsu (root)/RUEI_demo	
SELECT A VIRTUAL CLOUD NETWORK	
RUEL_VCN	\$
SUBNET COMPARTMENT	
RUEL demo	\$
ytakatsu (root)/RUEI_demo	
SUBNET (i)	
Public Subnet-RUEI_VCN (Regional)	ĉ
USE NETWORK SECURITY GROUPS TO CONTROL TRAFFIC (1) ASSIGN A PUBLIC IP ADDRESS DO NOT ASSIGN A PUBLIC IP ADDRESS	
Assigning a public IP address makes this instance accessible from the internet. If you're not sure whether you need a public IP address, you can always assign one later.	

Figure 31. Configure Network screen in the EBS 12.2.9 Demo Install setup page

Ing	ress Rule	es							
Ad	d Ingress Rules	Edit Remove							
	Stateless -	Source	IP Protocol	Source Port Range	Destination Port Range	Type and Code	Allows	Description	
	No	0.0.0.0/0	TCP	All	22		TCP traffic for ports: 22 SSH Remote Login Prot ocol		:
	No	0.0.0/0	ICMP			3, 4	ICMP traffic for: 3, 4 De stination Unreachable: F ragmentation Needed a nd Don't Fragment was Set		ı
	No	10.0.0/16	ICMP			3	ICMP traffic for: 3 Desti nation Unreachable		:
	No	0.0.0.0/0	TCP	All	443		TCP traffic for ports: 44 3 HTTPS	web-https	:
	No	0.0.0.0/0	TCP	All	8000		TCP traffic for ports: 80 00	ebs	:
	No	0.0.0.0/0	L2TP				L2TP traffic	L2TP	:
	No	0.0.0/0	TCP	All	80		TCP traffic for ports: 80	web-http	:
0 Se	ected						1	Showing 7 Items	< 1 of 1 >

Figure 32. Ingress Rules screen in the Security List Details page

 The EBS app is configured as host + domain "app.example.com" by default. This is not an example, although it could look like one. It is the actual domain name you need to refer to in the browser's address bar, in order to logon to the EBS application.



Figure 33. Configure Web Entry Point step in the EBS set up documentation

4. The EBS app provides an option to modify the web entry information including the host and domain. In our example, host + domain is "ebsdemo.demo.com". This is the actual domain that has to be configured in the RUEI Web interface, discussed later in this paper.

NOTE: See the EBS app setup document, section 3, step 3.6 for more details on how to modify the web entries.



Figure 34. Command line interface – Configure Entry Point

5. Once the EBS app is deployed, you will be able to login to the application using the browser.

(←) → ♂ @	🛈 ebsdemo.demo.com:8000/OA_HTML/AppsLocalLogin.jsp?langCode=US&_JogoutRedire 🛛 🚥 🖾 🕼 🗊 🕸 🎯 🗏
ORACLE	User Name SYRADMN Password Login Assistance Explicit Here Accessibility None English

Figure 35. EBS Login page

Set up Tunneling

Tunnel Setup for RUEI

You have now successfully deployed the RUEI and EBS apps by following the steps in the previous sections. However, at this point RUEI is not collecting any data yet. In this section, we will set up a Virtual Ethernet Network TAP and L2TP tunnel, which allows traffic to flow from the EBS application to the RUEI instance. Note that the steps in this section are specific to setting up the RUEI and EBS Apps in the Oracle Cloud. For more information on tunneling, refer to the RUEI Administration guide Appendix B, "<u>Setting Up a Virtual Network TAP and L2TP</u> <u>Tunnel</u>". The approximate time to complete this step is 30 minutes.

1. Login to OCI. From the main menu, select "Compute", then "Instances".

	Sea	rch for resources, services, and doc
Core Infrastructure		
Compute		Instances
Block Storage		Dedicated Virtual Machine Hosts
Object Storage	>	Instance Configurations

Figure 36. Main menu > Instances

2. You will see two instances, assuming you deployed the EBS and RUEI in the same compartment. Click the RUEI reporter instance link.

ORACLE Cloud	Search for resources, services, and doc	umentation					US West (Ph	oenix) 🗸 🔈	△ ⑦ 🛡	0
Compute	Instances in RUEI	_demo	Compartn	nent						
Instances	The <u>Compute service</u> helps you pro- (VMs) and bare metal instances. The	vision VMs and a image that yo	I bare metal instanc u use to launch an	es to meet your cor instance determiner	npute and applica a its operating system	ation requirement tern and other so	s. An <u>instance</u> is a comp ftware.	oute host. Choose	between virtual ma	chines
Dedicated Virtual Machine Hosts	Create Instance									
Instance Proje	Name	State	Public IP	Shape	OCPU Count	Memory (GB)	Availability Domain	Fault Domain	Created	•
Cluster Networks	EBS_instance-20200901-2030	• Running	129.146.107.35	VM.Standard2.1	,	15	AD-1	FD-1	Wed, Sep 2, 2020 02:31:43 UTC	». I
Autoscaling Configurations Custom Images	BuerRecorter20200901235649	• Running	158.101.16.223	VM.Standard2.1	1	15	AD-1	FD-2	Tue, Sep 1, 2020, 23:33:42 UTC	
Boot Volumes								Show	ing21tems < to	<1 h
Boot Volume Backups										
OC Manual and										

Figure 37. Instances in Compartment page

3. From the RUEI reporter instance page, note down the Public & Private IP address. You will need this information later.

Search for resources, ser	INTE, EN ONATIONEDAT	US WARE (PROBABLY V LL LL V LP
RueiReport	er20200901235649	
Controlling Device Control Info Academic Device Control Vision Control March Medice Net March Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control	mmation x 40-1 z b 1.2000.1233.44 U/UC b 1.2000.1233.44 U/UC shalls shal	Instance Access We convert the array function transfer why a forcer that (BDB) convertion. World need the private here for while (PA does 110.01 To 1000) Particle PA does 110.01 To 1000) Particle PA does 110.02 To 1000 Particle PA does 110.02 To 1000 Particl

Figure 38. RUEI Reporter Instance page

 Next, connect to your RUEI instance using Secure Shell (SSH). In this example, a Unix-style operating system is used (E.g., Linux or Mac OS). To connect to a running Linux instance from a Windows systems, refer to the OCI document "<u>Connecting to Your Instance</u>".

Open a terminal window, type the SSH command in the following format: \$ ssh -i <private_key> <username>@<public-ip-address>

For example,

\$ ssh -i "/Users/demo/rsa/id_rsa" opc@158.101.16.xxx

5. Open the tunnels.conf file with an editor (E.g., vi editor).

\$ cd /opt/ruei/tunnel/receive/conf \$ sudo vi tunnels.conf

Add a line with the private IP addresses for your RUEI and EBS, in the following format: <Private IP of RUEI instance> <Private IP of EBS instance> - -

For example, if the private IPs for RUEI and EBS instances are 10.0.0.2 and 10.0.0.3, add a line as shown below.

10.0.0.2 10.0.0.3 - -



6. Save the conf file, then reload the service.

\$ sudo systemctl reload ux-tunnel-receive

Now the service is started in the RUEI instance.

Next, you will need to copy the **RUEI Virtual Ethernet TAP** and **L2TP tunnel transmit helper tooling RPM (ux-tunnel-transmit)** to the EBS instance. The ux-tunnel-transmit RPM is already extracted in: /root/ruei/rpms/ux-tunnel-transmit-*.rpm. The suggested approach to copy the RPM is through the "scp" from the RUEI Reporter instance.

7. On the RUEI Reporter instance, as the "root" user, execute the following command to generate SSH identity:

\$ sudo su

\$ssh-keygen

Then execute the following command to display the generated key:

\$ cat ~/.ssh/id_rsa.pub

```
yutakats — root@rueireporter20201103091537:~/ruei — ssh opc@138.1.153.
                                                                                   i ....
[root@rueireporter20201103091537 ruei]# ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/root/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /root/.ssh/id_rsa.
Your public key has been saved in /root/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:pEvmUzCfh9sdbLCKPs09t7hQ6eio/YjXiOI3xfFp1dM root@rueireporter20201103091537
The key's randomart image is:
   -[RSA 2048]----+
      0 . . . .
       .* 0.=0 E
      .+oSo= +.
      +o++0 o .
      0=*=.0 .
    +++=+.0..
 ...00+=00 0+...
   --[SHA256]--
[root@rueireporter20201103091537 ruei]# cat ~/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQDE6jce5ZS5FPIAybWisTZIzimfAw+gIV0d9H0/OBBFSf]
mZfVAhg3R3YGs9Gp8XYCIUcg5vXjvndud0BVS71g2TajHcHX00ei7d2GqrzAK7Wss/+5a+dMgyPSYI/Q8p
SXb+OMoCoW6zGzFA5k/6qs8IAbo9zBM/2jRQ+GtANw5e8RqlG5FdGgGdUE04MgpQ1/09sSp2/+0Yk2+Sj1
dqxA0bLQKz1fjkU4NK6vMJNPsQhKd3iv+mn8oTmIFf11/RhG93xyZp8L0olPh3aRobhB5wcajbMZqezKoO
QAUpSNdJW/bDxG27HWaS8HHuxq8CH3V57lfqlg2P/XRIzN5LpWq/ root@rueireporter202011030915
37
[root@rueireporter20201103091537 ruei]#
```

Figure 40. Command line interface – ssh key 1/2

Copy the content of id_rsa.pub to your clipboard (note that the content of this file consists of one line). You will
need this SSH identity in order to copy the RPM to the EBS instance in the next section. Do not close the
terminal window yet.

[root@rueireporter20201103091537	ruei]# cat ~/.ssh/id_rsa.pub	
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABA	AABAQDE6jce5ZS5FPIAybWisTZIzimfAw+gIV0d9H0,	(OBBFSf]
mZfVAhg3R3YGs9Gp8XYCIUcg5vXjvndud	ADUCTI-AT-20-000-27-00	YI/Q8p
SXb+OMoCoW6zGzFA5k/6qs8IAbo9zBM/2	Open man Page	2+Sj1
dqxA0bLQKz1fjkU4NK6vMJNPsQhKd3iv+	Search man Page Index	ezKo0
QAUpSNdJW/bDxG27HWaS8HHuxq8CH3V57		30915
37	Look Up "ssh-rsa AAAAB3NzaC1vc2EA"	
[root@rueireporter20201103091537	Search with Google	
	Search with Google	
	Comu	-
	Сору	
	Paste	

Figure 41. Command line interface – ssh key 2/2

Tunnel Setup for EBS

 Next, connect to the application instance monitored by RUEI. In this example, we use the EBS application running in the same compartment. Log in to OCI, from the main menu, select "Compute" then "Instances", and select the EBS instance. Note down the Public and Private IPs.

From the screen, click the VCN name link located next to "Virtual Cloud Network:". In this example, the VCN is "RUEI_VCN". This will open the VCN page. Click "Security Lists" from the VCN page, then select "Default Security List" link.

E ORACLE Cloud	Search for resources, services, and documentation	US West (Phoenix) 🗸 🕥 🗐 🌐 🚺
Compute - Instances - Instance Detai	EBS_instance-20200901-2030	
RUNNING	General Information Availability Domain: AD-1 Fault Domain: FD-1 Region: phx OCID:y76uaq Shox: QSRX Launched: Wed, Sep 2, 2020, 03:31:43 UTC Compartment: ytakatsu (root)/RUEL demo Oracle Cloud Agent Management: Enabled () Instance Details	Instance Access You <u>connect to a running Unux instance</u> using a Secure Shell (SSH) connection. You'll need the private key from the SSH key pair that was used to create the instance. Usage information for this image Public IP Address: 129.146.107 Cocy Username: opc Primary VNIC Private IP Address: 10.0.3 Network Security Groups: None Edit ()
	Maintenance Reboot: - Image: Oracle E-Business Suite 12.2.8 Vision Image Launch Mode: NATIVE Maintenance Recovery Action: Restore instance Shape Configuration	Internal FODN: ebs-instance-20200901-2030 Show Corpy Subnet: Public Subnet-RUEL VCN Launch Options NIC Attachment Type: VFIO Remote Data Volume: PARAVIRTUALIZED Firmware: UEFI 64

Figure 42. EBS instance page

10. In this example, L2TP is already set because the same VCN is used for both RUEI and EBS instances. If you have a different VCN set for the EBS instance, add a new ingress rule for the L2TP protocol. Refer to the "Configure Security Settings" section in this paper for more details.

Ing	gre	ss Rule	s							
A	.dd Ing	gress Rules	Edit Remove							
C	s	Stateless 🔻	Source	IP Protocol	Source Port Range	Destination Port Range	Type and Code	Allows	Description	
) N	No	0.0.0.0/0	TCP	All	22		TCP traffic for port s: 22 SSH Remote Login Protocol		:
) N	٩o	0.0.0.0/0	ICMP			3, 4	ICMP traffic for: 3, 4 Destination Unrea chable: Fragmentat ion Needed and Do n't Fragment was S et		ł
) N	٧o	10.0.0.0/16	ICMP			3	ICMP traffic for: 3 D estination Unreach able		:
C) N	٩o	0.0.0/0	TCP	All	443		TCP traffic for port s: 443 HTTPS	web-https	:
C) N	No	0.0.0.0/0	L2TP				L2TP traffic	L2TP	:
C) N	No	0.0.0.0/0	TCP	All	8000		TCP traffic for port s: 8000	ebs	:
0 5	electe	ed						Sho	wing 6 Items < 1	of 1 $>$

Figure 43. Ingres Rules screen

11. Open a terminal window, connect to the EBS instance using the below format.

```
$ ssh -i <private_key> <username>@<public-ip-address>
```

For example,

\$ ssh -i "/Users/demo/rsa/id_rsa" opc@129.146.107.xx

12. On the EBS instance, as the "opc" user, open ~/.ssh/authorized_keys in an editor. (E.g., vi editor).

\$ vi ~/.ssh/authorized_keys



Figure 44. Command line interface – Authorized keys 1/3

13. Notice there is already at least one entry. Paste the contents of the id_rsa.pub file, which you copied from the RUEI Reporter instance on a new line. If needed go back to the step 8 to copy the SSH identity to your clipboard.

🗩 💛 🛑 😭 yutakats — opc@sim	iplews-rueireporter20201103091537:~ — ssh opc@138.1.14
sh-rsa AAAAB3NzaC1yc2EAAAADA p4WzjmEbrIwwEU2Rb+DZqhXrZuqF PzCPL/fCKCoFdgh8q5PXeFfHJKq6 17/VsrvmKpRUS01uVK4EJqs5EHSq	QABAAABAQC50R59xJ86sF8EBNQ4i3L2RRBZDN4iJTehuGMoyc+ RhpVfEe6rQj3AxQSaQ/jMI0Vf073THXu3dZ6tzvKWiD141ey/g eSHW6dFImA5uUaRfbEZXBs6PXCznL5/3I4Lzpt1vmjh03m0907 9kU2/7kEq00U6EaVe29EE6zu/I9G+uxe4XXIHo8cpJVizcaPa5
QnFxVzfE40cXR07F5KSDYMjbJXma	3YHk95RFxJulln4wNicIzSvQrnI8T4z opc@rueimpdev
	Сору
	Paste
	Mark
	Mark as Bookmark
	Unmark
	Show Inspector
	Show hispector
-	
_ INCEDT	2.1 411

14. The key is copied to the file. Save the file.



Figure 46. Command line interface – Authorized keys 3/3

You should now be able to open an SSH session from the "root" user on the RUEI Reporter instance to the "opc" user on the EBS instance.

- 15. Go back to the terminal window of the **RUEI instance**. As the "root" user, execute the following commands to discover the web services that are running in the EBS application.
 - \$ sudo su (this will switch to the root user)
 - \$ cd /opt/ruei/tunnel/receive
 - \$./ux-tunnel-receive discover tunnel -c opc@EBS_IP -i IDENTITY_FILE >detect.info

For example,

\$./ux-tunnel-receive discover tunnel -c opc@138.1.159.xx -i ~/.ssh/id_rsa >detect.info

The command output is shown below:

[root@rueireporter receive]# ./ux-tunnel-receive discover tunnel -c opc@138.1.159.xx -i ~/.ssh/id_rsa >detect.info [local:info] Auto detect VTAP/L2TP tunnel configuration of '138.1.159.xx'

- [local:info] Remote connection established [local:info] Detected OS: "Oracle Linux Server" - "7.9" [local:info] Start HTTP(S) port detection... [remote:info] Done HTTP(S) port detect (3 HTTP, 1 HTTPS of 23 open ports) [local:info] Detected HTTP(s) mirror ports: [local:info] - n/a [local:info] - Port : 4443 [local:info] - Protocol : HTTPS [local:info] - HTTP status : 200 [local:info] - SSL version : TLSv1/SSLv3 [local:info] - SSL cipher : AES256-GCM-SHA384 [local:info] - SSL ephemeral: no-ephemeral [local:info] - n/a [local:info] - Port :7775
- 25 Business / Technical Brief / How to Deploy Real User Experience Insight to Oracle Cloud and Monitor E-Business Suite / Version 1.02 ORACLE Copyright © 2021, Oracle and/or its affiliates / Public

[local:info] - Protocol : HTTP
[local:info] - HTTP status : 404
[local:info] - n/a
[local:info] - Port : 7776
[local:info] - Protocol : HTTP
[local:info] - HTTP status : 404
[local:info] - n/a
[local:info] - Port : 8000
[local:info] - Protocol : HTTP
[local:info] - HTTP status : 200
[local:info] Detected mirror interface: ens3
[local:info] Detected transmitter tunnel endpoint:
[local:info] - Local IP : 10.0.0.101
[local:info] - Receiver IP : 130.35.13.xx
[local:info] Detected receiver tunnel endpoint:
[local:info] - Local IP : 10.0.0.157
[local:info] - Transmitter IP: 138.1.159.xx
[local:info] Detected NAT for receiver IP
[local:info] Detected NAT for transmitter IP
[root@ruei	reporter receive]#

16. Optionally, review the content of the info file. The information will be used to configure the Virtual Ethernet Network TAP in the next step.

[root@rueireporter receive]# more detect.info transmit: 130.35.13.xx 10.0.0.101 ens3 i4443,i7775,i7776,i8000 10.0.0.101 receive: 10.0.0.157 138.1.159.xx - 10.0.0.101

17. Execute the command below to install the ux-tunnel-transmit RPM on the EBS host, remotely from the RUEI server. RPM files can be found in the /root/ruei/rpms directory, on the RUEI instance host.

\$./ux-tunnel-receive discover tunnel-install -c opc@EBS_IP -i IDENTITY-FILE -f detect.info -a ux-tunnel-transmit-<version>.rpm

For example,

\$./ux-tunnel-receive discover tunnel-install -c opc@138.1.159.xx -i ~/.ssh/id_rsa -f detect.info -a /root/ruei/rpms/ux-tunnel-transmit-13.5.1.0.0-20210415.x86_64.rpm

[root@rueireporter receive]# ./ux-tunnel-receive discover tunnel-install -c opc@138.1.xx.xx -i ~/.ssh/id_rsa -f detect.info -a /root/ruei/rpms/ux-tunnel-transmit-13.5.1.0.0-20210415.x86_64.rpm [local:info] Imported config (detect.info) [local:info] Install VTAP/L2TP tunnel configuration on '138.1.159.xx' [local:info] Remote connection established [local:info] Detected OS: "Oracle Linux Server" - "7.9" [local:info] Transmitted 'ux-tunnel-transmit-13.5.1.0.0-20210415.x86_64.rpm' [remote:info] (Re-)installing ux-tunnel-transmit RPM dependencies using yum [local:info] (Re-)installed rpm 'ux-tunnel-transmit-13.5.1.0.0-20210415.x86_64.rpm' on remote system [remote:info] Adding/updating transmitter tunnel configuration: [remote:info] * Local IP : 10.0.0.101 [remote:info] * Receiver IP : 130.35.13.xx [remote:info] * Monitored interface: ens3 [remote:info] * Monitored ports : i4443,i7775,i7776,i8000 [remote:info] * Tunnel ID : 10.0.0.101 (167772261) [local:info] Successfully updated tunnel configuration [remote:info] • ux-tunnel-transmit.service - LSB: Bring up/down RUEI mirror tunnel [remote:info] Loaded: loaded (/etc/rc.d/init.d/ux-tunnel-transmit; bad; vendor preset: disabled) [remote:info] Active: active (running) since Sat 2021-06-12 11:57:44 CDT; 56ms ago [remote:info] Docs: man:systemd-sysv-generator(8) [remote:info] Process: 9244 ExecStart=/etc/rc.d/init.d/ux-tunnel-transmit start (code=exited, status=0/SUCCESS)

[remote:info] Memory: 3.3M
[remote:info] CGroup: /system.slice/ux-tunnel-transmit.service
[remote:info] - 9684 tund
[remote:info] L 10112 sleep 20
[remote:info]
[remote:info] Jun 12 11:57:44 2104-ebs-yutaka systemd[1]: Started LSB: Bring up/down RUEI mirror tunnel.
[local:info] Successfully (re)started the ux-tunnel-transmit service
[local:info] Adding/updating receiver tunnel configuration:
[local:info] * Local IP : 10.0.0.157
[local:info] * Transmitter IP : 138.1.159.xx
[local:info] * Tunnel ID : 10.0.101 (167772261)
[local:info] Config added tunnel.
[local:info] Multi tunnel receiver updating
[local:info] L2TP updating
[local:info] L2TP updating '1' configured tunnels
[local:info] L2TP tunnel #0: device 'ruei-mtun-00001' successfully added and linked to 'ruei-mtun'.
[local:info] L2TP '0' tunnel(s) removed
[local:info] L2TP '1' tunnel(s) added
[local:info] L2TP update completed.
[local:info] Multi tunnel receiver successfully updated.
[local:info] Successfully updated receiver tunnel configuration
[root@rueireporter receive]#

Upon completing the steps above, HTTP traffic flows between the instances. If you see any errors running the command above, consult the RUEI Administration guide Appendix B, "Setting Up a Virtual Network TAP and L2TP Tunnel", "<u>Diagnostics</u>" section for troubleshooting tips.

Set up EBS monitoring in the RUEI Web Interface

Now you are all set with the RUEI and EBS deployments and the tunnel setup. The final step, before you start monitoring, is to configure the EBS suite in the RUEI web interface. This section walks you through these steps:

i. Create a "Suite" for EBS, which provides out-of-the-box monitoring capabilities for Oracle packaged applications ii. Create a dashboard, to visualize the monitoring information

iii. Enable "Full session replay", which allows you to deep-dive into the page details.

Create a Suite for EBS

- 1. Open a browser tab, login to the RUEI page, with the URL "https://<public IP address>/ruei/".
- 2. Click the Configuration Tab, then click "Protocols" link, which is located at the second row in the table.

System Configuration Help			
Brow	wse data 🛛 🔊 KPI overview 🆓 Configuration	System	0
» Configuration » Security			
9 Security			
General	Name	Description	
	The Collector profiles	Manage Collector profiles for traffic capturing.	
m Applications	(A Protocols)	Manage protocol and port(s) for traffic capturing.	
🚅 Services	Vetwork filters	Set up filters for capturing specific networks/hosts, VLAN, or reduce overall traffic.	
Service level management	Jumbo frames	Set the maximum accepted frame size.	
Service level management	Collector data retention policy	Set up Collector data retention policy for applications.	
Security	Collector disk space usage	Set up Collector disk space usage policy.	
Dellector profiles	Replay logging policy	Set up Collector logging settings.	
Protocols	Collector encoding	Set up character encoding for GET/POST URL arguments.	
Jumbo frames	: Masking	Protect sensitive data by specifying masking actions.	
Collector data retention policy	SSL keys	Manage your Web server's private key(s) for encrypting secure traffic.	
Collector disk space usage	SSL certificate masking	Manage your Web server's SSL certificate masking.	
Replay logging policy			
Collector encoding			
SSI kove			
SSL certificate masking			

Figure 47. RUEI Configuration page

3. Click "HTTP".

	Profile: System network data Collectors 🗸	Sconfigure profile
	Protocol	Port
a ^B a	Forms socket mode	« none »
10 10 ¹ 0	HTTP	80
220	HTTPS	443

Figure 48. Protocols screen

4. Add "8000", click Save.

Edit profile ports		2 🗙
Details	Specify the protocol-specific port(s) on to listen.	which
Protocol: Port number:	HTTP Add 80 8000	88
	Save C	ancel

Figure 49. Edit profile ports screen

5. Click "Applications". This opens the Application pane. Then click "Suites".



Figure 50. RUEI Configuration page

6. Click "New Suite" icon.



Figure 51. RUEI Configuration page – Suites

 Enter the Suite name, domain and port. By default, EBS 12.2.9 App sets "app.example.com" as it's domain. You can customize this value during the EBS App setup. In this example, the domain name is "ebsdemo.demo.com". Click Next.

NOTE: "app.example.com" is not an example, but the actual domain set by the EBS app. Please see the <u>EBS</u> app set up document, section 3, step 3.6 for more details on how to modify the web entries.

ew Suite		3 2
	Suite	
	Specify the suite name an	d filter criteria, and click Next to continue.
	Suite name:	ebsDemo.demo.com
	Find Domain:	ebsdemo.demo.com
	Find Port:	8000
	Find URL:	
	Find URL Argument:	
	Find Argument Value:	
	Find Cookie:	
***	Find Cookie Value:	
- AL	Filter preview:	
	http(s):// ebsdemo.de	emo.com : 8000 / *
•		
		\square
		- Back Next » Cancel

Figure 52. New Suite screen

8. Verify the entries for the "Suite" you created for the EBS application.

System Configuration Help									
📰 Dashboard 🚯 Reports 🕎 Browse dat	ta 💿 KPI overview 😤 Configuration	💻 System		C					
» Configuration » Applications » Suites									
9 Security	Upload configuration								
💮 General	Suite overview	uite overview							
E Applications	Manage the criteria used to identify the p	ages associated with a suite. Note pages not matching	any of the defined suite criteria will be discarded.						
	Name: Data collection enabled:	ebsDemo.demo.com							
Applications									
Applications	Suite type:	E-Business Suite	E-Business Suite						
D Suites	Total pages identified:	409	409						
ebsDemo.demo.com	Last page identified:	18:36							
User flows	Last upload of configuration:	n/a							
Custom dimensions									
Global session tracking	Identification Pages Content mess	ages Users Framework exceptions Advanced							
Framework exceptions	Suite identification								
	Specify the scope of the suite. This is de URL.	fined in terms of one or more partial page URL matches	. Pages will be assigned to the suite when a defined filter	r matches a page's					
	Find Domain	Find URL	Find URL Argument Find	d Cookie					
	ebsdemo.demo.com:8000	*	•	0					
	Add new filter »								

Figure 53. RUEI Configuration page – Suite overview screen

Create a Dashboard

9. Click the "Dashboard" tab. Then click "Default", located under "Templates".

System Help	
🔠 Dashboard 🚯 Reports 🅎 Browse data 🚳 KPI overview 🐇 Configuration 📃 System	0
- Dashboard	
New dashboard	
only define their own private dashboard templates. Published templates are viewable by external users via a genorated link. When a template is defined as application, suite, or service-specific, all items on the dashboard interview on y pre-configured dashboard liter. Templates Templates	d are bound to the specified filter. Generic templates, on the other hand, do not
Name	Published by Data access
System Default	Generic 😡

Figure 54. RUEI Dashboard page – New dashboard

10. Enter a name of the dashboard, select "Suite-specific" for Data access, "E-business Suite" for Suite type, and the suite name you specified for the EBS above, for application. Click "Save".

Specify the dashboard's properties, in be based on a template, and click Sav	cluding if it shoul ve to create it.
* ebsdemo	
Default	~
3 columns (25%,50%,25%)	~
5 minutes	~
Suite-specific	~
Suite-specific * E-Business Suite	~
	ebsdemo Default 3 columns (25%,50%,25%) 5 minutes

Figure 55. Add Dashboard screen

11. The Dashboard is created. Note it may take up to 5 minutes (by default) to see the traffic on the RUEI screen.



Figure 56. RUEI Dashboard page

Enable Full Session Replay

12. Optionally, you can enable Session Replay to store the complete user session data, which allows you to review each page viewed by the users during the session. Click "Configuration" tab. Select "Security", then "Replay logging policy". Click the text "No replay".

System Configuration Help		
Browse of Browse	fata 🚯 KPI overview 🐇 Configuration	System O
» Configuration » Security » Replay loggi	ng policy	
Security		
💮 General	Replay logging policy	
Applications	Specify the default replay action, and who	ther it should apply to all network traffic, or to only specified IP address ranges. Note that any defined URL prefix actions within the active IP range
🚅 Services	oronico ino contan reputy action.	
Service level management	Default replay action:	No replay
Security	Replay IP range:	All IP addresses
P Collector profiles		
Protocols	URL prefixes Replay IP ranges	
Jumbo frames	URL prefixes	
Collector data retention policy	Specify the Replay actions that should be	taken for specific URL contents. Note that the Replay action for URL prefixes that have the masking action "No logging" cannot be modified.
Collector encoding	Source value	△ Action
Masking	Add new URL prefix »	
SSL keys		
SSL certificate masking		

Figure 57. RUEI Configuration page – Replay logging policy screen

13. "Edit default replay action" window opens. By default, the session replay setting is disabled. Click the pulldown menu, then change the value from "No replay" to "Complete logging". Click Save.

Edit default replay a	tion		2
Details	Specify the replay taken for items no your URL prefix d	action that sho t explicitly speci efinitions.	uld be fied in
Action:	Complete logging	9	~
		Save	Cancel

Figure 58. Edit default replay action screen

14. Click "Browse Data" tab. Select "All sessions" from the pulldown menu at the lower left side of the screen, then select "Session Diagnostics". Select your EBS suite for the "Application" filter, and SYSADMIN (or a user used for logging into EBS) for the User ID. Click "Search".

System Graph Values View Help					
Browse dat	a 🚳 KPI overview 🐇 Configu	uration 💻 System			0
» Browse data » All sessions » Session diag	nostics	-			
Day Week Month	Filter on	Value			
Num Do Sep zuzo No. No. Do Sep zuzo No. Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Fr Fr Sa Su Mo Tu We Th Fr Fr Fr Fr Fr Fr Sa Su Mo Tu We Th Fr	r nei on	Falue			
Today Clear day selection	Section disgnostics				
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 15 10 20 21 22 23 Office hours Clear hour selection	Search user records for the speci properties.	fied period using the available criteric	. Wildcard characters (*) can b	e specified for partial matching. Select a user record to view its	
Applications Services	Search filtere				
All sessions	Application:				
C View selection	Application.	ebsDemo.demo.com			
Session diagnostics	Section Client IP:	SYSADMIN			
Session diagnostics	Session Client IF.				
Select user record	ECID:				
	Add more filters				
	Dimension level:	« Select »	~		
	Value:		Add 🔍		
	Dimension level	Value			
	No filters				
	L		Search		

Figure 59. RUEI Browser data page -Session diagnostics, Search filters screen 1/3

15. The session information is displayed. Select the date/time link under the "Period" column.

System Graph Values View Help						
😁 Dashboard 🛛 🔊 Reports 🕅 Browse da	ta 🚳 KPI overview 🐇 Configura	ation 🛄 Syste	m		(0
» Browse data » All sessions » Session dia	gnostics					
Day Week Month	So Found 1 item(s).					-2
From: 05 Sep 2020 To: 05 Sep 2020	Filter on		Value			
Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su	Y Application		ebsDemo.demo.com			1
7 8 9 10 11 12 13 7 8 9 10 11 12 13	Vser ID		SYSADMIN			10
14 15 16 17 18 19 20 14 15 16 17 18 19 20 21 22 23 42 25 28 27 21 22 23 44 25 26 27 28 29 30 1 2 3 4 26 28 29 30 1 2 3 * Sep 2020 * * Sep 2020 *						
Today Clear day selection	Session diagnostics					
O 12 13 14 15 16 17 16 19 20 21 22 23	Search user records for the specifie	nd period using th	he available criteria. Wildcard characte	ers (*) can be specified for partial ma	tching. Select a user record to view its	
Office hours Clear hour selection	properties.					
🔇 🔹 No time comparison » 🛛 🗸 🔘						
Applications Services	Dimension level: « Select »		✓ Value:	Add Sort: Application Vic	blation Page View 🗸 🔽	
All sessions V	Period	User ID	Client location	Info		
T View selection	F 05 Sep 18:27 - 05 Sep 18:56	SYSADMIN	Session Client Country: United States Session Client City: Cupertino	Application Violation Page Views: 5 Client Abort Page Views: 1	Collection Error Page Views: 0	
Session diagnostics			Session Client IP: 67.169.167.	Content Error Page Views: 5 Poor Page Views: 0	Content Notification Page Views: 0 Network Error Page Views: 0	
Session diagnostics				Page Load Time (sec): 0.5	Page Views: 30	
Select user record				Server Error Page Views: 0 Violation Page Views: 6	User Violation Page Views: 1 Web Site Error Page Views: 0	

Figure 60. RUEI Browser data page -Session diagnostics screen 2/3

16. Select any session link to narrow down to the session details, or click the camera icon to view the session replay.

System Graph Values View Help						
📰 Dashboard 👔 Reports 🕅 Browse da	ata 🚯 KPI overview 🐇 Configuration	System				0
» Browse data » All sessions » Session dia	gnostics					
Day Week Month	CO C Export session pages (KLSX) 🔚 Export session data 👔				-
From: 05 Sep 2020 To: 05 Sep 2020	Filter on	Value				
Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su	Y Application	ebsDemo.demo.com				10
7 8 9 10 11 12 13 7 8 9 10 11 12 13	Vser ID	SYSADMIN				10
14 15 16 17 18 19 20 14 15 16 17 18 19 20 21 22 23 24 25 26 27 21 22 23 24 25 26 27 28 29 30 1 2 3 4 28 29 30 1 2 3 4 « Sep 2020 » - - Sep 2020 » - Sep 2020 » - - Sep 2020 »	1-0200-0404					
Today Clear day selection	Session Activity		Page Load Time	(sec) Info	End to End Time (ms) Time	4
0 10 10 10 10 10 10 10 10 10 10 10 10 10	⊞ [ʰjtt		0.3		20:04:53	
Office hours	/OA_HTML/AppsLocalLogin.jsp	AppsLocalLogin.jsp				
No time comparison *	DEFAULTFORMNAME	jsp-based				
	E Ditt		0.1	Pia	20:04:53	
Applications Services	/OA_HTML/AppsLocalLogin.jsp	AppsLocalLogin.jsp	10 A	0-2		
All sessions 🗸	DEFAULTFORMNAME	jsp-based				
The Man as lasting	tnd = 65622		01	D (a)	20:04:53	
U view selection	/OA_HTML/AppsLocalLogin.jsp	AppsLocalLogin.jsp	0.1	O	20.04.00	
Session diagnostics	DEFAULTFORMNAME	jsp-based				
Session diagnostics	Ind = 65622		0.5	III.co	20-05-10	
Select user record	DA HTMI (Appel ocall ogin ien	Annel ocali onin ien	0.5	0	20.05.19	
	DEFAULTFORMNAME	jsp-based				
	Ind = 65622	 		_	 	
(67.169.167.224)	Application Object Library		0.9		20:05:20	
	OANEWHOMEPAGE	DEFAULTFORMNAME				
E View	error code ORA-20002:	53060 = 011				
	Application Object Library		0.3		20:05:20	
Session	navigate	MAINMENUREST		0 -		
Pages	DEFAULTFORMNAME	resp-based				
Objects	THE Application Object Library		0.2	Dee	20:05:26	
Info	navigate	MAINMENUREST	0.2	0	20.05.20	
	DEFAULTFORMNAME	resp-based				
	fnd = 65622					

Figure 61. RUEI Browser data page -Session diagnostics screen 3/3

17. Here is the sample session replay page with the rendered HTML view.



Figure 62. RUEI Full Session Replay page

Conclusion

Real User Experience Insight is a passive monitoring utility that enables IT stakeholders to develop shared understanding into their application users' experience. It can be deployed to production without modifying or instrumenting applications. By using the RUEI App in Oracle Cloud Marketplace, you can deploy Oracle Real User Experience Insight on Oracle Cloud and quickly start the monitoring of your Cloud applications.

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