



APM 2 Webinar

Bart Tolen

Product Manager @ Mansystems



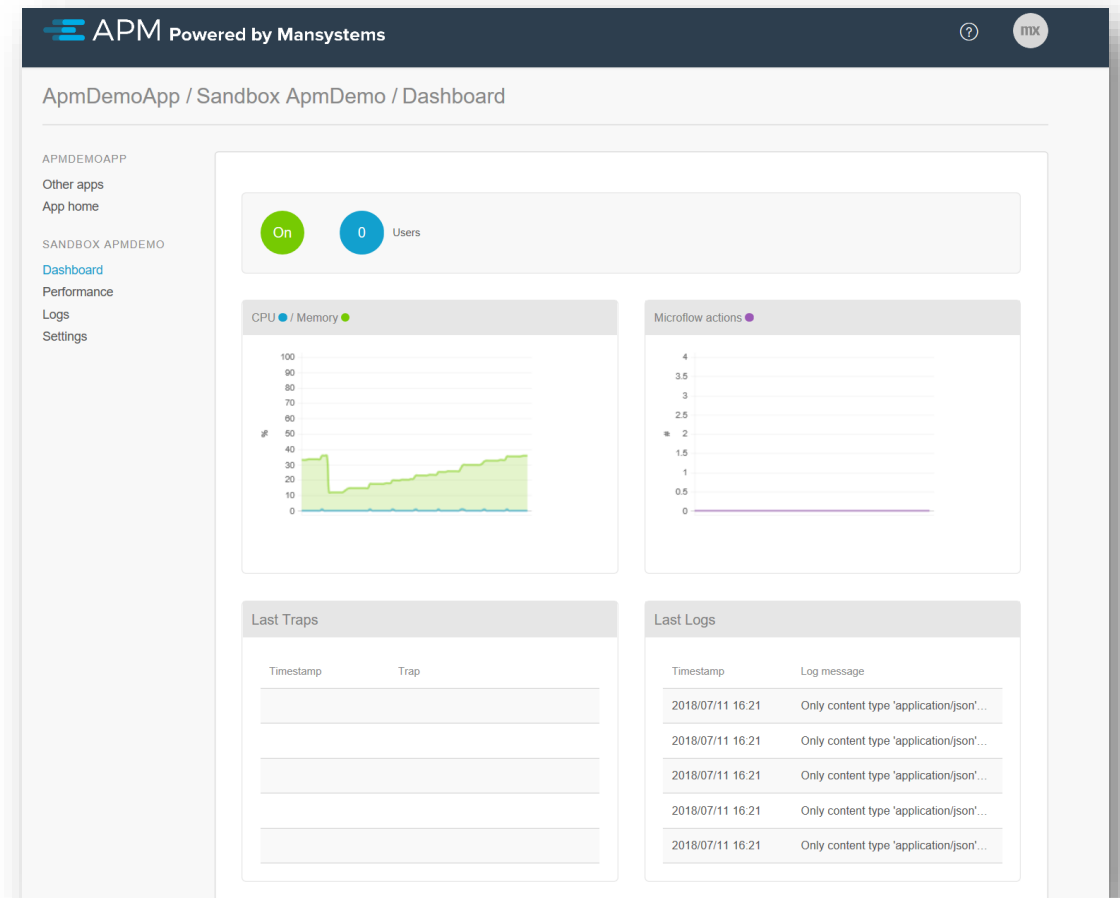
Agenda

- Introduction to APM
- What is new with APM2
- Demo
- How to get started
- Roadmap
- Resources

Introduction to APM

Why APM?

- Good performance and problem free functionality are essential to the success of your app
- No other tool gives you the same level of insight to find the root cause
- Can be used by Mendix developers



What is APM?

- Application Performance Monitor
- Tool to identify and research performance bottlenecks
 - Statistics about # of times executed and duration
 - Ability to record statistics ad hoc or per user session
- Tool to identify and research functional issues
 - Traps contain detailed logs in case of errors

APM Components

Logs

Stores deep level log information of events occurring just before the error



Performance

Identifies trends by gathering statistics of performance from application

Record usage and shows all detailed microflow, action and click path activity



End-user measurements

In APM2 the performance module includes click path and page information.



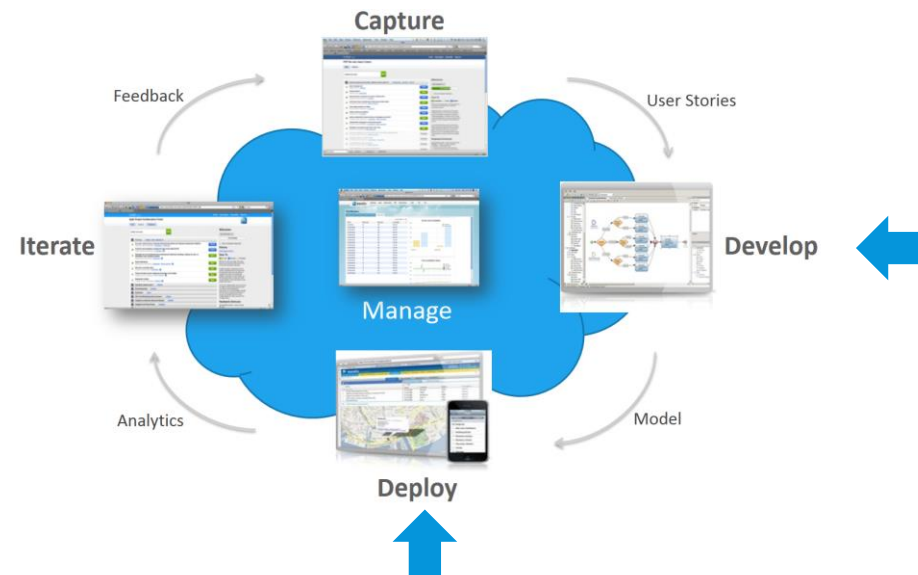
When to apply APM?

- Development

- Debug errors or performance issues
- Predict behavior on production
- Test on production (-like) data and environment

- Production

- Identify areas to improve
- Explore behavior on actual usage
- Discover context of performance issues
- Perform root cause analysis of an error

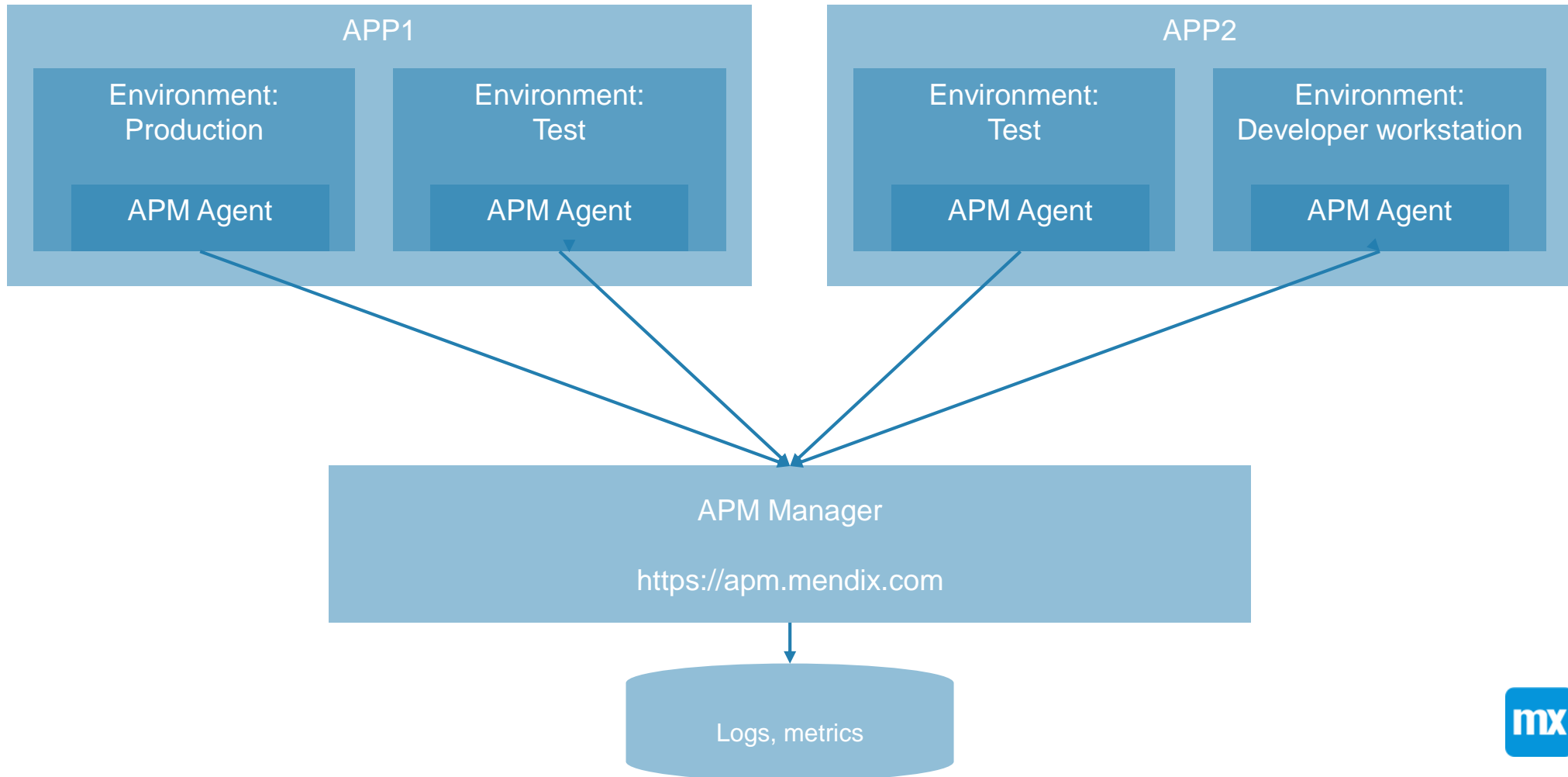


What is new in APM 2

Overview of APM 2 changes

- One Web Application to monitor all your Apps
- Authenticate with your Mendix ID
- Reduced impact of instrumentation agent
- Simplified user experience
- Mobile & browser measurements

Solution Architecture



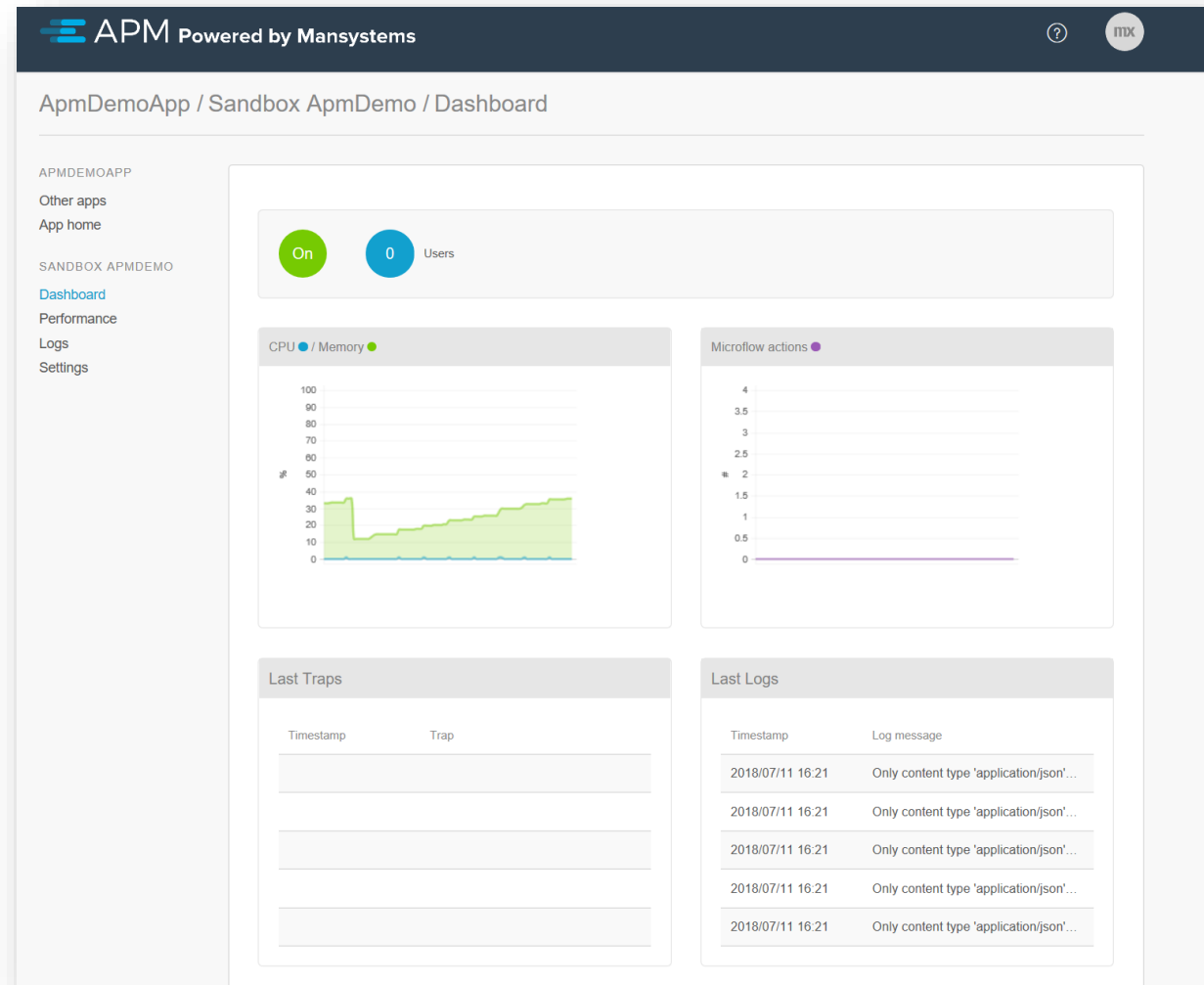
Single UI – Multiple Apps and Environments

- Single Manager App:
 - <https://apm.mendix.com>
- Shows licensed Apps
- Shows configured environments
 - Environment keys can be generated under settings
- Environments dashboard indicates if application is sending data

The image displays two screenshots of the APM (Application Performance Monitoring) interface, powered by Mansystems. The top screenshot shows the main dashboard with a search bar for 'App name' and a 'Search' button. Below the search bar, there is a notification for 'ApmDemoApp' with a star icon and a red warning: 'Subscription will expire soon 8/31/2018'. The bottom screenshot shows the 'ApmDemoApp / Environments' dashboard. It features three environment cards: 'Dev Laptop' with a red exclamation mark icon, 'Sandbox ApmDemo' with a green checkmark icon, and 'New environment' with a grey plus icon. The Mendix logo is visible in the bottom right corner.

Environment Dashboard

- Available information
 - Is the application online?
 - How many active sessions?
 - CPU usage
 - Memory usage
 - # actions per second
 - Recent logs
 - Recent traps



Performance - statistics

- Statistics for:
 - Pages
 - Client API calls
 - Microflows

ApmDemoApp / Sandbox ApmDemo / Performance











APMDEMOAPP
Other apps
App home

SANDBOX APMDEMO
Dashboard
Performance
Logs
Settings

Statistics Manual snapshots Recorder

2018/07/10 Type Hourly Daily

1 to 10 of 14

Name	Count	Avg (ms)	90% (ms)	Total (ms)
 Cars.Car_NewEdit	9	2034	2196	18309
 get_session_data	7	285	382	2001
 Cars.Car_Overview	6	272	266	1635
 keepalive	46	15	21	714
 MyFirstModule.Employee_Overview	2	312	303	624
 retrieve_by_xpath Cars.Car	11	27	35	307
 commit	5	37	40	187
 MyFirstModule.Home	1	152	152	152
 retrieve_by_ids	3	38	50	116
 retrieve_by_query	2	26	36	53

Performance – Manual snapshots

- Get statistics for specific period:
 - Reset statistics
 - Take snapshot

The screenshot displays the Mendix APM interface. The top navigation bar shows 'APM Powered by Mansystems'. The breadcrumb trail indicates the path: 'ApmDemoApp / Sandbox ApmDemo / Performance snapshot'. The main content area shows a 'Statistics snapshot' for the transaction '1. Cars.Car_Get_All (3ms)'. A table lists the performance items for this transaction.

Name	Pos	Count	Avg (ms)	90% (ms)	Total (ms)
Start	1	3	0	1	1
Log message (info)	2	3	0	0	0
Retrieve list of Car from database	3	3	2	2	6
End	4	3	0	1	2

Performance – Recorder

- Record runtime activity
- Record user browser session
 - User needs to approve
 - Shows all Mendix actions by user
 - Shows runtime steps to execute user action
 - Mobile browser data included

The screenshot displays the Mendix Performance Recorder interface. The top navigation bar includes 'Manual snapshots' and 'Recorder'. A 'Notice' box is visible in the upper right. The main content area shows a 'Recorded Session View' for 'APMDemoAPP' with a session ID 'Anonymous_2c678ebe-465c-4d9e-81e8-4116efae549'. Below this is a table of recorded actions:

Start time	Display value	Process time
07/11/2018 17:11:15	Click: Button: Cancel	105.80
07/11/2018 17:11:13	Click: Div: 2	111.90

The bottom panel shows a detailed view of the action '1. Click: Hyperlink: Cars (118.2 ms)'. It includes a 'Tree' view with a bar chart showing the following data:

Action	Process time (ms)
Click: Hyperlink: Cars	118
GET Page: Cars.Car_Overview	115
Retrieve by XPath: //Cars.Car	74

The Mendix logo is visible in the bottom right corner.

Logs & Traps

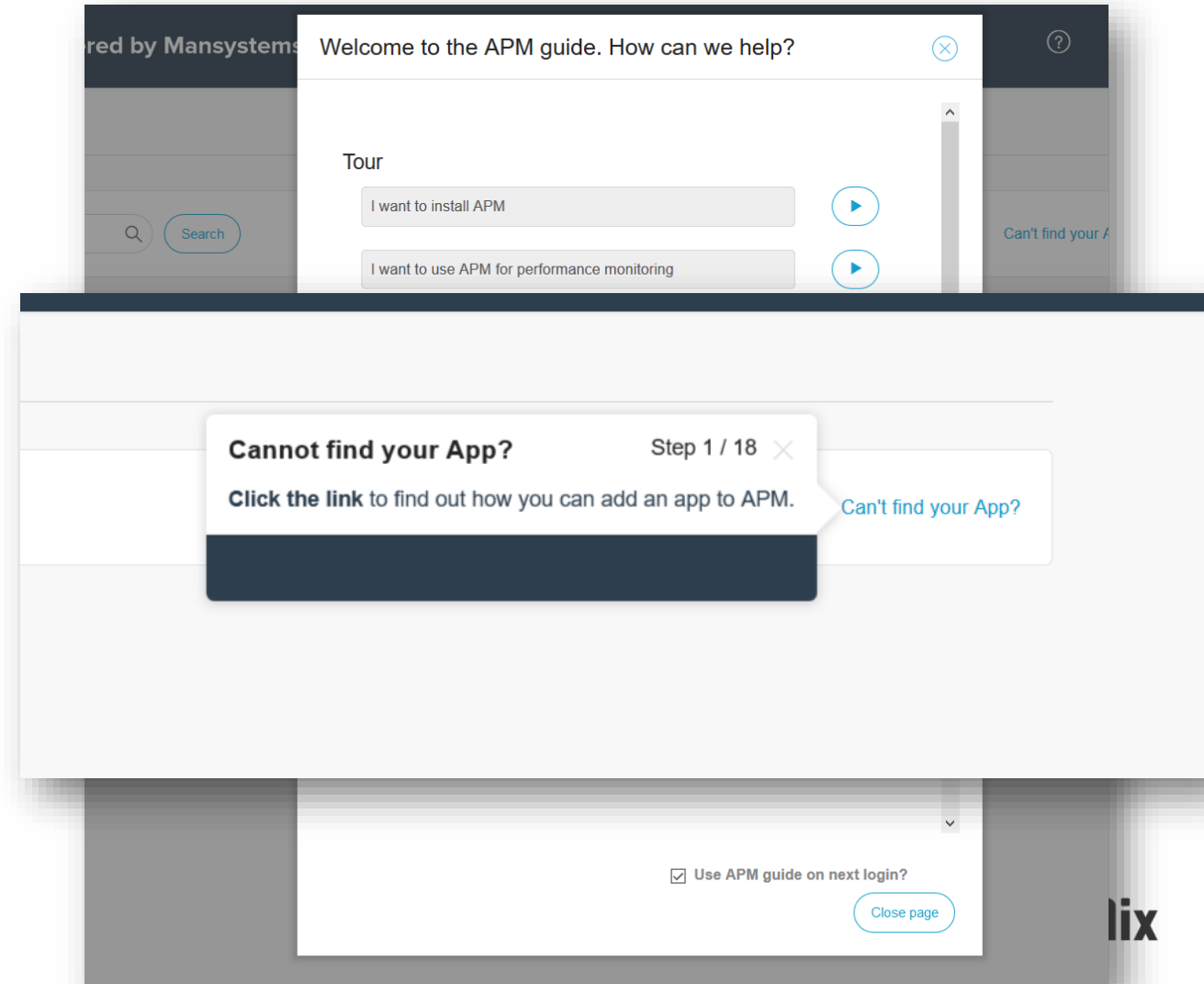
- Logs of your app
 - Log levels can be changed from APM
 - Will not impact cloud portal logging
- Manage traps
 - Low level logs in case of errors
- Manual trap
 - Will capture trace and debug logs just before triggering the action
- Traps by default do not include trace and debug level database activity

The screenshot displays the APM Demo App interface for configuring and viewing logs. The breadcrumb path is "ApmDemoApp / Sandbox ApmDemo / Logs". The left sidebar contains navigation options: "APMDEMOAPP", "Other apps", "App home", "SANDBOX APM", "Dashboard", "Performance", "Logs" (highlighted), and "Settings". The main content area shows a "Trap Manual trap" configuration with "Back" and "Exclude" buttons. Below this is a "View" button and a pagination indicator "1 to 17 of 17". A table lists log entries with columns for Timestamp, Level, Node, and Message.

Timestamp	Level	Node	Message
2018/07/11 17:33:58.289	Info	PrivateCommandRu...	Manual trap
2018/07/11 17:33:54.442	Trace	M2EE	Handling adminaction 'check_health' with params '{}'
2018/07/11 17:33:54.393	Trace	M2EE	Handling adminaction 'echo' with params '{"echo":"ping"}'
2018/07/11 17:33:54.370	Trace	M2EE	Handling adminaction 'about' with params '{}'
2018/07/11 17:33:54.367	Trace	M2EE	Handling adminaction 'get_all_thread_stack_traces' with params '{}'
2018/07/11 17:33:54.366	Trace	M2EE	Handling adminaction 'server_statistics' with params '{}'
2018/07/11 17:33:54.350	Trace	M2EE	Handling adminaction 'runtime_statistics' with params '{}'
2018/07/11 17:33:52.441	Trace	REST Publish	Outgoing REST response: HTTP/1.1 200 Date: Wed, 11 Jul 2018 15:33:...
2018/07/11 17:33:52.417	Info	Core	Removing session for user 'Anonymous_82bc32ee-3eff-4f79-9d73-18ec...
2018/07/11 17:33:52.417	Trace	JSON Export	{["CarId":3,"Brand":"audi","Model":"a4"],["CarId":4,"Brand":"Alfa Romeo",...
2018/07/11 17:33:52.416	Debug	MicroflowEngine	[53e058cf-58ba-426f-b8f9-833012fa0b7f] Finished execution of microflo...
2018/07/11 17:33:52.416	Trace	MicroflowEngine	[53e058cf-58ba-426f-b8f9-833012fa0b7f] Executing activity: ("current_a...
2018/07/11 17:33:52.413	Trace	MicroflowEngine	[53e058cf-58ba-426f-b8f9-833012fa0b7f] Executing activity: ("current_a...
2018/07/11 17:33:52.413	Info	cars	Car_Get_All
2018/07/11 17:33:52.413	Trace	MicroflowEngine	[53e058cf-58ba-426f-b8f9-833012fa0b7f] Executing activity: ("current_a...
2018/07/11 17:33:52.413	Trace	MicroflowEngine	[53e058cf-58ba-426f-b8f9-833012fa0b7f] Executing activity: ("current_a...
2018/07/11 17:33:52.413	Debug	MicroflowEngine	[53e058cf-58ba-426f-b8f9-833012fa0b7f] Starting execution of microflo...

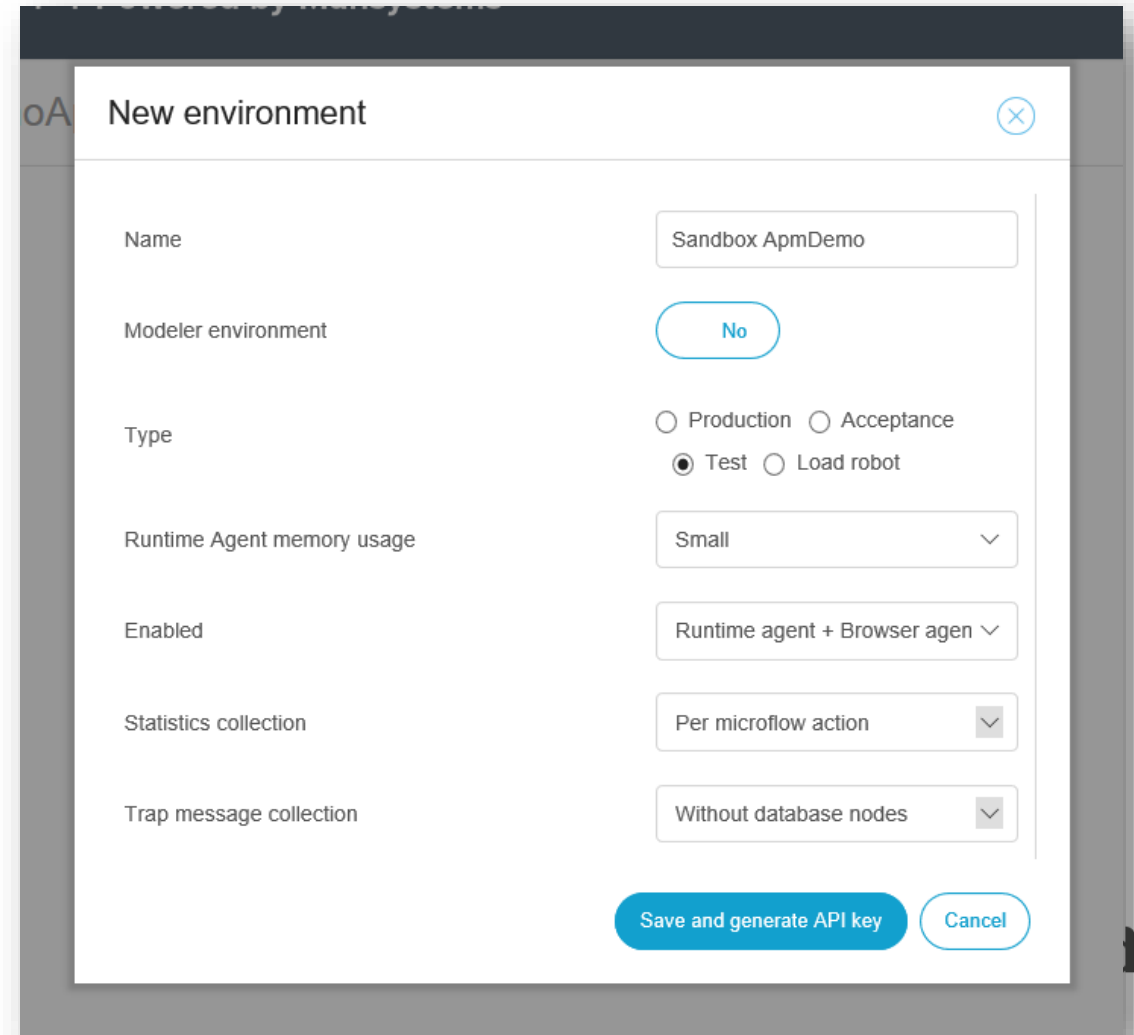
Simplified User Experience

- Tour of the product for new users
- In app guidance



Simplified configuration

- Per environment specify type of environment
- What data to collect



The screenshot shows a 'New environment' configuration dialog with the following fields and options:

- Name:** Sandbox ApmDemo
- Modeler environment:** No
- Type:** Radio buttons for Production, Acceptance, Test (selected), and Load robot.
- Runtime Agent memory usage:** Small
- Enabled:** Runtime agent + Browser agen
- Statistics collection:** Per microflow action
- Trap message collection:** Without database nodes

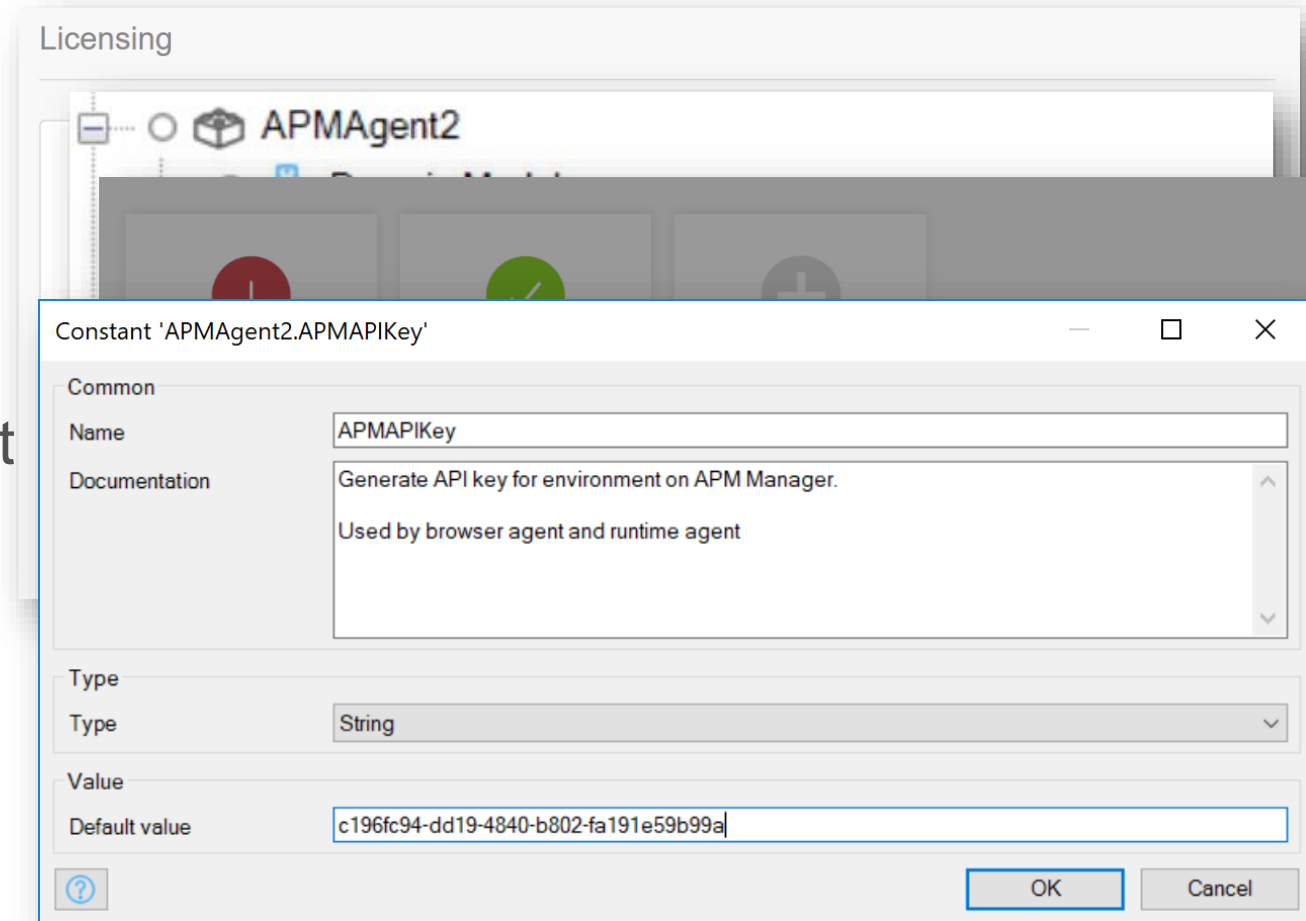
Buttons at the bottom: Save and generate API key, Cancel.

Demo

More information

How to get started with APM 2

- App needs to be registered
 - Ticket to support
- Include APM Agent module
 - Download from AppStore or APM Manager
- Generate API Key per environment
 - Use for APMAPIKey constant
- Upgrade from 1 to 2
 - Can run side-by-side with APM 1
 - No data migration



Roadmap


- Triggers on microflow duration, memory and cpu usage
- Email notifications of events
- SQL statements

Resources

- Installation guide APM 2 : <https://docs.mendix.com/apm/installation-guide/ig-2/installation-2>
- Reference guide: <https://docs.mendix.com/apm/reference-guide/rg-2/reference-guide-2>
- APM 2 Use cases: <https://docs.mendix.com/apm/use-cases/uc-2/use-cases-2>

APM services provided by Mansystems

- APM is developed by Mansystems
- Services provided by Mansystems for APM
 - Training
 - Consulting
 - Load testing
- <https://www.mansystems.com/mendix-load-testing/>



MANSYSTEMS

What we offer Academy Showcases About us Blog Contact

MENDIX LOAD-AS-A-SERVICE

MENDIX LOAD TESTING

Load-as-a-Service helps Mendix developers identify and solve application model issues that may impact application performance. Whether you are predicting an increase in users, receiving feedback about slow load-times, or planning a "big bang" release for a large user group, a well-planned load test can validate that your application is meeting the expectations of users.

WHY DO LOAD TESTING?

More and more companies are building low-code applications where they expect an increase in users or are suffering from inefficiency in app usage, causing high costs or loss of revenue. For these companies, load testing becomes a necessary precaution to make sure that response time objectives are met. This is crucial because slow response times will cause users to leave early or avoid the web application all together.

There can also be an impact on employees, causing them to be inefficient in their work. As a result, companies can lose customers, suffer from decreased revenue, or have higher costs.

mx mendix

Questions?