



TIBCO Hawk®

Admin Agent Guide

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Overview

TIBCO® Enterprise Administrator (TEA) is a central administration console that allows you to configure and administer multiple TIBCO products. TIBCO Hawk provides an agent for TEA called Hawk Admin Agent (Admin Agent), which, when registered with the TEA server, allows you to monitor and administer Hawk from within the TEA web user interface. Using the Admin Agent, you can get a consolidated view of all the distributed infrastructure components interacting within the TIBCO Hawk system. The Admin Agent provides pictorial details of each of the components and allows basic monitoring and management in the form of alerts and rules.

TEA uses the Admin Agent to communicate with the Hawk server. The Admin Agent auto-registers itself with the configured TEA server.

You can reconnect or unregister the Admin Agent. For more details on using TEA, see *TIBCO Enterprise Administrator User's Guide*.

On registration, the Admin Agent exposes the artifacts of Hawk to the TEA server.

- [TEA Administrative Interfaces](#)

TEA Administrative Interfaces

The TIBCO Enterprise Administrator provides three distinct user interfaces to communicate with the Admin Agent: Web UI, command-line-based Shell interface, and Python Scripting.

- **Web UI:** The TEA server provides a default web-based user interface to manage and monitor products. Hawk is shown as a card in the TEA Web UI. You can drill down the product to see the artifacts of the product. You can then administer and monitor Hawk from the TEA Web UI.
- **Shell Interface:** The TEA server provides a command-line utility called the TEA Shell. It is a remote shell, based on the SSH protocol. The shell is accessible using any terminal program such as Putty. Its scripting language is similar to bash in UNIX, but has some important differences. You can use the shell to perform almost all the tasks that you can perform from the TEA Web UI.

- Python scripting: You can use Python scripting to perform any activity you performed using the Web UI. Python scripting is especially useful when you have to repeat a task for multiple users or use control structures to work through some conditions in your environment. Although you can use the Shell utility to use the command-line interface, the Shell interface does not support conditional statements and control structures. Python scripting proves to be useful in such cases.

For more information on these interfaces, refer to *TIBCO Enterprise Administrator User's Guide*.

This document discusses how to use the Admin Agent from within the TEA Web UI interface. However, you can use the other two interfaces to achieve just about anything that you achieved using the Web UI.

Using the TEA Web UI, you can do the following:

- View the statistical data about domains, agents, rulebases, and alerts.
- Administer Rulebases, Rules and specify appropriate actions to be taken if the rules are triggered upon satisfying the threshold conditions. This version of TEA only allows you to read, edit, and update the existing rulebases information.
- Subscribe to alerts.

Installation and Basic Configuration

The TIBCO Hawk installer provides a custom profile, **TIBCO Hawk Admin Agent**, during product installation. If you would like to use TIBCO Enterprise Administrator to monitor the Hawk data, you must install **TIBCO Hawk Admin Agent** along with the Hawk components.

**Note**

In order for the Hawk Admin Agent to auto-register with the TEA server, create an entry for the Admin Agent machine in the TEA server machine's host file and also create an entry for the TEA server machine in the Hawk Admin Agent machine's host file.

Refer to the "Understanding the Installation Profiles" section in the TIBCO Hawk Installation, Configuration, and Administration guide.

To verify if the Admin Agent is installed, you can check if it is available under the **Start** menu:

Start > All Programs > TIBCO > TIBCO Hawk Admin Agent <version> >.

- [Configuration](#)
- [Starting TIBCO Hawk Admin Agent](#)

Configuration

After installing TIBCO Hawk and the Admin Agent, you must do the following:

- Configure the location of the transport that will be used in the `<TIBCO_HOME>/tea/agents/hawk/<version>/bin/tibhawkteaagent.tra` file. See [Transport Installation Location Configuration](#).
- Configure the Hawk domain and transport to be used in the `<CONFIG_FOLDER>\tibco\cfgmgmt\hawkteaagent\config\hawk-domain-transport-cfg.xml` file. See [Hawk Domain and Transport Configuration](#).
- Configure the Admin Agent in the configuration files located in `<CONFIG_FOLDER>/hawkteaagent/config` directory. See [Log Files Location Configuration](#).

Transport Installation Location Configuration

The following transport modes are available to be configured as a means of communication between Hawk Agent and Admin Agent:

- TIBCO Rendezvous® (RV)
- TIBCO Enterprise Message Service™ (EMS)
- TCP Transport for TIBCO Hawk

i Note: At least one transport mode should be configured in the `<CONFIG_HOME>/tibco/cfgmgmt/hawkteaagent/config/hawk-domain-transport-cfg.xml` file of Admin Agent to enable message or event communication among various Hawk Agent and Admin Agent.

TIBCO Hawk installation has TIBCO Rendezvous configured as the default mode of message and event transport between Hawk Agent and HMA.

For details on configuration for all transport modes, refer to the 'Configuring Transport Modes' section in the TIBCO Hawk Installation, Configuration, and Administration guide.

i Note: If TIBCO Rendezvous is chosen as a transport between the Hawk Agent and Admin Agent, the same is used as a transport between the Hawk Agent and the Hawk Microagent or other AMI based applications. You cannot configure it to use a different transport. However, if you choose to use TIBCO Enterprise Message Service as the transport between the Hawk Agent and the Admin Agent, you can only use TIBCO Rendezvous as the transport between the Hawk Agent and the Hawk Microagent or other AMI based applications.

TIBCO Rendezvous and TIBCO Enterprise Message Service are two independent products that need to be installed separately. Additional configurations need to be performed manually based on whether they are installed before or after installing TIBCO Hawk, and whether any of them share the same `<TIBCO_HOME>` installation folder.

If you install TIBCO Rendezvous and TIBCO Enterprise Message Service before you install TIBCO Hawk and you install all three in the same `TIBCO_HOME`, the installers will automatically configure their values in the `tibhawkteaagent.tra` configuration file and you need not do it manually. Update the `<TIBCO_HOME>/tea/agents/hawk/<version>/bin/tibhawkteaagent.tra` file for `<EMS_HOME>` and `<RV_HOME>` if any of the following is true:

- If you use an existing transport (TIBCO Rendezvous or TIBCO Enterprise Message Service) either from a previous installation of TIBCO Hawk 4.x or independent installations of these TIBCO products in the same TIBCO_HOME where Hawk is installed.
- If you install TIBCO Rendezvous or TIBCO Enterprise Message Service in the same TIBCO_HOME after installing TIBCO Hawk.
- If you currently use or are planning to use a different TIBCO_HOME for each of the TIBCO Rendezvous, TIBCO Enterprise Message Service, and TIBCO Hawk components.

Hawk Domain and Transport Configuration

The Admin Agent can monitor multiple domains configured with different or same transports.

**Note**

The monitored domain names must be unique within and across different transport types.

The Admin Agent can monitor multiple transports at the same time. Each of those transports supports multiple domain configurations.

Domain Transport Configuration File (hawk-domain-transport-cfg.xml)

- Configure the domains in <CONFIG_FOLDER>\tibco\cfgmgmt\hawkteaagent\config\hawk-domain-transport-cfg.xml directory. It follows the DomainTransportCfg.xsd XML schema.

Refer to the examples in the hawk-domain-transport-cfg.xml file on how to configure Hawk Domains and their respective transports. You can configure the Hawk domain and their respective transport for the Admin Agent. One or more Hawk domains can be monitored. You require one DomainTransport section per monitored domain. You must uncomment and configure the code for the DomainTransport section for the transport that you want to use and comment all other DomainTransport sections.

For example, the configuration for the TIBCO Rendezvous transport domain (default) is as follows:


```
<!-- RV transport domain-->

<hk:DomainTransport>

  <hk:HawkDomainName>default</hk:HawkDomainName>

  <hk:Transport>

    <hk:RVTransportCfg>

      <hk:service>7474</hk:service>

      <hk:network></hk:network>

      <hk:daemon>tcp:7474</hk:daemon>

    </hk:RVTransportCfg>

  </hk:Transport>

  <hk:SecurityPolicy></hk:SecurityPolicy>

</hk:DomainTransport>
```

Admin Agent Configurations

All the required configuration parameters are stored in the following files:

- hawk-domain-transport-cfg.xml
- logback-config.xml

— hawk-tea-agent.properties

These files are located in the <CONFIG_FOLDER>/hawkteaagent/config directory. The following options can be configured:

Admin Agent Properties Options

Parameter	Default Value	Description
hawk.tea.agent.hostname	localhost	Admin Agent host name. In the case of remote connection, use IP Address instead of DNS/Host Name.
hawk.tea.agent.port	8701	Admin Agent port.
auto.config.tea.server.url	None	TEA server URL, where the Admin Agent automatically registers. In the case of remote TEA server, use the IP Address of the TEA server URL instead of DNS or Host Name. If you do not want to auto-

Parameter	Default Value	Description
		register the Admin Agent with the TEA server then you should comment of this parameter out.
<code>hawk.tea.agent.jdbc.user</code>	None	The JDBC user.
<code>hawk.tea.agent.jdbc.password</code>	None	The JDBC password.
<code>hawk.tea.agent.jdbc.url</code>	<code>jdbc:h2:tcp://localhost/~/ hawk_tea_agent_db</code>	The JDBC URL.
<code>hawk.tea.agent.jdbc.pool.max.con nection</code>	30	The JDBC connection pool's maximum number of connections.
<code>hawk.tea.agent.jdbc.pool.login.time out</code>	60	The JDBC pool connection login timeout in seconds.
<code>hawk.highalert.perAgent.retention.c ount</code>	100000	Maximum number of high alerts that an

Parameter	Default Value	Description
		agent can retain before they are purged.
hawk.lowalert.perAgent.retention.count	100000	Maximum number of low alerts that an agent can retain before they are purged.
hawk.mediumalert.perAgent.retention.count	100000	Maximum number of medium alerts that an agent can retain before they are purged.
hawk.notification.perAgent.retention.count	100000	Maximum number of notifications that an agent can retain before they are purged.

Log Files Location Configuration

The Admin Agent uses logback for application logging. By default, the logs are generated under `CONFIG_FOLDER/hawkteaagent/config/logback-config.xml`. You can modify various configuration parameters and change the default settings.

For example, the default configuration is as follows:

```
<configuration scan="true">
```

```
<!-- Configure log location and filename. -->
```

```
  <property name="LOG_HOME" value=
    "<CONFIG_HOME>/tibco/cfgmgmt/hawkteaagent/logs" />
```

```
  <property name="LOG_FILE_NAME" value="hawk-tea-agent" />
```

```
  <appender name="STDOUT" class=
    "ch.qos.logback.core.ConsoleAppender">
```

```
    <!-- encoders are assigned the type
    ch.qos.logback.classic.encoder.PatternLayoutEncoder
    by default -->
```

```
      <encoder>
```

```
        <pattern>%date{dd MMM yyyy;HH:mm:ss.SSS} [%thread]
        %-5level    %logger{36} - %msg%n</pattern>
```

```
      </encoder>
```

```
    </appender>
```

```
  <appender name="FILE"
```

```
    class="ch.qos.logback.core.rolling.RollingFileAppender">
```

```
<file>${LOG_HOME}/${LOG_FILE_NAME}.log</file>
```

```
<append>true</append>
```

```
<rollingPolicy
  class="ch.qos.logback.core.rolling.FixedWindowRollingPo
                                licy">
```

```
                                <fileNamePattern>${LOG_HOME}/${LOG_FILE_
NAME}.%i.log</fi
mePattern>                                leNa
```

```
<minIndex>1</minIndex>
```

```
<maxIndex>10</maxIndex>
```

```
</rollingPolicy>
```

```
<triggeringPolicy
```

```
  class="ch.qos.logback.core.rolling.SizeBasedTriggering
                                Policy">
```

```
<maxFileSize>10MB</maxFileSize>
```

```
</triggeringPolicy>
```

```
<encoder>
```

```
<pattern>%date{dd MMM yyyy;HH:mm:ss.SSS} [%thread]
%-5level %logger{35} - %msg%n</pattern>
```

```
</encoder>
```

```
</appender>
```

```
<!-- Define log levels for individual category -->
```

```
<logger name="com.tibco.tea.agent.hawk" level="INFO" />
```

```
<logger name="com.tibco.hawk" level="WARN" />
```

```
<logger name="com.tibco.tea.agent.internal" level="ERROR" />
```

```
<logger name="org.eclipse.jetty" level="ERROR" />
```

```
<!-- Root logger -->
```

```
<root level="INFO">
```

```
<appender-ref ref="FILE" />
```

```
<!-- <appender-ref ref="STDOUT" />-->
```

```
</root>
```

```
</configuration>
```

Starting TIBCO Hawk Admin Agent

After successful installation of TIBCO Hawk and TIBCO Hawk Admin Agent, start the TIBCO Enterprise Administrator server and Admin Agent.

**Note**

In order for the Hawk Admin Agent to auto-register with the TEA server, you must have an entry for the Admin Agent machine in the TEA server machine's host file as well as have an entry for the TEA server machine in the Hawk Admin Agent machine's host file.

1. **Procedure** Set the following directory locations in the <TIBCO_HOME>\tea\agents\hawk\<version>\bin\tibhawkteaagent.tra configuration file:

```
tibco.env.JVM_LIB_PATH=<path_to_the_jvm.dll_file>
tibco.env.JVM_LIB_DIR=<path_to_JRE_installation>
tibco.env.EMS_HOME=<EMS_HOME>/<version>
tibco.env.RV_HOME=<RV_HOME>/<version>
tibco.env.AS_HOME=<AS_HOME>/<version>
tibco.env.HAWK_HOME=<TIBCO_HOME>/hawk/<version>
tibco.env.HAWK_TEA_AGENT_HOME=<TIBCO_HOME>/tea/agents/hawk/
                                <version>
tibco.env.TIBCO_CONFIG_HOME=<path_to_the_configuration_folder>
```

2. Start the TEA server. Navigate to the <TIBCO_HOME>\tea\<version>\bin directory and run tea.exe. For more information on TIBCO Enterprise Administrator, refer to the *TIBCO Enterprise Administrator documentation*.
3. Navigate to the <TIBCO_HOME>\tea\agents\hawk\<Hawk_version>\bin directory and run tibhawkteaagent to start Admin Agent..
4. To start working with the Admin Agent, follow these steps:

In your browser's address box, enter a URL in the following format:

http://<IP address>:<port_number>/tea

where <IP address> is the address of the machine where the Admin Agent is installed and the default <port_number> is 8777.

For example, http://localhost:8777/tea

The default port number and other settings can be changed by modifying the settings in tea.conf file that is located in the <TIBCO_CONFIG_HOME>\tibco\cfgmgmt\tea\conf folder.

On the login page, enter a valid user name and password. The default credentials are:

Username: **admin**

Password: **admin**

Refer to the TEA documentation for password policies if you would like to change the password.

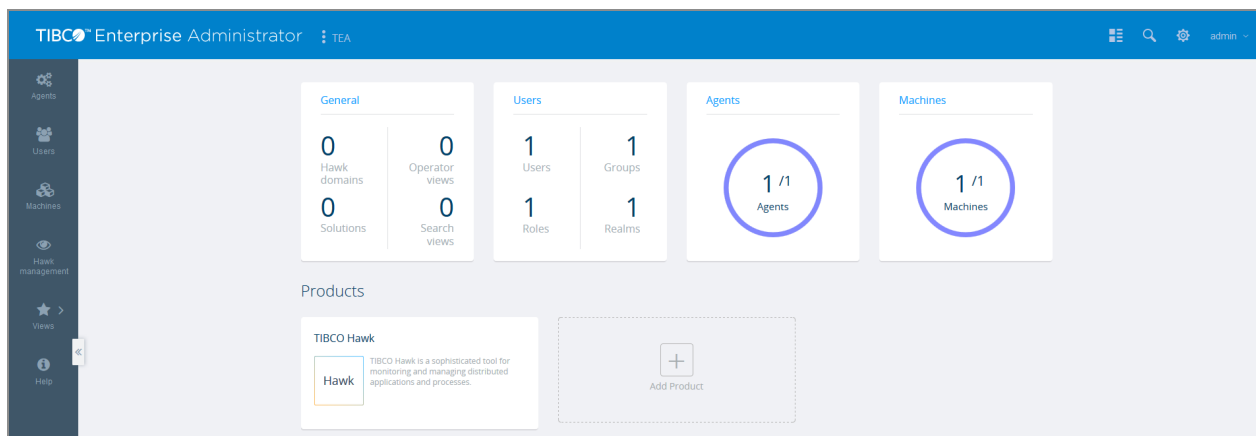
On successful authentication, the landing page is displayed. The username with which you logged in is shown as a menu option in the title pane.

The default timeout for a session is 30 minutes.

If the Admin Agent is registered with TEA, you should see the TIBCO Hawk product card after you log in to TEA.

Click the TIBCO Hawk product card to view the landing page for Hawk Admin Agent, see [Admin Agent Landing Page](#).

Figure 1: TIBCO Enterprise Administrator Home Page



The Left Navigation Bar

The left navigation bar contains some icons that are links to the various views in TEA. Refer to the *TIBCO Enterprise Administrator User's Guide* for more information on them.

TIBCO Hawk Admin Agent User Interface

TIBCO Hawk Admin Agent provides you various options to monitor and manage TIBCO Hawk using TIBCO Enterprise Administrator user interface.

- [Admin Agent Landing Page](#)
- [Hawk Agents View](#)
- [Agent Description Page](#)
- [Alerts Page](#)[Microagents Page](#)
- [Microagents Page](#)
- [Rulebases Page](#)
- [Schedules Page](#)

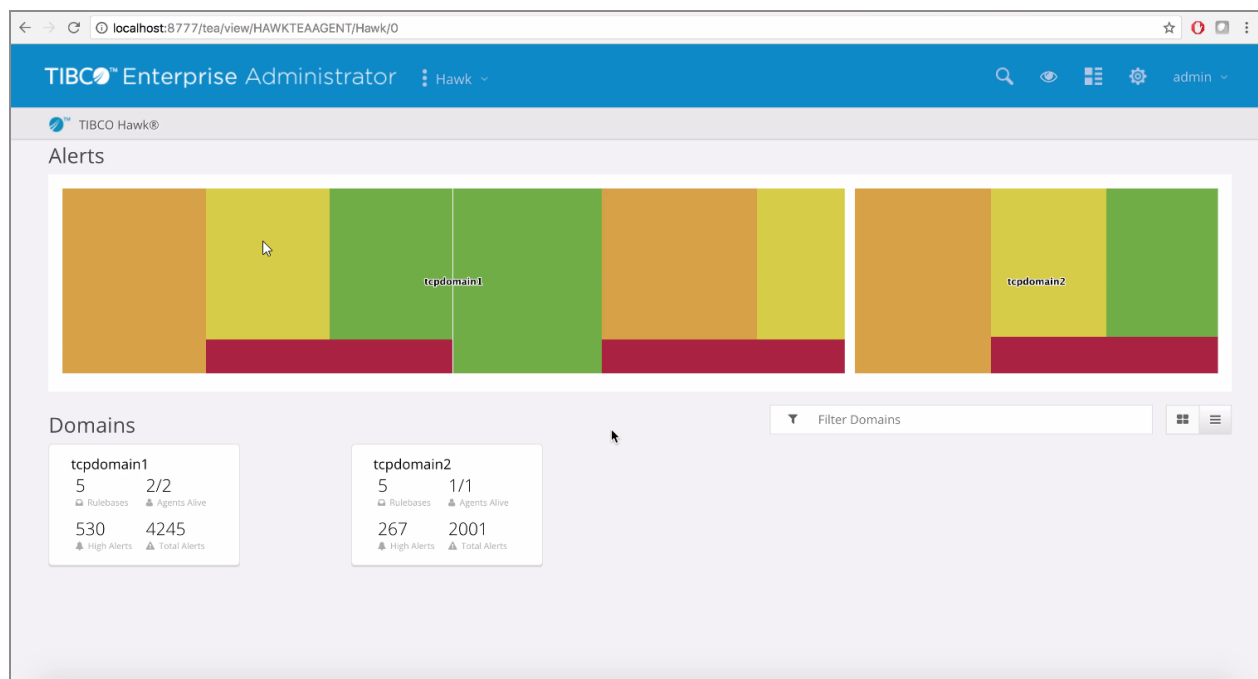
Admin Agent Landing Page

In the TIBCO Enterprise Administrator UI, click the TIBCO Hawk product card to view the landing page for TIBCO Hawk Admin Agent.

The page displays:

- TreeMap of the alerts for each Hawk domain
- Information cards for each domain

Figure 2: Admin Agent Landing Page



Alerts TreeMap





TreeMaps provides visual representations of all the alerts in Hawks and makes it easier to spot patterns. The tree branches are represented by rectangles and displays alert type by color. Individual cells in the map are the alert levels represented as different colors and the size of the individual cell is directly proportional to the number of alerts/notifications of that type.

The hierarchy in the Hawk alerts TreeMap is:

Hawk > Domains > Agents > Alert types

Thus, initially you will see alerts representation for Hawk separated by domains. Once you click on any domain, you can view alerts representation for that domain separated by Hawk agents. Now, when you click on any Hawk agent you can view the alerts representation for that agent. Each color identifies the alert type. If you click on any alert type, the Alerts page for the selected Hawk agent is displayed with the **Severity** filter set for the selected alert type and the **Cleared** filter set to active. The Alerts page displays list of all the active alerts for that alert type for that agent.

The following are the legends of the Hawk alerts TreeMap:

-  - High alert
-  - Medium alert
-  - Low alert
-  - Notification

The TreeMap also displays the total number of alerts for the tree branch when you hover the mouse pointer over it.

Domain Card

The following information is displayed in each domain card:

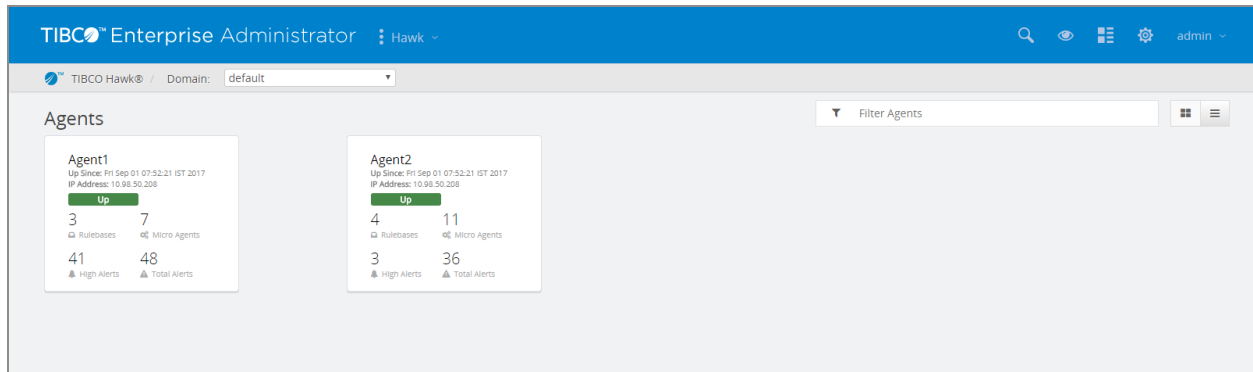
- Domain name.
- **Rulebases:** number of rulebases defined on the all agents in the domain
- **Agents Alive:** number of agents that are up and in a running state out of the total number of agents that belong to the domain.
- **High Alerts:** number of alerts with a '**high**' status that are generated for all agents in the domain.
- **Total Alerts:** total number of alerts generated for all agents in the domain.

For more details on any particular domain, click the domain card for that domain. See [Hawk Agents View](#) for details.

Hawk Agents View

Click a Domain card to display the Hawk Agents page, which displays all the Hawk agents that belong to that domain.

Figure 3: Hawk Agents View



Each agent card in the Hawk Agents view displays the following details:

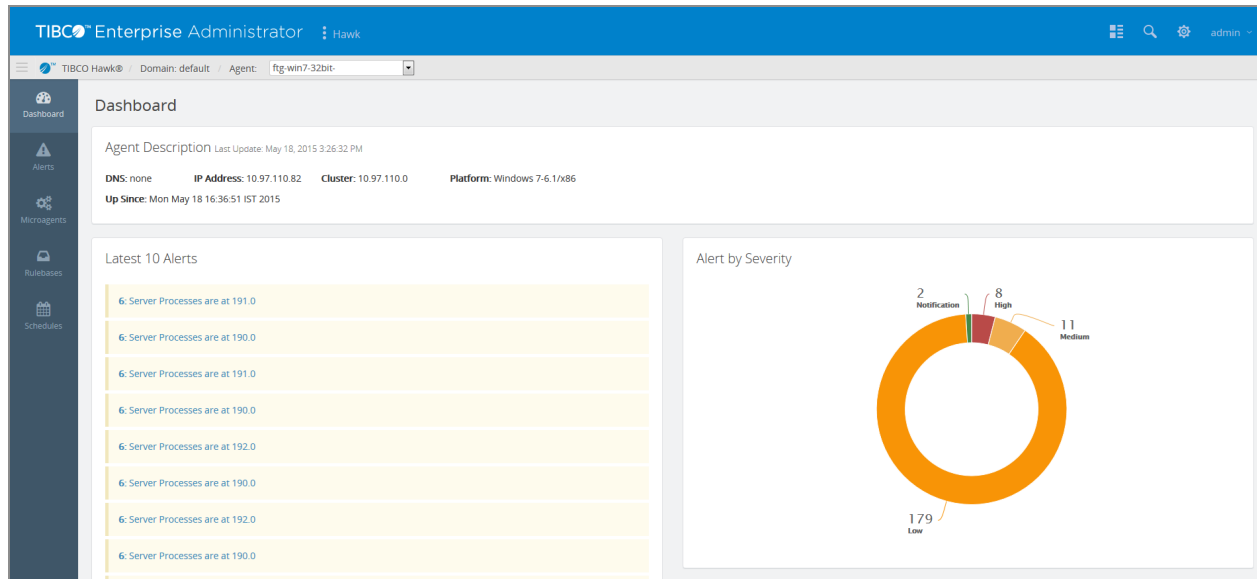
- Agent name.
- **Up Since:** the timestamp when the agent was started.
- **IP Address:** IP address of the agent machine.
- Status of the agent as **Up**, or **Down** button. You can click the **Up** button to open a dashboard view of the agent.
- **Rulebases:** displays the number of rulebases defined on the agent.
- **Micro Agents:** displays the number of Microagents for the agent.
- **High Alerts:** displays the number of alerts with the status 'high' generated for the agent.
- **Total Alerts:** the total number of alerts generated for the agent.

To get more detailed description of the agent, click anywhere on the agent card. See [Agent Description Page](#) for details.

Agent Description Page

To get a detailed description of an agent, click anywhere on the agent card in the Hawk Agents page. The Agent Description page is displayed. You can also get to this page by clicking the Dashboard icon on the left panel.

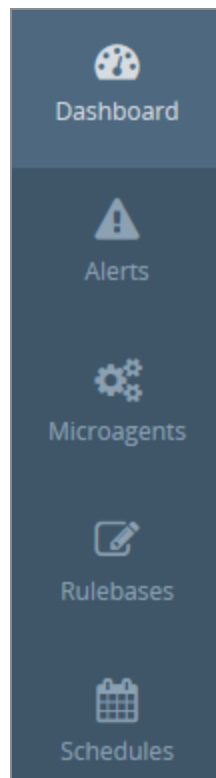
Figure 4: Agent Description



The Agent Description page displays the alert list as well as a pie chart representation of alerts. It displays the following details about the agent:

- **Last Update:** timestamp when the agent was last updated.
- **DNS:** DNS of the agent.
- **IP:** IP address of the machine on which it is running.
- **Cluster:** IP address of the cluster that the agent machine belongs to
- **Platform:** Operating system installed on the machine on which the agent is running.
- **Up Since:** Timestamp when the agent was started
- **Latest 10 Alerts:** details of the last 10 alerts that were generated for the selected agent.
- **Alert by Severity:** Displays a pie chart showing the number of High, Medium, Low and Notification status alerts.

The Agent Description page contains a left navigation panel. Click an icon in the left panel to get the specific details of the agent.

Figure 5: Hawk Agent Description: Left Panel

- **Dashboard** - The Dashboard icon takes you to the Agent Description page where you can see the details of the agent from which you clicked the Dashboard icon.
- **Alerts** - Click on the Alerts icon to open the Alerts details page, see [Alerts Page](#).
- **Microagents** - Click on the Microagents icon to open the Microagent details page, see [Microagents Page](#).
- **Rulebases** - Click on the Rulebases icon to open the Rulebases page, see [Rulebases Page](#).
- **Schedules** - Click on the Schedules icon to open the Schedules details page, see [Schedules Page](#).

Alerts Page

When you click the Alerts icon, you get the latest alerts in a tabular format for the selected agent.

Figure 6: Alerts

Description	Severity	Time	Rulebase	Rule	Cleared	Actions
High Alert for uptime c...	High	Saturday, August 19, 2017, 7:18 pm +05:30	RBCheckUptime	COM.TIBCO.hawk.micr...	<input type="checkbox"/>	⚙
Medium Alert for uptime	Medium	Saturday, August 19, 2017, 7:18 pm +05:30	RBCheckUptime	COM.TIBCO.hawk.micr...	<input type="checkbox"/>	⚙
Agent Count < 3	Notification	Saturday, August 19, 2017, 7:18 pm +05:30	RBTCPCluster	COM.TIBCO.hawk.micr...	<input type="checkbox"/>	⚙
Low alert for agent count	Low	Saturday, August 19, 2017, 7:18 pm +05:30	RBTCPCluster	COM.TIBCO.hawk.micr...	<input type="checkbox"/>	⚙
Daemon count < 2	Medium	Saturday, August 19, 2017, 7:18 pm +05:30	RBTCPCluster	COM.TIBCO.hawk.micr...	<input type="checkbox"/>	⚙
Notification action...	Notification	Saturday, August 19, 2017, 7:18 pm +05:30	RBTCPCluster	COM.TIBCO.hawk.micr...	<input type="checkbox"/>	⚙
Agent Count < 3	Notification	Saturday, August 19, 2017, 7:18 pm +05:30	RBTCPCluster	COM.TIBCO.hawk.micr...	<input type="checkbox"/>	⚙
Low alert for agent count	Low	Saturday, August 19, 2017, 7:18 pm +05:30	RBTCPCluster	COM.TIBCO.hawk.micr...	<input type="checkbox"/>	⚙
Daemon count < 2	Medium	Saturday, August 19, 2017, 7:18 pm +05:30	RBTCPCluster	COM.TIBCO.hawk.micr...	<input type="checkbox"/>	⚙
Notification action...	Notification	Saturday, August 19, 2017, 7:18 pm +05:30	RBTCPCluster	COM.TIBCO.hawk.micr...	<input type="checkbox"/>	⚙

Showing 1 to 10 of 2749 entries

Previous 1 2 3 4 5 ... 275 Next

For each alert, the following details are provided and you can filter out the results based on these details:

- **Description:** a string that describes the alert.
- **Severity:** type of severity which can be one of High, Medium, Low, or Notification.
- **Time:** timestamp when the alert was generated. For filtering alerts based on their timestamp, you can use the date and time picker to select a range.
- **Rulebase:** name of the rulebase which generated this alert.
- **Rule:** name of the rule that triggered the alert.
- **Cleared:** specifies if the alert has been cleared or not. The check box is selected if the alert has been cleared.
- **Actions:** the action that you want to take on this alert. You can either Suspend (make it inactive) the alert for an specified amount of time or Delete it by clicking on the appropriate button in this column. You can delete only those alerts which have the **Cleared** check box selected.

Searching Across Alerts

You can search individual columns by using the Search box above that column or to search across all columns use the stand-alone Search box located on the top right of the page.

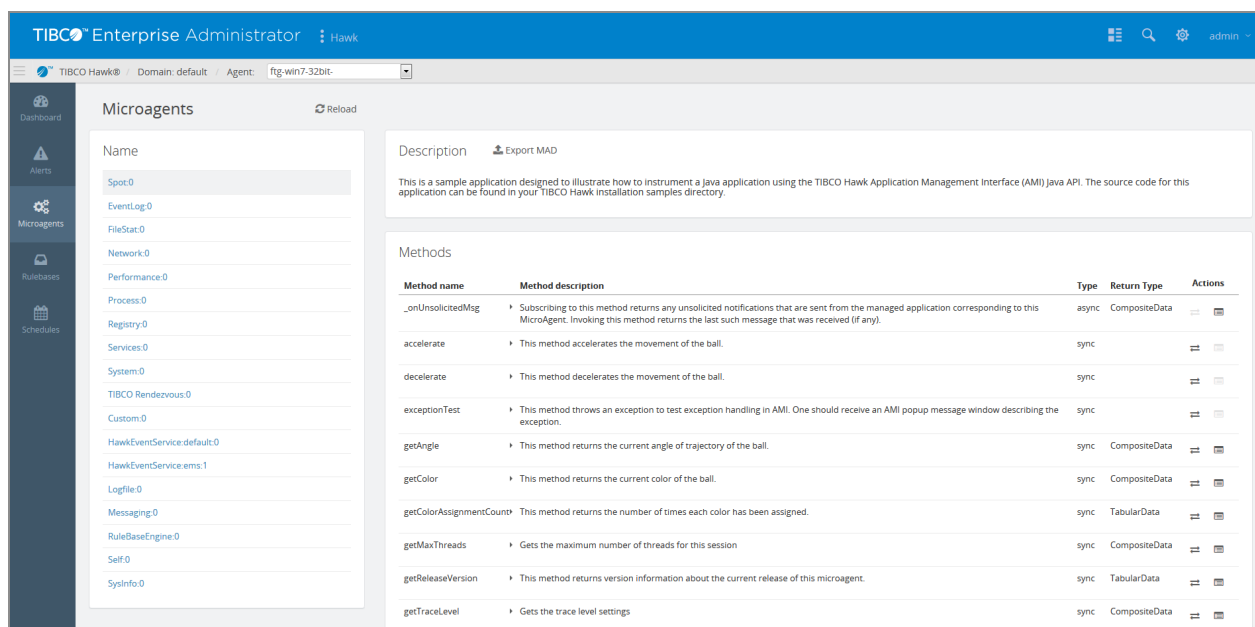
Alert, Rule, and Rulebase Details

To get the details of an alert or the details of the rulebase that triggered the alert, click its Description link or the Rulebase link. Alert details such as the Alert text and the Alert ID are displayed. Rulebase details such as the Rulebase name, its data source, the rule that triggered this alert, the rule description, action, and DataIndex are displayed.

Microagents Page

Each agent has a set of default microagents, that are discovered by agents when it is started. If you install and start an adapter or gateway, or instrument an application with AMI, microagents for these objects are dynamically added to the agent. When you click the Microagents icon, you can view microagents and their methods for any discovered TIBCO Hawk agents. For more details on microagents, see *TIBCO Hawk Concepts Guide*.

Figure 7: Microagents



The screenshot shows the TIBCO Enterprise Administrator interface. The top navigation bar includes the TIBCO logo, 'Enterprise Administrator', and a 'Hawk' dropdown. Below the navigation bar, there's a breadcrumb trail: 'TIBCO Hawk® / Domain: default / Agent: ffg-win7-32bit-'. The main content area is titled 'Microagents' and has a 'Reload' button. On the left, there's a sidebar with icons for Dashboard, Alerts, Microagents (selected), Rulebases, and Schedules. The 'Microagents' section is active, showing a list of microagents: Spot:0, EventLog:0, FileStat:0, Network:0, Performance:0, Process:0, Registry:0, Services:0, System:0, TIBCO Rendezvous:0, Custom:0, HawkEventService:default:0, HawkEventService:ems:1, Logfile:0, Messaging:0, RuleBaseEngine:0, Self:0, and SysInfo:0. The 'Spot:0' microagent is selected. The main panel displays the 'Description' of the selected microagent, which is a sample application designed to illustrate how to instrument a Java application using the TIBCO Hawk Application Management Interface (AMI) Java API. Below the description, there's a 'Methods' section with a table listing the available methods for the selected microagent.

Method name	Method description	Type	Return Type	Actions
_onUnsolicitedMsg	Subscribing to this method returns any unsolicited notifications that are sent from the managed application corresponding to this MicroAgent. Invoking this method returns the last such message that was received (if any).	async	CompositeData	[icon]
accelerate	This method accelerates the movement of the ball.	sync		[icon] [icon]
decelerate	This method decelerates the movement of the ball.	sync		[icon] [icon]
exceptionTest	This method throws an exception to test exception handling in AMI. One should receive an AMI popup message window describing the exception.	sync		[icon] [icon]
getAngle	This method returns the current angle of trajectory of the ball.	sync	CompositeData	[icon] [icon]
getColor	This method returns the current color of the ball.	sync	CompositeData	[icon] [icon]
getColorAssignmentCount	This method returns the number of times each color has been assigned.	sync	TabularData	[icon] [icon]
getMaxThreads	Gets the maximum number of threads for this session	sync	CompositeData	[icon] [icon]
getReleaseVersion	This method returns version information about the current release of this microagent.	sync	TabularData	[icon] [icon]
getTraceLevel	Gets the trace level settings	sync	CompositeData	[icon] [icon]

You can click any microagent to get the following details:

Description: Displays the name and possibly some text describing the selected microagent. All the methods available for the selected microagent are displayed in a table in the panel beneath the description.

The following details for each method are displayed in a table:

- **Method Name:** Displays the name of the method.
- **Method Description:** Describes what the method does.
- **Type:** Subscription information is returned either synchronously, on a regular time schedule, or asynchronously, when data becomes available.
- **Return Type:** Data is returned as Tabular Data, or Composite data.
- **Action:**
 - **Invoke:** Use the Invoke mode to immediately view the results. Invoking is useful when you want to test a method before using it in a rule, or to check a return value for troubleshooting purposes. This example demonstrates the Invoke mode of operation.
 - **Subscribe:** Use the Subscribe mode to view the microagent method results over time. Creating a subscription is useful when you want to test a range of return values before specifying boundaries in a rule, or to identify general patterns of activity.

Exporting the Description for a Microagent

You can either view or download the microagent description to a file. Click the Export MAD link in the Description panel and select whether you want to open it or save the file locally.

Rulebases Page

A rulebase is a collection of one or more rules. A rule is a user-defined monitoring policy. It specifies the following:

- A data source in the form of a microagent method
- One or more tests that check for conditions
- One or more actions to perform if a test result is true.

Figure 8: Rulebases

Name	Status	Rule Count	Alert Count	Author	Description	Schedule	Actions
Self	Deployed	2	10	TIBCO Hawk Team	A Sample Rulebase	None	Select
Windows	Deployed	11	209	TIBCO Hawk Team	A Sample Rulebase	None	Select

Showing 1 to 2 of 2 entries

The Rulebases page shows all the rulebases for the agent. You can select the number of rulebases displayed on a page by selecting 10, 25, 50 or 100 from the **records per page** drop-down menu.

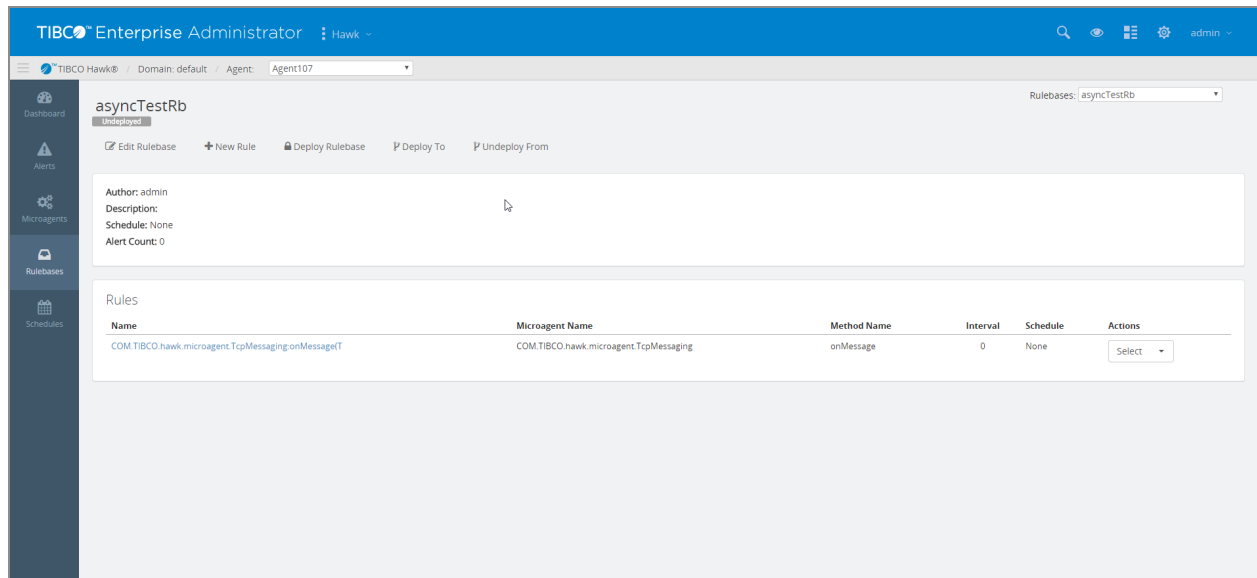
The following information is displayed for each rulebase:

- **Name:** the name of the Rulebase
- **Status:** whether the rulebase is deployed or undeployed
- **Rule Count:** the number of rules in the Rulebase
- **Alert Count:** the number of alerts generated by the Rulebase on the agent
- **Author:** name of person or entity that created the Rulebase
- **Description:** text used to describe the Rulebase
- **Schedule:** the name of the schedule that is used by the Rulebase
- **Actions:** you can take the following actions on the Rulebase:
 - edit the rulebase
 - deploy the rulebase on the agent
 - delete the rulebase
 - export the rulebase to a .hrb file
 - derive a new rulebase based on an existing one
 - deploy the rulebase to an agent other than the agent on which the rulebase exists
 - undeploy the rulebase from an agent on which it was previously deployed

Rulebase Details Page

Click on a Rulebase name to see the details of the Rulebase. The page for a specific Rulebase displays the details of the Rules in that Rulebase in addition to its author, description, schedule used, and alert count.

Figure 9: Rulebase Details Page



The following information about the Rules is displayed:

Name: name of the rule. Click the rule name to open the Rule Details page, see [Rules Details Page](#).

Microagent Name: name of the microagent that uses this rule

Method Name: name of the method to be invoked to retrieve data

Interval: interval in seconds between two subsequent method invocation

Schedule: schedule used by this rule

Actions: actions that can be taken on the rule are:

- Edit the rule
- Delete the rule
- Derive a new rule from this rule

Click a Rule name to see the details for the Rule.

You can also do the following from an individual Rulebase page by clicking on these links:

Edit Rulebase: edit or update name, description or schedules used in the Rulebase

New Rule: create a new rule in the Rulebase

Undeploy Rulebase: undeploy the Rulebase from the current agent

Get Alerts: get a list of the alerts that are generated by this Rulebase

Export Rulebase: export this Rulebase to a .hrb file on your local machine

Deploy To: deploy this Rulebase to other agents

Undeploy From: undeploy the rulebase from an agent on which it was previously deployed

Rules Details Page

The Rule Details page provide details on the tests associated with the rule. You can also edit or create new tests for the rule.

Figure 10: Rule Details Page

The screenshot shows the TIBCO Enterprise Administrator interface. The top navigation bar includes the TIBCO logo, 'Enterprise Administrator', and a dropdown menu for 'Hawk'. The breadcrumb trail indicates the current location: 'TIBCO Hawk® / Domain: tcpdomain1 / Agent: ntamhank1'. The main content area displays the details for a specific rule: 'Rule: COM.TIBCO.hawk.microagent.TcpClusterStatus:getMemberCount():5'. Above the rule details, there are links for 'Edit Rule', 'New Test', and 'Export MAD'. The rule details section shows the following information: 'Microagent Name: COM.TIBCO.hawk.microagent.TcpClusterStatus', 'Method Name: getMemberCount', 'Interval: 5000', and 'Schedule: None'. Below this, there is a 'Tests' section with a table listing two tests. The table has columns for 'Name', 'True Condition Policy', 'Clear Condition Policy', 'Schedule', and 'Actions'.

Name	True Condition Policy	Clear Condition Policy	Schedule	Actions
(Agent count < 3)	Yes	CLEAR_TIMER	None	Select
(Daemon count < 2)	Yes	CLEAR_ON_FIRST_FALSE	None	Select

Actions

The page contains the following buttons to take action on the rule:

- **Edit Rule** - Click the **Edit Rule** button to update the microagent name, method name, interval, and schedule for the rule.
- **New Test** - Click the **New Test** button to create a new test for the rule.
- **Export MAD** - Click the **Export MAD** button to export the microagent descriptor to the .hmd file.

Rule Information

The following fields are displayed for the rule:

- Microagent Name
- Method Name
- Interval
- Schedule

Test List

The page also displays the list of tests associated with the rule with some information about them. The following are the columns displayed for the tests list:

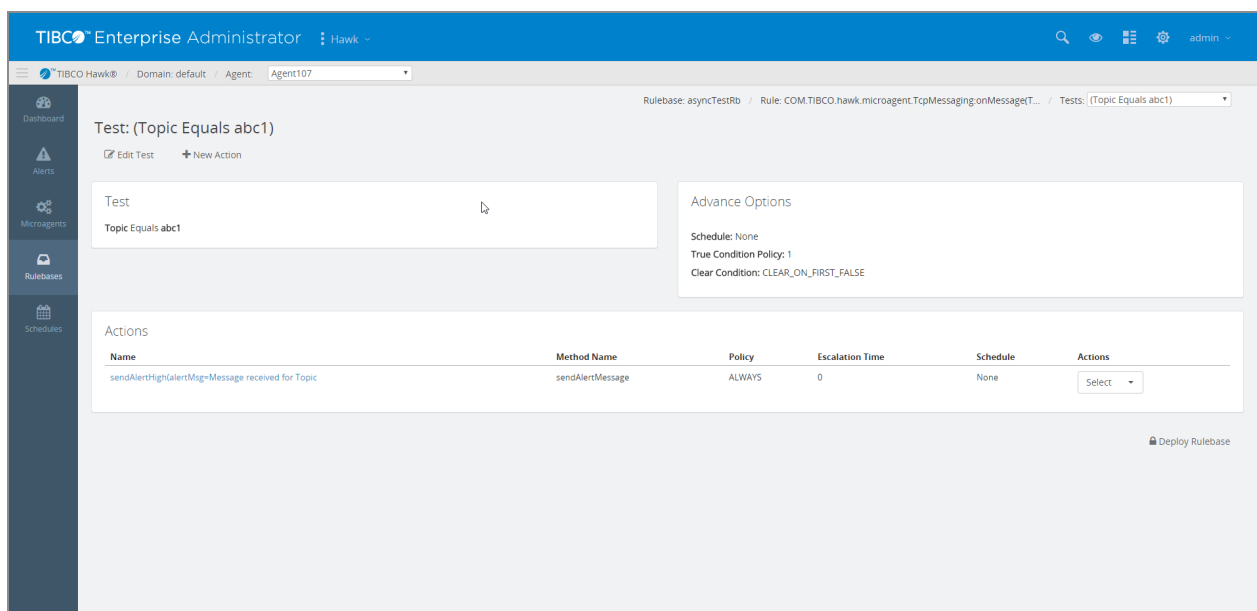
- **Name** - The name of the test. Click on the test name to open the Test Details page.
- **True Condition Policy** - Specifies if the true condition policy has been applied for the test. If the true condition policy has been applied, the action is triggered only after the test passed for the specified number (**True Count Threshold**) of test evaluations. The values are:
 - Yes
 - No
- **Clear Condition Policy** - Specifies the clear policy that is applied to the test. The values are:
 - `CLEAR_ON_FIRST_FALSE` - After the test becomes true, the test is cleared when the first time the test changes from true to false.

- **CLEAR_TIMER** - After the test becomes `true` it remains `true` until the specified interval has passed without an additional `true` test.
- **CLEAR_TEST** - After the test becomes `true`, it becomes `false` only when the specified clear test expression becomes `true`.
- **Schedule** - Specifies the schedule applied to the test.
- **Actions** - Specifies the list of action that you can take on the test. The following actions are available for the test:
 - Edit the test
 - Delete the test
 - Derive a new test from the selected test.

Test Details Page

The Test Details page provides information about the test and the actions associated with it.

Figure 11: Test Details Page



Actions

The page contains the following buttons to take action on the test:

- **Edit Test** - Click the **Edit Test** button to edit the test.
- **New Action** - Click the **New Action** button to create a new action for the test.
- **Deploy Rulebase** - Click the Deploy Rulebase button to deploy the rulebase directly from the Test Details page.

Test Information

The following fields are displayed for the test:

- Test name
- Schedule
- True Condition Policy
- Clear Condition

Action List

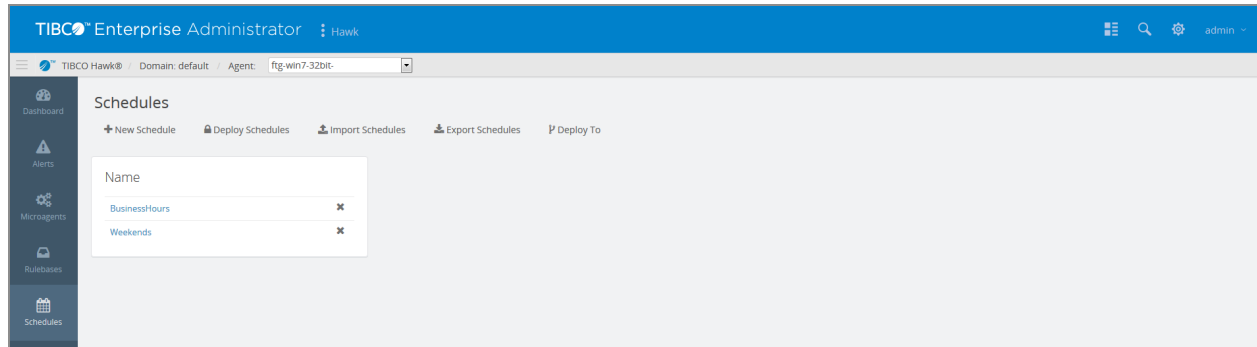
The page also displays the list of actions associated with the test with some information about them. The following are the columns displayed for the actions list:

- **Name** - The name of the action. Click on the action name to open the Action Details page.
- **Method Name** - The method associated with the action type.
- **Policy** - Specifies how the action is performed.
- **Escalation Time** - Specifies the wait interval before the action is performed.
- **Schedule** - Specifies the schedule applied to the action.
- **Actions** - Specifies the list of operations that you can perform on the action. The following operations are available for the action:
 - Edit the action
 - Delete the action
 - Derive a new action from the selected action.

Schedules Page

The Admin agent allows you to create one or more schedules for when the rules should trigger.

Figure 12: Schedules



Adding and Deploying a New Schedule

You can create a new schedule and deploy it to a rulebase, a rule, or a condition within a rule.

Procedure

1. Click the **Schedules** icon in the left vertical pane. The Schedules page will open.
2. Click the **+New Schedule** link to open the Schedule dialog.
3. Enter a name for the schedule you are creating in the **Schedule Name** text box.
4. Select a time zone depending on the location of the machine from the **Time Zone** drop-down menu.
5. Click the **+Save** button. You should see your newly created schedule added on the Schedules page.
6. Click the name of your new schedule. You can specify the time, day, month, and year for the schedule by clicking the + sign in the Inclusion Periods box to specify the time period when you would like the system to apply the rule or rulebases depending on whether the conditions are met. Likewise, you can do the same by clicking the + sign in the Exclusions Periods when you would like the system to ignore the rules or rulebases.
7. Click Deploy Schedules to deploy the schedule to the agent.

8. (Optional) If you would like to deploy this schedule to another agent too, click **Deploy To** link and select the agents to which you would like to deploy the newly created schedule.

Importing and Exporting Schedules

You can export your existing schedules to a .hsf file on your local machine by clicking the **Export Schedules** link. This is helpful when you want to reuse the schedule on another agent. You can import your exported schedule into another agent by clicking the **Import Schedules** link on the Schedules page of the agent. It will save you the effort of recreating the schedules.

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