AppDynamics Application Performance Monitoring Platform

This section provides information on installing, configuring, and administering an on-premises AppDynamics Application Performance Monitoring (APM) Platform deployment.

Installation Overview

Before you install the platform, review the requirements for the components you plan to install and prepare the host machines. The requirements vary based on the components you deploy and the size of your deployment.

For the Controller and Events Service, you first need to install the AppDynamics Enterprise Console. You then use the application to deploy the Controller and Events Service. Note that the Events Service can be deployed as a single node or a cluster. The Enterprise Console is not only the installer for the Controller and Events Service; it can manage the entire lifecycle of new or existing AppDynamics Platforms and components.

You cannot use the Enterprise Console to perform the End User Monitoring (EUM) Server installation. Instead, you must use a package installer that supports interactive GUI or console modes, or a silent response file installation.

Follow these tasks before you start the installation process for the AppDynamics APM Platform:

- Review the Platform Requirements.
- Verify the Enterprise Console host meets the requirements to host the application and the Controller since they share the same host by default for Express Install. You do have the option to install the Enterprise Console on a different host than the Controller's using Custom Install.
- On Linux, verify that you have assigned execute permissions to the installation script with the following command:

  ```
  chmod 775 platform-setup-64bit-linux.sh
  ```

You can get the software for installing the platform components from the AppDynamics download site. See Download AppDynamics Software for more information.

AppDynamics Platform Components and Tools

An on-premises AppDynamics Platform installation consists of several, separately installed and configured components. These include the Controller, MySQL database, Events Service, and optionally the EUM Server.

The AppDynamics Enterprise Console is a GUI and command-line based application that can manage the installation, configuration, and administration of the Controller and Events Service.

For the EUM Server, you must continue to use the package installer to deploy the EUM Cloud. See EUM Server Deployment for more information.

After you install the platform, you can configure and manage different components with component-specific scripts. Based on how you deploy the platform, you might use a combination of the Enterprise Console and package installers to install and manage the various components of the platform.

On-Premises Deployment Architecture

The following diagram depicts the components of a complete on-premises AppDynamics APM Platform deployment. It shows how the components interact to fulfill application, database, infrastructure, end user monitoring, and more.
Depending on the scale of your deployment, your requirements, and the products you are using, your own deployment is likely to consist of a subset of the components shown in the diagram.

You can find a more detailed diagram, as well as a SaaS architecture diagram on PDFs. For a diagram of the Enterprise Console, see the Enterprise Console Platforms Architecture. For a complete diagram of the Synthetic Server Deployment, see the Synthetic Server Deployment Architecture.

**Platform Components**

The following table describes how the components work together in the AppDynamics platform.

<table>
<thead>
<tr>
<th>Product Feature</th>
<th>Components Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Performance Management</td>
<td>4 App Server Agents attach to monitored applications and send data to the 7 Controller via connection A</td>
</tr>
<tr>
<td>Server Visibility</td>
<td>5 Machine Agents reside on monitored servers and report data to the 7 Controller via connection A</td>
</tr>
</tbody>
</table>

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Application Analytics

The Analytics Dynamic Service (formerly called the Analytics plugin) on the App Server agent communicates with a local Analytics Agent instance. One or more Analytics Agents in a deployment send data to the Events Service via connection. The Analytics Agent is bundled with the Machine Agent but can be installed and run individually as well.

Database Visibility

The Database Agent connects by JDBC to monitored databases. The agent sends data to the Controller (via connection), which uses the Events Service to store certain types of data.

End User Monitoring

For an on-premises EUM installation, you configure a connection to the web and mobile real user monitoring agents to the on-premises EUM Server via connection. The EUM Server sends data to the Events Service cluster via connection. The optional Custom EUM Geo Server stores EUM Geo Resolution data taken via connection. The optional Synthetic Server receives synthetic job requests from the Controller, which are then fetched from the Synthetic Services via connection.

Platform Connections

The following table lists and describes the traffic flow between AppDynamics platform components.

<table>
<thead>
<tr>
<th>Connection</th>
<th>Source</th>
<th>Destination</th>
<th>Traffic</th>
<th>Protocol</th>
<th>Default Port(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1 AppDynamics users through the web GUI, 2 REST API, 3 Database Agent, 4 Application Server Agent, and 5 Machine and Analytics Agents</td>
<td>7 Controller</td>
<td>APM/Database Metrics</td>
<td>HTTP(S)</td>
<td>8090/8181</td>
</tr>
<tr>
<td>B</td>
<td>5 Analytics Agent</td>
<td>8 Events Service Cluster</td>
<td>Log and Transaction Analytics Event Data</td>
<td>HTTP</td>
<td>9080</td>
</tr>
<tr>
<td>C</td>
<td>6 Real User Monitoring (RUM) Agents</td>
<td>9 End User Monitoring (EUM) Server</td>
<td>EUM Beacon Data</td>
<td>HTTP(S)</td>
<td>7001/7002</td>
</tr>
<tr>
<td>D</td>
<td>6 Real User Monitoring (RUM) Agents</td>
<td>10 Custom EUM Geo Server</td>
<td>EUM Geo Resolution Mapping Data</td>
<td>HTTP(S)</td>
<td>80/443</td>
</tr>
<tr>
<td>E</td>
<td>7 Controller</td>
<td>9 EUM Server</td>
<td>EUM Metric Data</td>
<td>HTTP(S)</td>
<td>7001 7002 (demo mode only)</td>
</tr>
<tr>
<td>F</td>
<td>7 Controller</td>
<td>8 Events Service Cluster</td>
<td>Analytics Event Data</td>
<td>HTTP(S)</td>
<td>9080/9081</td>
</tr>
<tr>
<td>G</td>
<td>9 EUM Server</td>
<td>8 Events Service Cluster</td>
<td>EUM Event Data</td>
<td>HTTP(S)</td>
<td>9080/9081</td>
</tr>
<tr>
<td>H</td>
<td>11 Synthetic Agents</td>
<td>12 Synthetic Server</td>
<td>Synthetic Measurement Data</td>
<td>HTTP(S)</td>
<td>10101/10102</td>
</tr>
</tbody>
</table>

The default port 9081 is the Admin port (HTTP).
Data Storage Location

Data is stored in the following locations:

- APM configuration and metric data in the on-premise Controller MySQL database
- EUM event data in the Events Service
- Transaction and log analytics data in the Events Service
- EUM Geo Resolution data in the on-premise GeoServer
- EUM Synthetic data in the on-premise Synthetic Server

Installation and Upgrade Overview

The installation and upgrade process for the AppDynamics platform consists of pre-installation steps where you prepare the network and host machines for installation, installation tasks, and post-install steps to complete the required configuration. Planning Your Deployment provides a high-level review of the steps required.

After this process, you can perform optional configurations and administrative tasks described in Secure the Platform.

To start the installation or upgrade process, see Platform Requirements for information about requirements and pre-installation tasks.