

BigFix Runbook AI Installation Guide Version 6.3





The data contained in this document shall not be duplicated, used, or disclosed in whole or in part for any purpose. If a contract is awarded to chosen parties because of or in connection with the submission of this data, the client or prospective client shall have the right to duplicate, use, or disclose this data to the extent provided in the contract. This restriction does not limit the client's or prospective client's right to use the information contained in the data if it is obtained from another source without restriction. The data subject to this restriction is contained in all marked sheets.

HCL has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the HCL website at www.hcltechsw.com.

Copyright © 2023 HCLTech. All rights reserved.



## Contents

1		Preface	18
	1.1	Intended Audience	18
	1.2	About this Guide	18
	1.3	Related Documents	18
	1.4	Conventions	18
2		BigFix Runbook AI Overview	20
3		BigFix Runbook AI Installation	22
	3.1	Environment Preparation	23
	22	Environment Planning	23
	3.2	1 RigEix Runhook Al Components	25
	3.2.	2 Deployment Identification Mode	24
	3.2	3 Component Installation Prerequisites	20
	0.2.		
	3.3	Prerequisites to Run the Installer	42
	3.3.	1 Installer	43
	3.4	BigFix Runbook AI Installation	43
	3.4.	.1 Run the Installer	44
	3.4.	2 Install BigFix Runbook Al	44
	3.4.	3 Database Setup	46
	3.4.	4 Component Setup	47
	3.4.	5 Server Configuration	52
	3.4.	.6 Run Pre-Requisite Checker	53
	3.4.	7 Configure Admin Details	56
	3.4.	8 Install	57
	35	Post Installation Activities	60
	35	1 Enable Secure Communication (Changing HTTP to HTTPS)	61
	3.5	<ul> <li>2 Configuration Changes – Certificate Name Change (Type – PFX)</li> </ul>	106
	3.5	3 Configuration Changes – Certificate Name Change for PEM/CRT/KEY Certificates	148
	3.5	4 Load Balancer Configuration	148
	3.5.	5 Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX)	157
	3.5.	.6 Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX)	165
	3.5.	7 Configuration Changes - Access BigFix Runbook AI without Certificate (Type – PEM)	169
	3.5.	8 Configuration Changes - Run BASEUI and WEBAPI on Same Port	177
	3.5.	.9 Configuration Changes in Apache –FOR PYTHON COMPONENTS	181
4		Appendix	.185
	<u>4</u> 1	List of Abbreviations	185
	7.4		100



## Table of Figures

Figure 1 - BigFix Runbook AI Workflow	20
Figure 2 - BigFix Runbook AI Implementation	45
Figure 3 - Database Details	46
Figure 4 - Select Authentication	46
Figure 5 - Test Connection	47
Figure 6 - Component Setup	48
Figure 7 - Configure Mongo DB and Solr	51
Figure 8 - Check Mongo DB and Solr Connection Status	51
Figure 9- Server Configuration	52
Figure 10 - Successful Validation	53
Figure 11 - Prerequisite Checker	54
Figure 12 - Pre-Requisite Checking in Progress	54
Figure 13 - Pre-Requisite Checker Status	55
Figure 14 - Prerequisite Checker Report	55
Figure 15 - Configure Admin Details	56
Figure 16 – Installation	57
Figure 17 - Installation Progress	58
Figure 18 - Installation Progress (In case of failure)	58
Figure 19 - Installation Successful	59
Figure 20 - Delete Folders before launch	59
Figure 21 - Message on Launching BigFix Runbook Al	60
Figure 22 - BigFix Runbook AI Login Page	60
Figure 23 - Hosting KRS from HTTP to HTTPS	61
Figure 24 - Hosting KRS from HTTP to HTTPS (cont.)	62

	62
Figure 26 - Hosting KRS from HTTP to HTTPS (cont.)	63
Figure 27 - Hosting KRS from HTTP to HTTPS (cont.)	63
Figure 28 - Hosting KRS from HTTP to HTTPS (cont.)	64
Figure 29 - Hosting KRS from HTTP to HTTPS (cont.)	64
Figure 31 - Hosting Base user interface from HTTP to HTTPS	64
Figure 32 - Hosting Base user interface from HTTP to HTTPS (cont.)	65
Figure 33 - Hosting Base user interface from HTTP to HTTPS (cont.)	65
Figure 34 - Hosting Base user interface from HTTP to HTTPS (cont.)	66
Figure 35 - Hosting Base user interface from HTTP to HTTPS (cont.)	66
Figure 36 - Hosting Base user interface from HTTP to HTTPS (cont.)	67
Figure 37 - Hosting Base user interface from HTTP to HTTPS (cont.)	67
Figure 38 - Hosting Base user interface from HTTP to HTTPS (cont.)	67
Figure 39 - Hosting Web API from HTTP to HTTPS	67
Figure 39 - Hosting Web API from HTTP to HTTPS Figure 40 - Hosting Web API from HTTP to HTTPS (Cont.)	67 68
Figure 39 - Hosting Web API from HTTP to HTTPS Figure 40 - Hosting Web API from HTTP to HTTPS (Cont.) Figure 41 - Hosting Web API from HTTP to HTTPS (Cont.)	67 68 68
<ul> <li>Figure 39 - Hosting Web API from HTTP to HTTPS</li> <li>Figure 40 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 41 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 42 - Hosting Web API from HTTP to HTTPS (Cont.)</li> </ul>	67 68 68 68
<ul> <li>Figure 39 - Hosting Web API from HTTP to HTTPS</li> <li>Figure 40 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 41 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 42 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 43 - Hosting Web API from HTTP to HTTPS (Cont.)</li> </ul>	67 68 68 68 68
<ul> <li>Figure 39 - Hosting Web API from HTTP to HTTPS</li> <li>Figure 40 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 41 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 42 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 43 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 44 - Hosting Listener from HTTP to HTTPS</li> </ul>	67 68 68 68 68 69
<ul> <li>Figure 39 - Hosting Web API from HTTP to HTTPS</li> <li>Figure 40 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 41 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 42 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 43 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 44 - Hosting Listener from HTTP to HTTPS</li> <li>Figure 45 - Hosting Listener from HTTP to HTTPS</li></ul>	
<ul> <li>Figure 39 - Hosting Web API from HTTP to HTTPS</li> <li>Figure 40 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 41 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 42 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 43 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 44 - Hosting Listener from HTTP to HTTPS</li></ul>	
<ul> <li>Figure 39 - Hosting Web API from HTTP to HTTPS</li> <li>Figure 40 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 41 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 42 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 43 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 44 - Hosting Listener from HTTP to HTTPS</li> <li>Figure 45 - Hosting Listener from HTTP to HTTPS (cont.)</li> <li>Figure 46 - Hosting Listener from HTTP to HTTPS (cont.)</li> <li>Figure 47 - Hosting Listener from HTTP to HTTPS (cont.)</li> </ul>	
<ul> <li>Figure 39 - Hosting Web API from HTTP to HTTPS</li> <li>Figure 40 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 41 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 42 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 43 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 44 - Hosting Listener from HTTP to HTTPS</li> <li>Figure 45 - Hosting Listener from HTTP to HTTPS (cont.)</li></ul>	
<ul> <li>Figure 39 - Hosting Web API from HTTP to HTTPS</li> <li>Figure 40 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 41 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 42 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 43 - Hosting Web API from HTTP to HTTPS (Cont.)</li> <li>Figure 44 - Hosting Listener from HTTP to HTTPS</li> <li>Figure 45 - Hosting Listener from HTTP to HTTPS (cont.)</li> <li>Figure 46 - Hosting Listener from HTTP to HTTPS (cont.)</li> <li>Figure 47 - Hosting Listener from HTTP to HTTPS (cont.)</li> <li>Figure 48 - Hosting Listener from HTTP to HTTPS (cont.)</li> <li>Figure 49 - Hosting Listener from HTTP to HTTPS (cont.)</li> </ul>	

Figure 51 - Identify Thumbprint of the Certificate	73
Figure 52 - Identify Thumbprint of the Certificate (cont.)	73
Figure 53 - Identify Thumbprint of the Certificate (cont.)	74
Figure 54 - Identify Thumbprint of the Certificate (cont.)	75
Figure 55 - Identify Thumbprint of the Certificate (cont.)	76
Figure 56 - Identify Thumbprint of the Certificate (cont.)	76
Figure 57 - Identify Thumbprint of the Certificate (cont.)	77
Figure 58 - Hosting Listener from HTTP to HTTPS	78
Figure 59 - Hosting Listener from HTTP to HTTPS (cont.)	78
Figure 60 - Hosting Listener from HTTP to HTTPS (cont.)	79
Figure 61 - Hosting Listener from HTTP to HTTPS (cont.)	80
Figure 62 - Hosting Listener from HTTP to HTTPS (cont.)	80
Figure 63 - Hosting Listener from HTTP to HTTPS (cont.)	80
Figure 65 - Hosting Listener from HTTP to HTTPS (cont.)	81
Figure 66 - Hosting Listener from HTTP to HTTPS (cont.)	81
Figure 67 - Hosting Data Collector from HTTP to HTTPS	81
Figure 68 - Hosting Data Collector from HTTP to HTTPS (cont.)	82
Figure 69 - Hosting Data Collector from HTTP to HTTPS (cont.)	82
Figure 70 - Hosting Data Collector from HTTP to HTTPS (cont.)	83
Figure 71 - Hosting Data Collector from HTTP to HTTPS (cont.)	83
Figure 72 - Hosting Data Collector from HTTP to HTTPS (cont.)	83
Figure 73 - Hosting Data Collector from HTTP to HTTPS (cont.)	84
Figure 74 - Hosting Data Collector from HTTP to HTTPS (cont.)	84
Figure 75 - Hosting Data Collector from HTTP to HTTPS (cont.)	84
Figure 76 - Hosting Generic Service from HTTP to HTTPS	85

<b>D</b> E	Big	Fix
------------	-----	-----

Figure 77 - Hosting Generic Service from HTTP to HTTPS (Cont.)	5
Figure 78 - Hosting Generic Service from HTTP to HTTPS (Cont.)	5
Figure 79 - Hosting Generic Service from HTTP to HTTPS (Cont.)	5
Figure 80 - Hosting Generic Service from HTTP to HTTPS (Cont.)	7
Figure 81-Hosting Generic Service from HTTP to HTTPS (Cont.)	7
Figure 82 - Hosting Generic Service from HTTP to HTTPS (Cont.)	7
Figure 83 - Hosting Generic Service from HTTP to HTTPS (Cont.)	7
Figure 84 - Hosting Generic Service from HTTP to HTTPS (Cont.)	3
Figure 85 - Hosting RBA Component from HTTP to HTTPS88	3
Figure 86 - Hosting RBA Component from HTTP to HTTPS89	Э
Figure 87 - Hosting RBA Component from HTTP to HTTPS (Cont.)90	C
Figure 88 - Hosting RBA Component from HTTP to HTTPS (Cont.)91	1
Figure 89 - Hosting RBA Component from HTTP to HTTPS (Cont.)91	1
Figure 90 - Hosting RBA Component from HTTP to HTTPS (Cont.)91	1
Figure 91 - Hosting RBA Component from HTTP to HTTPS (Cont.)92	2
Figure 92 - Hosting RBA Component from HTTP to HTTPS (Cont.)92	2
Figure 93 - Hosting RBA Component from HTTP to HTTPS (Cont.)92	2
Figure 94 - Hosting Release Service from HTTP to HTTPS93	3
Figure 95 - Hosting Release Service from HTTP to HTTPS (Cont.)93	3
Figure 96 - Hosting Release Service from HTTP to HTTPS (Cont.)94	4
Figure 97 - Hosting Release Service from HTTP to HTTPS (Cont.)95	5
Figure 98 - Hosting Release Service from HTTP to HTTPS (Cont.)95	5
Figure 99 - Hosting Release Service from HTTP to HTTPS (Cont.)95	5
Figure 100 - Hosting Release Service from HTTP to HTTPS (Cont.)	5
Figure 101 - Hosting Release Service from HTTP to HTTPS (Cont.)	6

Figure 102 - Hosting Release Service from HTTP to HTTPS (Cont.)	96
Figure 103 - Hosting AD Sync from HTTP to HTTPS	97
Figure 104 - Hosting AD Sync from HTTP to HTTPS (cont.)	97
Figure 105 - Hosting AD Sync from HTTP to HTTPS (cont.)	
Figure 106 - Hosting AD Sync from HTTP to HTTPS (cont.)	
Figure 107 - Hosting AD Sync from HTTP to HTTPS (cont.)	
Figure 108 - Hosting AD Sync from HTTP to HTTPS (cont.)	
Figure 109 - Hosting AD Sync from HTTP to HTTPS (cont.)	
Figure 110 - Hosting AD Sync from HTTP to HTTPS (cont.)	
Figure 111 - Hosting AD Sync from HTTP to HTTPS (cont.)	
Figure 112 - Hosting Email Service from HTTP to HTTPS	
Figure 113 - Hosting Email Service from HTTP to HTTPS (cont.)	
Figure 114 - Hosting Email Service from HTTP to HTTPS (cont.)	
Figure 115 - Hosting Email Service from HTTP to HTTPS (cont.)	
Figure 116 - Hosting Email Service from HTTP to HTTPS (cont.)	
Figure 117 - Hosting Email Service from HTTP to HTTPS (cont.)	
Figure 118 - Hosting Email Service from HTTP to HTTPS (cont.)	
Figure 119 - Hosting Email Service from HTTP to HTTPS (cont.)	
Figure 120 – Hosting Email Service from HTTP to HTTPS (cont.)	
Figure 121 - Configuration Changes via GUI from HTTP to HTTPS	
Figure 122 - Configuration Changes via GUI from HTTP to HTTPS (Cont.)	
Figure 123 - Configuration Changes via GUI from HTTP to HTTPS (Cont.)	
Figure 124 - Configuration Changes via GUI from HTTP to HTTPS (Cont.)	
Figure 125 - Configuration Changes via GUI from HTTP to HTTPS (Cont.)	
Figure 126 - Configuration Changes via GUI from HTTP to HTTPS (Cont.)	

Figure 127 - Configuration Changes via GUI from HTTP to HTTPS (Cont.)	106
Figure 250 - Certificate Name Change – KRS	107
Figure 251 - Certificate Name Change – KRS (Cont.)	107
Figure 252 - Certificate Name Change – KRS (Cont.)	107
Figure 253 - Certificate Name Change – KRS (Cont.)	107
Figure 254 - Certificate Name Change – KRS (Cont.)	108
Figure 255 - Certificate Name Change – BaseUI	108
Figure 256 - Certificate Name Change – BaseUI (Cont.)	108
Figure 257 - Certificate Name Change – BaseUI (Cont.)	109
Figure 258 - Certificate Name Change – BaseUI (Cont.)	109
Figure 259 - Certificate Name Change – BaseUI (Cont.)	109
Figure 260 - Certificate Name Change – Web API	109
Figure 261 - Certificate Name Change – Web API (cont.)	110
Figure 262 - Certificate Name Change – Web API (cont.)	110
Figure 263 - Certificate Name Change – Web API (cont.)	110
Figure 264 - Certificate Name Change – Web API (cont.)	110
Figure 265 - Certificate Name Change – Listener	111
Figure 266 - Certificate Name Change – Listener (cont.)	111
Figure 267 - Certificate Name Change – Listener (cont.)	112
Figure 268 - Certificate Name Change – Listener (cont.)	113
Figure 269 - Certificate Name Change – Listener (cont.)	113
Figure 270 - Certificate Name Change – Listener (cont.)	113
Figure 271- Certificate Name Change – Listener (cont.)	114
Figure 272 - Certificate Name Change – Data Collector	114
Figure 273 - Certificate Name Change – Data Collector (Cont.)	115

# **BigFix**

Figure 274 - Certificate Name Change – Data Collector (Cont.)	115
Figure 275 - Certificate Name Change – Data Collector (Cont.)	116
Figure 276 - Certificate Name Change – Data Collector (Cont.)	116
Figure 277 - Certificate Name Change – Data Collector (Cont.)	116
Figure 278 - Certificate Name Change – Data Collector (Cont.)	117
Figure 279 - Certificate Name Change – Data Collector (Cont.)	117
Figure 280 - Certificate Name Change – Generic Service	118
Figure 281 - Certificate Name Change – Generic Service (cont.)	118
Figure 282 - Certificate Name Change – Generic Service (cont.)	119
Figure 283 - Certificate Name Change – Generic Service (cont.)	
Figure 284- Certificate Name Change – Generic Service (cont.)	120
Figure 285 - Certificate Name Change – Generic Service (cont.)	120
Figure 286 - Certificate Name Change – Generic Service (cont.)	121
Figure 287- Certificate Name Change – Generic Service (cont.)	121
Figure 288 - Certificate Name Change – RBA Component	121
Figure 289 - Certificate Name Change – RBA Component (cont.)	
Figure 290 - Certificate Name Change – RBA Component (cont.)	
Figure 291 - Certificate Name Change – RBA Component (cont.)	124
Figure 292 - Certificate Name Change – RBA Component (cont.)	124
Figure 293 - Certificate Name Change – RBA Component (cont.)	124
Figure 294 - Certificate Name Change – RBA Component (cont.)	125
Figure 295 - Certificate Name Change – RBA Component (cont.)	125
Figure 296 - Certificate Name Change – Release Service	125
Figure 297 - Certificate Name Change – Release Service (cont.)	126
Figure 298 - Certificate Name Change – Release Service (cont.)	

Figure 299 - Certificate Name Change – Release Service (cont.)
Figure 300 - Certificate Name Change – Release Service (cont.)
Figure 301 - Certificate Name Change – Release Service (cont.)
Figure 302 - Certificate Name Change – Release Service (cont.)
Figure 303 - Certificate Name Change – Release Service (cont.)
Figure 304 - Certificate Name Change – AD Sync Service
Figure 305 - Certificate Name Change – AD Sync Service (cont.)
Figure 306 - Certificate Name Change – AD Sync Service (cont.)
Figure 307 - Certificate Name Change – AD Sync Service (cont.)
Figure 308 - Certificate Name Change – AD Sync Service (cont.)
Figure 309 - Certificate Name Change – AD Sync Service (cont.)
Figure 310 - Certificate Name Change – AD Sync Service (cont.)
Figure 311 - Certificate Name Change – AD Sync Service (cont.)
Figure 312 - Certificate Name Change – Email Service
Figure 313 - Certificate Name Change – Email Service (cont.)
Figure 314 - Certificate Name Change – Email Service (cont.)
Figure 315 - Certificate Name Change – Email Service (cont.)
Figure 316 - Certificate Name Change – Email Service (cont.)
Figure 317 - Certificate Name Change – AD Sync Service (cont.)
Figure 318 - Certificate Name Change – Email Service (cont.)
Figure 319 – Certificate Name Change – Email Service (cont.)
Figure 320 - Certificate Name Change – iRecommend
Figure 321 - Certificate Name Change – iRecommend (Cont.)
Figure 322 - Certificate Name Change – iRecommend (Cont.)
Figure 323 - Certificate Name Change – iRecommend (Cont.)

# **BigFix**

Figure 324 - Certificate Name Change – iRecommend (Cont.)	
Figure 325 - Certificate Name Change – iRecommend (Cont.)	138
Figure 326 - Certificate Name Change – iParse	139
Figure 327 - Certificate Name Change – iParse (Cont.)	139
Figure 328 - Certificate Name Change – iParse (Cont.)	
Figure 329 - Certificate Name Change – iParse (Cont.)	141
Figure 330 - Certificate Name Change – iParse (Cont.)	141
Figure 331 - Certificate Name Change – iScrape	142
Figure 332 - Certificate Name Change – iUnique	142
Figure 333 - Certificate Name Change – iUnique	143
Figure 334 - Certificate Name Change – iUnique	144
Figure 335 - Certificate Name Change – iUnique	145
Figure 336 - Certificate Name Change – iUnique	145
Figure 337 - Certificate Name Change – Knowledge	
Figure 338 - Certificate Name Change – Knowledge (Cont.)	
Figure 339 - Certificate Name Change – Knowledge (Cont.)	
Figure 340 - Certificate Name Change – Knowledge (Cont.)	
Figure 341 - Certificate Name Change – Knowledge (Cont.)	
Figure 342 - Certificate Name Change – Knowledge (Cont.)	
Figure 343 - Certificate Name Change (PEM / CRT / Key Certificate)	
Figure 344 - Load Balancer Configuration	
Figure 345 - Load Balancer Configuration (cont.)	149
Figure 346 - Load Balancer Configuration (cont.)	150
Figure 347 - Load Balancer Configuration (cont.)	150
Figure 348 - Load Balancer Configuration (cont.)	

# **BigFix**

Figure 349 - Load Balancer Configuration (cont.)151
Figure 350 - Load Balancer Configuration (cont.)151
Figure 351 - Load Balancer Configuration (cont.)152
Figure 352 - Load Balancer Configuration (cont.)152
Figure 353 - Load Balancer Configuration (cont.)152
Figure 354 - Load Balancer Configuration (cont.)153
Figure 355 - Load Balancer Configuration (cont.)153
Figure 356 - Load Balancer Configuration (cont.)154
Figure 357 - Load Balancer Configuration (cont.)155
Figure 358 - Load Balancer Configuration (cont.)155
Figure 359 - Load Balancer Configuration (cont.)155
Figure 360 - Load Balancer Configuration (cont.)156
Figure 361 - Load Balancer Configuration (cont.)156
Figure 362 - Load Balancer Configuration (cont.)156
Figure 363 - Load Balancer Configuration (cont.)157
Figure 364 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX)158
Figure 365 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.) 158
Figure 366 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.) 159
Figure 367 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.)159
Figure 368 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.) 159
Figure 369 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.) 160
Figure 370 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.) 160
Figure 371 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX)160
Figure 372 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX)161
Figure 373 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.) 161

Figure 374 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.) 162 Figure 375 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.) 162 Figure 376 🛽 Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.) 163 Figure 377 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.) 164 Figure 378 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.) 164 Figure 379 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.) 164 Figure 380 - Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.) ..... 165 Figure 381 Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.).......166 Figure 382 - Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.) ..... 166 Figure 383 - Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.) ..... 166 Figure 384 - Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.) ..... 166 Figure 385 - Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.) ..... 166 Figure 386 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.) 167 Figure 387 - Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.) ..... 168 Figure 388- Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.) ..... 169 Figure 389 - Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.) ..... 169 Figure 390 - Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.) ..... 169 

#### BigFix Runbook AI Installation Guide

# **BigFix**

Figure 399 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)
Figure 400 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)
Figure 401 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)
Figure 402 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)
Figure 403 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)
Figure 404 - Configuration Changes - Run BASEUI and WEBAPI on Same Port
Figure 405 - Configuration Changes - Run BASEUI and WEBAPI on Same Port
Figure 406 - Configuration Changes - Run BASEUI and WEBAPI on Same Port
Figure 407 - Configuration Changes - Run BASEUI and WEBAPI on Same Port
Figure 408 - Configuration Changes - Run BASEUI and WEBAPI on Same Port
Figure 409 - Configuration Changes - Run BASEUI and WEBAPI on Same Port
Figure 410 - Configuration Changes - Run BASEUI and WEBAPI on Same Port181



## List of Tables

Table 1 - Conventions	19
Table 2 - Environment Categorization	23
Table 4 - Minimal Deployment	26
Table 5 - Small Environment without High Availability (HA)	28
Table 6 - Medium Environment without HA	
Table 7 - Large Environment without HA	
Table 8 - Small Environment with HA	
Table 9 - Medium Environment with HA	
Table 10 - Large Environment with HA	
Table 11 - Component Installation Prerequisites	41
Table 12 - Prerequisites to Run the Installer	43
Table 13 - BigFix Runbook AI Components	48
Table 14 - MongoDB Configuration Parameters	50
Table 15 - List of Abbreviations	

## **Document Revision History**

This guide is updated with each release of the product or when necessary.

This table provides the revision history of this Installation Guide.

Version Date	Description
June, 2023	BigFix Runbook AI v6.3 Installation Guide

## 1 Preface

This section provides information about the **BigFix Runbook AI Installation Guide** and includes the following topics.

- Intended Audience
- About This Guide
- <u>Related Documents</u>
- <u>Conventions</u>

### 1.1 Intended Audience

This information is intended for administrators responsible for installing **BigFix Runbook AI** and infrastructure administrators responsible for provisioning infrastructure required for installation of BigFix Runbook AI.

### 1.2 About this Guide

This guide provides instructions to install BigFix Runbook AI. It includes the pre-installation and the installation procedures for BigFix Runbook AI.

This guide also provides summary material about additional servers and optional post- installations and references to the other documents for detailed information.

### 1.3 Related Documents

The following documents can be referenced in addition to this guide for further information on the BigFix Runbook AI platform.

- BigFix Runbook AI User Guide
- BigFix Runbook AI Pre-Requisite Guide
- BigFix Runbook AI Troubleshooting Guide

### 1.4 Conventions

The following typographic conventions are used in this document:



	Table 1 - Conventions
Convention	Element
Boldface	Indicates graphical user interface elements associated with an action, or terms defined in text or the glossary
Underlined Blue Face	Indicates cross-reference and links
Italic	Indicates document titles, occasional emphasis, or glossary terms
Courier New (Font	Indicates commands within a paragraph, URLs, code in examples, and paths including onscreen text and text input from users
Numbered lists	Indicates steps in a procedure to be followed in a sequence
Bulleted lists	Indicates a list of items that is not necessarily meant to be followed in a sequence

## 2 BigFix Runbook Al Overview

**BigFix Runbook AI** is an Intelligent Runbook Automation product which is equipped with Artificial Intelligence, Machine Learning and Natural Language Processing capabilities for simplifying and automating the IT Operations issues resolution lifecycle including incidents, service request tasks, change request tasks and events. It leverages its NLP capabilities for analyzing and understanding the context of a specific issue, recommends the most relevant solution and even triggers the execution, thereby enabling Zero Touch Automated Remediation. It also provides AI-driven Knowledge Recommendation by suggesting relevant knowledge articles from various repositories, both internal and external, as and when required by human agents.

When no runbook is available for automated remediation, it searches & downloads relevant executable codes and scripts for subject matter expert to validate, customize, approve and publish for the future use.



#### Figure 1 - BigFix Runbook AI Workflow

Intelligent automation powered by BigFix Runbook AI can make a tremendous impact in an enterprise adjusting to the New Normal:



#### - Reduces Costs

- Achieves up to 30% reduction in service desk related costs
- Quick and High ROI

#### – Mitigates Risks

- Avoids operational risks and ensures compliance by avoiding critical outages
- Reduces escalations and improves SLA compliance by up to 20%
- Achieves up to 85% reduction in MTTTR

#### – Drives Efficiency

- Automates redundant tasks and lets employees focus on more creative activities
- Reduces manual effort by 30% to 60%
- Improves customer satisfaction by up to 50% by providing faster incident and service request resolutions.

#### - Rapid Time to Value

- Quick implementation in 6 to 8 weeks\*
- Leverages 300+ reusable and configurable runbooks out of the box

\*Conditions Apply

## 3 BigFix Runbook AI Installation

This section describes the detailed BigFix Runbook AI installation procedure and the various stages involved in this process.

The BigFix Runbook AI installation process comprises the following steps:

#### 1. Plan and Prepare Your Environment

Prior to installing BigFix Runbook AI, the environment, hardware, and networking components must be prepared and configured. The relevant software dependencies must be installed. For more information about preparing components for installation, see Environment Planning.

#### 2. Complete Pre-installation Tasks

Lists tasks the user needs to complete before installing BigFix Runbook AI.

#### 3. Installation

After the environment has been prepared and the relevant databases and servers have been provisioned, user can install the BigFix Runbook AI product.

#### 4. Complete Post Install Checks

After installing the BigFix Runbook AI product, complete the post installation tasks. These tasks include specific steps required for BigFix Runbook AI Configuration. For more information about the post-installation tasks, see Configure BigFix Runbook AI.

A complete installation of BigFix Runbook AI includes databases, a web interface, and a set of services including iRecommend, iParse, iUnique, iScrape, iKnowledge and others.

#### This section includes the following topics:

- <u>Environment Planning</u>
- <u>Environment Preparation</u>
- Prerequisites to Run the Installer
- BigFix Runbook AI Installation
- BigFix Runbook AI Upgradation
- Post-Installation Activities

## 3.1 Environment Preparation

This section details how to prepare the environment to perform the physical installation and configuration of BigFix Runbook AI. Before proceeding, users should familiarize themselves with the different components of BigFix Runbook AI.

### 3.2 Environment Planning

Before preparing the deployment environment, see the environment categorization table and plan accordingly. Environments are classified in three categories based on the parameters listed below:

Environment Indicator	Number of Tickets (per month)	Number of Unique Tickets (per month)	Number of Documents Processed	Number of Search Queries (per month)	Concurrent Executions	Data Retention
Small	Less than 30,000	Less than 500	Less than 1,000	Less than 5,000	up to 100	6 months
Medium	30,000 to 60,000	500 to 1,000	1,000 to 3,000	5,000 to 10,000	up to 200	6 months
Large	60,000 to 1,50,000	1,000 to 3,000	3,000 to 5,000	10,000 to 30,000	up to 400	6 months

Table 2 - Environment Categorization

Data Retention is only applicable for ticket data.

Search Queries and Document Process is only applicable when iKnowledge module is installed.

Concurrent Executions have been arrived at based on the limitation of the RBA tool for runbook executions and the ITSM tool for pushing tickets into BigFix Runbook AI.

### 3.2.1 BigFix Runbook AI Components

BigFix Runbook AI follows a multi-tier architecture and includes the following components:

- Web Components- This includes the user interface that enables the configuration, management, and quick resolution of tickets.
- Service Components- It is divided into two categories:
  - **Application Components-** This includes essential services that work together to achieve the core functionality of BigFix Runbook AI.
  - Advanced AI Components- This includes features like Solution Creation; Natural Language Processing (NLP) based assisted services, and so on.

The following table lists the components available on different servers.



Server Type	Components	Description				
	Web III	Web User Interface for Admin, Configuration, Operations Console, Dashboards and				
		Knowledge Analysis and Search functionalities				
Web		It is an API in the BigFix Runbook AI web module that can be accessed using the				
Component	WED AFT	HTTP protocol.				
	KDC	The Key Rotation Service component which serves the purpose of providing				
	KNJ	additional security through rotation of keys on a periodic basis.				
	iPocommond	It leverages Natural Language Processing and is responsible for recommending the				
	IRecommenta	best-suited runbook for resolving the issue based on the ticket description				
	:Deree	It serves the purpose of analyzing the ticket description and summary for extracting				
	iParse	relevant parameters to be passed to configurable runbooks				
	11.1.1.1.1.1.1.1	It helps in clustering the ticket data (incident, service requests, change requests)				
	IUnique	into different categories for identification of automation opportunities				
	Data Collector	It is responsible for collecting ticket information from the ITSM tool				
	Generic					
	Executor	It is used for data processing at the DB layer for enabling backend processes.				
	n RBA Executor	It helps in triggering the identified runbook for automatic resolution using an				
Application		underlying RBA tool				
Component		It is used to release the ticket in case an appropriate runbook is not recommended				
	Release	OR runbook execution for a ticket fails. In the latter case, the ticket is released and				
		assigned to a human agent to investigate it.				
		Ticket passes through multiple stages during the resolution lifecycle using BigFix				
	<b>C</b>	Runbook AI. Generic Listener module is responsible for ensuring the ticket is moved				
	Generic	to the next stage based on the outcome. Its job is to identify the status of the				
	Listener	present stage and based on success / failure, move the ticket to the consequent				
		stage in the lifecycle				
	AD Sync	It is responsible for fetching LDAP user from LDAP Server.				
	Email Service	It is responsible for sending mail based notifications to user.				
		It returns a list of relevant documents for a query that have been crawled from				
	Auvanceu	different repositories like SNOW KB, Web URL, Satori repository, and internal files				
Advanced Al	кноміваве	and folders.				
component	iknowledge	It returns a list of relevant results from Google for a query, if no relevant document				
	iknowledge	exists in the organization's repository.				



Knowledge	It enables users to provide feedback as a rating for the document search
rating	corresponding to the ticket summary.
iScrape	It helps in automated runbook creation for ticket categories for which runbooks don't exist by exploring various internal and external data sources for relevant executable code snippets and scripts.

Before starting the installation, identify the components that user needs to install based on the requirement. Also, the user needs to identify the deployment mode from the below list based on the Environment categorization identified earlier.

### 3.2.2 Deployment Identification Mode

BigFix Runbook AI can be installed in the following deployment modes using the installer.

#### 3.2.2.1 Minimal Deployment Mode

In this mode, the following BigFix Runbook AI servers are deployed:

- Web and Application Server: This server hosts the Web UI and the application components.
- Advanced AI Server, MongoDB and Solr: This server hosts iScrape, iKnowledge, and Advanced iKnowledge components along with the Document Storage (MongoDB) and Indexer (Solr).
- Database Server: This server hosts the SQL Server database, which is the main transactional database of BigFix Runbook AI.

The following table describes the hardware and software requirements for this installation.

		Т	able 3 - Minima	l Deployment			
Server	Compone t	n Sub- Components	Database Requiremen t	Recommende d Hardware Configuration	Minimum RAM Requiremen t for BigFix Runbook Al	Software Requirement s	Storag e (Local)
Web Server +	Web Compone t	<ul> <li>Web UI</li> <li>Web API</li> <li>KRS</li> </ul>	NA	One Virtual Server with	4 GB RAM	Operating System - Windows	100 GB



n Server Collector RAM 2019, 64-bit - RBA Executor Application Componen Executor - Generic Executor	
- RBA Executor Application Componen Executor	
Application Componen Executor Executor	
Application - Generic Componen Executor	
Componen Executor	
	1
t – – – Release	
- Generic	
Listener	
- AD Sync	
- Email	
Service	
- iParse	
Application - iUnique	
Componen - iRecommen	
d d	
- iScrape	
Advanced – iKnowledge	
Al - Advanced Operating	
Componen Knowledge System -	
Advanced t - Python - Knowledge One Virtual Windows	
Al Server + Rating Server with 8 GB RAM Server 100	GB
Document 2016,2019,	
Storage MongoDB NA 64-bit Mongo	
DB + Solr	
Indexer Solr NA	
Microsoft Operating Operating	
SQL Server with System -	
Database Dat	GB
Standard Standard Standard Server 2016,	
Edition 2019, 64-bit	

The installer needs to be run on individual servers that include Web Component, Base Component, and Advance AI Component server. If Advanced AI components like iKnowledge, Advanced Knowledge and iScrape are not required, only Web Server, Application Server and Database server will be required.

#### Alternate Database options:

- 1. AWS Relational Database Service (RDS)
- 2. GCP SQL Server 2017 PaaS service

For Document storage, MongoDB as a service can be used from AWS and GCP marketplace

#### 3.2.2.2Small Environment without High Availability (HA)

In this mode, the following BigFix Runbook AI servers are deployed:

- Web and Application Server: This server hosts the Web UI and the Application components.
- Advanced AI Server: This server hosts iScrape, iKnowledge, and Advanced iKnowledge components.
- Database Server: This server hosts the SQL Server database, which is the main transactional database of BigFix Runbook AI.
- **MongoDB and Solr**: This server hosts the Document Storage (MongoDB) and Indexer (Solr).

The following table describes the hardware and software requirements for this installation.

				0	, , ,		
Server	Componen t	Sub- Components	Database Requiremen t	Recommende d Hardware Configuration	Minimum RAM Requiremen t for BigFix Runbook AI	Software Requirement s	Storag e (Local)
Web Server + Applicatio n Server	Web Componen t Application Componen t – Microsoft Dot Net	<ul> <li>Web UI</li> <li>Web API</li> <li>KRS</li> <li>Data Collector</li> <li>RBA Executor</li> <li>Generic Executor</li> </ul>	NA	One Virtual Server with 2vCPU, 8 GB RAM	4 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	100 GB

Table 4 - Small Environment without High Availability (HA)



	Application Componen t - Python	<ul> <li>Release</li> <li>Generic Listener</li> <li>AD Sync</li> <li>Email Service</li> <li>iParse</li> <li>iUnique</li> <li>iRecommen d</li> </ul>					
Advanced Al Server	Advanced Al Componen t - Python	<ul> <li>iScrape</li> <li>iKnowledge</li> <li>Advanced</li> <li>Knowledge</li> <li>Knowledge</li> <li>Rating</li> </ul>	NA	One Virtual Server with 2vCPU, 4 GB RAM	4 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	50 GB
Database Server	Database	Transactional Database	Microsoft SQL Server 2016, 2019 Standard Edition	One Virtual Server with 4vCPU, 8 GB RAM	NA	Operating System - Windows Server 2016, 2019, 64-bit	100 GB
MongoDB and Solr	Document Storage	MongoDB	NA	One Virtual Server with 4vCPU, 8 GB	2 GB RAM	Operating System - Windows	100 GB
	Indexer	Solr	NA	RAM		Server 2016, 2019, 64-bit	

The installer needs to be run on individual servers that include Web Component, Base Component, and Advance AI Component server. In case Advanced AI components like iKnowledge, Advanced Knowledge and iScrape are not required, only Web Server, Application Server and Database server will be required.

- Alternate Database options

- 1. AWS Relational Database Service (RDS)
- 2. GCP SQL Server 2017 PaaS service
- For Document storage, MongoDB as a service can be used from AWS and GCP marketplace

#### 3.2.2.3 Medium Environment without High Availability (HA)

In this mode, the following BigFix Runbook AI servers are deployed:

- **Web Server**: This server hosts the Web User Interface.
- **Application Server**: This server hosts the Application components.
- Advanced AI Server: This server hosts iScrape, iKnowledge, and Advanced iKnowledge components.
- Database Server: This server hosts the SQL Server database, which is the main transactional database of BigFix Runbook AI.
- **MongoDB and Solr**: This server hosts the Document Storage (MongoDB) and Indexer (Solr).

The following table describes the hardware and software requirements for this installation.

Server	Componen t	Sub- Components	Database Requiremen t	Recommende d Hardware Configuration	Minimum RAM Requiremen t for BigFix Runbook Al	Software Requirement s	Storag e (Local)
Web Server	Web Componen t	- Web UI - Web API - KRS	NA	One Virtual Server with 2vCPU, 8 GB RAM	4 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	50 GB
Applicatio n Server	Application Componen t – Microsoft Dot Net	<ul> <li>Data</li> <li>Collector</li> <li>RBA</li> <li>Executor</li> <li>Generic</li> <li>Executor</li> <li>Release</li> <li>Generic</li> <li>Listener</li> </ul>	NA	One Virtual Server with 4vCPU, 8 GB RAM	4 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	100 GB

Table 5 - Medium Environment without HA



	Application Componen t - Python	<ul> <li>AD Sync</li> <li>Email Service</li> <li>iParse</li> <li>iUnique</li> <li>iRecommen d</li> </ul>	-				
Advanced Al Server	Advanced Al Componen t - Python	<ul> <li>iScrape</li> <li>iKnowledge</li> <li>Advanced</li> <li>Knowledge</li> <li>Knowledge</li> <li>Rating</li> </ul>	NA	One Virtual Server with 4vCPU, 8 GB RAM	4 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	100 GB
Database Server	Database	Transactional Database	Microsoft SQL Server 2016, 2019 - Standard Edition	One Virtual Server with 4vCPU, 8 GB RAM	NA	Operating System - Windows Server 2016, 2019, 64-bit	300 GB
MongoDB and Solr	Document Storage	MongoDB	NA	One Virtual Server with 4vCPU, 8 GB	4 GB RAM	Operating System - Windows	100 GB
	Indexer	Solr	NA	RAM		Server 2016, 2019, 64-bit	

The installer needs to be run on individual servers that include Web Component, Base Component, and Advance AI Component server. If Advanced AI components like iKnowledge, Advanced Knowledge and iScrape are not required, only Web Server, Application Server and Database server will be required.

- Alternate Database options
- 1. AWS Relational Database Service (RDS)
- 2. GCP SQL Server 2017 PaaS service
- For Document storage, MongoDB as a service can be used from AWS and GCP marketplace

#### 3.2.2.4 Large Environment without High Availability (HA)

In this mode, the following BigFix Runbook AI servers are deployed:

- Web Server: This server hosts the Web User Interface.
- **Application Server**: This server hosts the Application components.
- Advanced AI Server: This server hosts iScrape, iKnowledge, and Advanced iKnowledge components.
- Database Server: This server hosts the SQL Server database, which is the main transactional database of BigFix Runbook AI.
- **MongoDB and Solr**: This server hosts the Document Storage (MongoDB) and Indexer (Solr).

The following table describes the hardware and software requirements for this installation.

Server	Componen t	Sub- Components	Database Requiremen t	Recommende d Hardware Configuration	Minimum RAM Requiremen t for BigFix Runbook Al	Software Requirement s	Storag e (Local)
Web Server	Web Componen t	- Web UI - Web API - KRS	NA	One Virtual Server with 4vCPU, 8 GB RAM	4 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	100 GB
Applicatio n Server	Application Componen t - Microsoft Dot Net	<ul> <li>Data</li> <li>Collector</li> <li>RBA</li> <li>Executor</li> <li>Generic</li> <li>Executor</li> <li>Release</li> <li>Generic</li> <li>Listener</li> <li>AD Sync</li> </ul>	NA	One Virtual Server with 4vCPU, 16 GB RAM	8 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	100 GB

Table 6 - Large Environment without HA



	Application Componen t - Python	<ul> <li>Email Service</li> <li>iParse</li> <li>iUnique</li> <li>iRecommen d</li> </ul>					
Advanced Al Server	Advanced Al Componen t - Python	<ul> <li>iScrape</li> <li>iKnowledge</li> <li>Advanced</li> <li>Knowledge</li> <li>Knowledge</li> <li>Knowledge</li> <li>Rating</li> </ul>	NA	One Virtual Server with 4vCPU, 16 GB RAM	8 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	100 GB
Database Server	Database	Transactional Database	Microsoft SQL Server 2016, 2019 - Standard Edition	One Virtual Server with 8vCPU, 16 GB RAM	NA	Operating System - Windows Server 2016, 2019, 64-bit	500 GB
MongoDB and Solr	Document Storage	MongoDB	NA	One Virtual Server with 4vCPU, 16 GB RAM	8 GB RAM	Operating System - Windows	150 GB
	Indexer	Solr	NA			Server 2016, 2019, 64-bit	

The installer needs to be run on individual servers that include Web Component, Base Component, and Advance AI Component server. If Advanced AI components like iKnowledge, Advanced Knowledge and iScrape are not required, only Web Server, Application Server and Database server will be required.

Alternate Database options:

1. AWS Relational Database Service (RDS)

2. GCP SQL Server 2017 PaaS service

For Document storage, MongoDB as a service can be used from AWS and GCP marketplace

#### 3.2.2.5Small Environment with High Availability (HA)

In this mode, the following BigFix Runbook AI servers are deployed:



- Web and Application Server: This server hosts the Web UI and the Application components
- Advanced Al Server: This server hosts iScrape, iKnowledge, and Advanced iKnowledge components
- Database Server: This server hosts the SQL Server database, which is the main transactional database of BigFix Runbook AI
- **MongoDB**: This server hosts the Document Storage Database (MongoDB)
- **Solr**: This server hosts the Indexer (Solr)

The following table describes the hardware and software requirements for this installation.

Server	Component	Sub- Components	Database Requireme nt	Recommende d Hardware Configuration	Minimum RAM Requirement for BigFix Bunbook Al	Software Requirement s	Storage
Web Server + Applicatio n Server	Web Component Application Component – Microsoft Dot Net Dot Net	<ul> <li>Web UI</li> <li>Web API</li> <li>KRS</li> <li>Data Collector</li> <li>RBA Executor</li> <li>Generic Executor</li> <li>Release</li> <li>Generic Listener</li> <li>AD Sync</li> <li>Email Service</li> <li>iParse</li> <li>iUnique</li> </ul>	NA	Two Virtual Servers with 2vCPU, 8 GB RAM	4 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	50 GB (Addition al D: Drive) and 50GB shared storage (SAN / File Folder)

Table 7 - Small Environment with HA



		- iRecommen d					
Advanced Al Server	Advanced AI Component - Python	<ul> <li>iScrape</li> <li>iKnowledge</li> <li>Advanced</li> <li>Knowledge</li> <li>Knowledge</li> <li>Rating</li> </ul>	NA	Two Virtual Servers with 2vCPU, 8 GB RAM	4 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	50 GB (Addition al D: Drive) and 50GB shared storage (SAN / File Folder)
Database Server*	Database	Transactional Database	Microsoft SQL Server 2016, 2019 - Standard Edition	Two Virtual Servers with 4vCPU, 8 GB RAM	Not Applicable	Operating System - Windows Server 2016, 2019, 64-bit	100 GB Shared storage (SAN / File Folder)
MongoDB **	Document Storage	MongoDB	NA	One Virtual Server with 2vCPU, 4 GB RAM	2 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	50 GB (Addition al D: Drive)
Solr***	Indexer	Solr	NA	One Virtual Server with 2vCPU, 8 GB RAM	4 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	50 GB (Addition al D: Drive)

The installer needs to be run on individual servers that include Web Component, Base Component, and Advance AI Component server. If Advanced AI components like iKnowledge, Advanced Knowledge and iScrape are not required, only Web Server, Application Server and Database server will be required.

- Alternate Database options

1. AWS Relational Database Service (RDS)



#### 2. GCP SQL Server 2017 PaaS service

- For Document Storage, if \*MongoDB has to be made available in HA, then 3 servers will have to be provided as per the best practices. Alternately, MongoDB as a service can be used from AWS and GCP marketplace

- For Indexer, if Solr has to be made available in HA, then 5 servers will have to be provided as per the best practices

#### 3.2.2.6 Medium Environment with High Availability (HA)

In this mode, the following BigFix Runbook AI servers are deployed:

- Web Server: This server hosts the Web User Interface
- Application Server: This server hosts the Application components
- Advanced AI Server: This server hosts iScrape, iKnowledge, and Advanced iKnowledge components
- Database Server: This server hosts the SQL Server database, which is the main transactional database of BigFix Runbook AI
- **MongoDB**: This server hosts the Document Storage Database (MongoDB).
- Solr: This server hosts the Indexer (Solr)

The following table describes the hardware and software requirements for this installation.

#### Table 8 - Medium Environment with HA

Server	Componen t	Sub- Components	Database Requireme nt	Recommend ed Hardware Configuratio n	Minimum RAM Requireme nt for BigFix Runbook AI	Software Requireme nts	Storage
--------	---------------	--------------------	-----------------------------	---	--	------------------------------	---------


Web Server	Web Component	- Web UI - Web API - KRS	NA	Two Virtual Servers with 2vCPU, 8 GB RAM	4 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	50 GB (Addition al D: Drive) and 50GB shared shared storage (SAN / File Folder)
Applicatio n Server	Application Component – Microsoft Dot Net	<ul> <li>Data</li> <li>Collector</li> <li>RBA</li> <li>Executor</li> <li>Generic</li> <li>Executor</li> <li>Release</li> <li>Generic</li> <li>Listener</li> <li>AD Sync</li> <li>Email</li> <li>Service</li> </ul>	NA	Two Virtual Servers with 4 vCPU, 8 GB RAM	8 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	100 GB (Addition al D: Drive) and 50GB shared storage (SAN / File
	Application Component - Python	<ul> <li>iParse</li> <li>iUnique</li> <li>iRecommen</li> <li>d</li> </ul>					Folder)
Advanced Al Server	Advanced Al Component - Python	<ul> <li>iScrape</li> <li>iKnowledge</li> <li>Advanced Knowledge</li> <li>Knowledge</li> <li>Knowledge Rating</li> </ul>	NA	Two Virtual Servers with 4 vCPU, 8 GB RAM	8 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	100 GB (Addition al D: Drive) and 50GB



							shared storage (SAN / File Folder)
Database Server*	Database	Transactional Database	Microsoft SQL Server 2016, 2019 - Standard Edition	Two Virtual Servers with 4vCPU, 16 GB RAM	Not Applicable	Operating System - Windows Server 2016, 2019 64-bit	300 GB shared storage (SAN / File Folder)
MongoDB **	Document Storage	MongoDB	NA	One Virtual Server with 4vCPU, 8 GB RAM	4 GB RAM	Operating System - Windows Server 2016, 64-bit	100 GB (Addition al D: Drive)
Solr***	Indexer	Solr	NA	One Virtual Server with 4vCPU, 8 GB RAM	8 GB RAM	Operating System - Windows Server 2016, 2019 64-bit	100 GB (Addition al D: Drive)

The installer needs to be run on individual servers that include Web Component, Base Component, and Advance AI Component server. If Advanced AI components like iKnowledge, Advanced Knowledge and iScrape are not required, only Web Server, Application Server and Database server will be required.

#### - Alternate Database options

1. AWS Relational Database Service (RDS)

2. GCP SQL Server 2017 PaaS service

- For Document Storage, if \*MongoDB has to be made available in HA, then 3 servers will have to be provided as per the best practices. Alternately, MongoDB as a service can be used from AWS and GCP marketplace

- For Indexer, if Solr has to be made available in HA, then 5 servers will have to be provided as per the best practices

# **BigFix**

### 3.2.2.7 Large Environment with High Availability (HA)

In this mode, the following BigFix Runbook AI servers are deployed:

- Web Server: This server hosts the Web User Interface
- Application Server: This server hosts the Application components
- Advanced AI Server: This server hosts iScrape, iKnowledge, and Advanced iKnowledge components
- Database Server: This server hosts the SQL Server database, which is the main transactional database of BigFix Runbook AI
- MongoDB: This server hosts the Document Storage Database (MongoDB).
- Solr: This server hosts the Indexer (Solr)

The following table describes the hardware and software requirements for this installation.

Server	Component	Sub- Components	Database Requirement	Recommende d Hardware Configuration	Minimum RAM Requirement for BigFix Runbook AI	Software Requirements	Storage
Web Server	Web Component	- Web UI - Web API - KRS	NA	Two Virtual Servers with 4vCPU, 8 GB RAM	4 GB RAM	Operating System - Windows Server 2016, 2019, 64-bit	100 GB (Additi onal D: Drive) and 50 GB shared storage (SAN / File Folder)
Applicatio n Server	Application Component	- Data Collector	NA	Two Virtual Servers with	8 GB RAM	Operating System -	100 GB (Additi

Table 9 - Large Environment with HA



	– Microsoft	- RBA		4vCPU, 16 GB		Windows	onal D:
	Dot Net	Executor		RAM		Server 2016,	Drive)
		- Generic				2019, 64-bit	and 50
		Executor					GB
		- Release					shared
		- Generic					storage
		Listener					(SAN /
		- AD Sync					File
		- Email					Folder)
		Service					
		- iParse	-			-	
	Application	- il Inique					
	Component	- iRecomm					
	- Python	end					
							100 GB
							(Additi
		<ul> <li>iScrape</li> </ul>					onal D:
		<ul> <li>iKnowledg</li> </ul>				Operating	Drive)
	Advanced AI	е		Two Virtual		System -	and 50
Advanced	Component	- Advanced	NA	Servers with	8 GB RAM	Windows	GB
Al Server	- Python	Knowledg		4vCPU, 16 GB		Server 2016,	shared
		e		RAM		2019, 64-bit	storage
		- Knowledg					(SAN /
		e Rating					File
							Folder)
			Microsoft			Operating	500 GB
				Two Virtual		System	shared
Database	Databasa	Transactional	2016 2010	Servers with	Not	Windowc	storage
Server*	Dalanase	Database	Standard	8vCPU, 16 GB	Applicable	Server 2016	(SAN /
			Edition	RAM		2019 64-hit	File
						2013 04-0it	Folder)



MongoDB **	Document Storage	MongoDB	NA	One Virtual Server with 4vCPU, 8 GB RAM	4 GB RAM	Operating System - Windows Server 2016, 64-bit	150 GB (Additi onal D: Drive)
Solr***	Indexer	Solr	NA	One Virtual Server with 4vCPU, 16 GB RAM	8 GB RAM	Operating System - Windows Server 2016, 2019 64-bit	150 GB (Additi onal D: Drive)

The installer needs to be run on individual servers that include Web Component, Base Component, and Advance AI Component server. If Advanced AI components like iKnowledge, Advanced Knowledge and iScrape are not required, only Web Server, Application Server and Database server will be required.

- Alternate Database options

1. AWS Relational Database Service (RDS)

2. GCP SQL Server 2017 PaaS service

- For Document Storage, if \*MongoDB has to be made available in HA, then 3 servers will have to be provided as per the best practices. Alternately, MongoDB as a service can be used from AWS and GCP marketplace

- For Indexer, if Solr has to be made available in HA, then 5 servers will have to be provided as per the best practices.

### 3.2.3 Component Installation Prerequisites

Prior to running the installer, complete all procedures as described in Environment Planning and

ensure that all the software prerequisites for the BigFix Runbook AI component installation are met.

The following table describes the software requirements to install the components.

Server	Component	Sub-Components	Software Requirements
		- Web UI	IIS 10.0 or above
Web Server	Web Component	- Web API	Dot Net Framework 4.8.x
		- KRS	Microsoft ACE OLEDB 12.0

#### Table 10 - Component Installation Prerequisites



Application Server	Application Component – Microsoft Dot Net Application Component - Python	<ul> <li>Data Collector</li> <li>RBA Executor</li> <li>Generic Executor</li> <li>Release</li> <li>Generic Listener</li> <li>AD Sync</li> <li>Email Service</li> <li>iParse</li> <li>iUnique</li> <li>iBecommend</li> </ul>	Dot Net Framework 4.8.x Python 3.8.10 64-bit NLTK 3.8.1 Apache Server 2.4 - VC++ 2015 64-bit Redistributable package
Advanced AI Server	Advanced Al Component - Python	<ul> <li>iScrape</li> <li>iKnowledge</li> <li>Advanced Knowledge</li> <li>Knowledge Rating</li> </ul>	Python 3.8.10 64-bit NLTK 3.8.1 Apache Server 2.4 VC++ 2015 64-bit Redistributable package Oracle Distribution of Java JDK 1.8.x (Required only for Solr installation) Anti-Word Spacy 3.1.2 - Google Chrome Browser
Database Server	Database	Transactional Database	MS SQL 2016 (2019) Enterprise / Standard edition 64 bit
MongoDB	Document Storage	MongoDB	MongoDB 4.0
Solr	Indexer	Solr	SOLR 8.5.0
Certificates (applie	cable for all tiers)	1	SSL Certificates

### 3.3 Prerequisites to Run the Installer

This section provides an overview of the prerequisites to run the installer.

Once the infrastructure is prepared, determine the server where the installer will be run. Prior to

running the installer, ensure all prerequisites are ready on the server.



#### Table 11 - Prerequisites to Run the Installer

Applications	Version
Windows Version	Microsoft <sup>®</sup> Windows <sup>®</sup> Server 2012 Standard Edition or Windows Server 2016 Standard Edition
.Net Framework	.Net Framework 4.8

The requirements mentioned in the following tables indicate the minimum configuration required at the time of installation:

- Table 3 Minimal Deployment
- Table 5 Medium Environment without HA
- Table 6 Large Environment without HA
- Table 7 Small Environment with HA
- Table 8 Medium Environment with HA
- Table 9 Large Environment with HA

Over a period, based on the use of enterprise managed resources, user might have to upgrade to a higher configuration.

#### 3.3.1 Installer

The installer includes an installer executable. This executable enables complete installation of BigFix Runbook AI and checks the prerequisites for all the servers and components.

### 3.4 BigFix Runbook AI Installation

This section explains how to install BigFix Runbook AI components using the installer on any server or standalone machine. The installer can be further used for deployment of web server, application server, advanced AI server and , database server, and the underlying components.

BigFix Runbook AI implementation contains the following menus:

- Run the Installer
- Install BigFix Runbook AI

Before running the installer, ensure that the 'write' permission is enabled for the user on the Apache24 folder.

### 3.4.1 Run the Installer

Review the prerequisites carefully before proceeding with the installation.

After confirmation that the system meets the prerequisites to run the BigFix Runbook AI installer,

perform the following steps:

- 1. Copy the zipped installer file to the server where you want to run the BigFix Runbook AI installer.
- 2. Unzip and extract all the contents to the default folder.
- 3. Browse the Installer.exe in the folder and click Run as administrator to start installation.



### 3.4.2 Install BigFix Runbook AI

This section lists the steps to install the BigFix Runbook AI components on all hosts. Ensure that user meets all requirements in the section <u>Environment Preparation</u> and <u>Prerequisites to Run the</u> <u>Installer</u> before starting the installation procedure.

To install BigFix Runbook AI, perform the following steps:

1. On running the Installer, the following page appears.



oduct Installation		
	Welcome To Installer	
BigFix		Start

Figure 3 - BigFix Runbook AI Implementation

2. Click Start. It will extract required binaries and the following page will appear.

Next

3. Click **Next**. The page lists the setup required for installation in the left pane and the details of the selected setup in the right pane.

6.	ATABASE DETAILS	Database Details		0
		Server Name 🔹	Enter Server HostName/IP	
E	OMPONENT SELECTION	Database Instance Name	Enter DB Instance	
0 0	ONFIGURE MONGODB AND SOLR	Authentication	SQL Server Authentication $\qquad \qquad \lor$	
Ø s	ERVER CONFIGURATION	User Name 🔸	Enter User Name	
		Password •	Enter Password	
PI	RE-REQUISITE CHECKER	Database Name 🔹	iAutomateDB	
ø	ONFIGURE ADMIN DETAILS		Check Connection	
•	ISTALLATION			
١	/iew Installation Guide			
C	BigFix	Back		

Figure 3 - Database Details

The next step is to create the database.

On Left Menu click on "View Installation Guide" to view installation guide.

### 3.4.3 Database Setup

User can create a customized database using the following steps.

1. On the **Database Details** view, type the **Server Name**, and then the **Database Instance Name**.

erver Name *	Enter Server HostName/IP
atabase Instance Name	Enter DB Instance
uthentication	SQL Server Authentication ~
Jser Name *	Enter User Name
assword *	Enter Password
atabase Name 🔹	iAutomateDB
	Check Connection

- 2. Select the **Authentication** type. The type of login authentication used to configure the database determines the resulting username.
- 3. There are two types of authentications used for database configuration:

### **BigFix**

- Windows Authentication
- SQL Server Authentication
- 4. In the **UserName** and **Password** fields, type username and password to access the server.
- 5. In the **Database Name** field, **iAutomateDB** is auto filled by default.
- 6. To check the connectivity to a server using the credentials provided, click **Check Connection**. This displays a message for **Connection Success** or **Connection Failure**.
- 7. Successful connection to the database enables the **Next** button.

Server Name *	localhost	
Database Instance Name	Enter DB Instance	
Authentication	SQL Server Authentication $\qquad \lor$	
User Name *	Sa	
Password *	*****	
Database Name 🔹	iAutomateDB	
	Connection Success	
Back		Next

All fields marked with ar	i asterisk (*)	are mandatory.
---------------------------	----------------	----------------

### 3.4.4 Component Setup

After creating the BigFix Runbook AI database, perform the following steps to set up the Web UI components.

- 1. The **Component Selection** view lists the components and their corresponding parameters based on the selected component.
- 2. The following types of components are deployed in BigFix Runbook AI:

- Web Component It includes the user interface that enables the configuration, management, and resolution of tickets.
- Service Component This is further divided into two categories:
  - **Application Component** This includes essential services that work together to achieve the core functionality of BigFix Runbook AI.
  - Advanced AI Component This includes features like Solution Creation; Natural Language Processing (NLP) based assisted services, and so on.



Figure 6 - Component Setup

The administrator can add or remove components based on their environment as decided during the planning phase.

#### The following table lists the components available on different servers.

Table 12 - BigFix Runbook AI Components

Server Type	Components	Description
Web Component	Web UI	Web User Interface for Admin, Configuration, Operations Console, Dashboards and Knowledge Analysis and Search functionalities
	Web API	It is an API in the BigFix Runbook AI web module that can be accessed using the HTTP protocol.



		The Key Rotation Service component which serves the purpose of
	KRS	providing additional security through rotation of keys on a periodic
		basis.
		It leverages Natural Language Processing and is responsible for
	iRecommend	recommending the best suited runbook for resolving the issue based
		on the ticket description
		It serves the purpose of analyzing the ticket description and summary
	iParse	for extracting relevant parameters to be passed to configurable
		runbooks
		It helps in clustering the ticket data (incident, service requests, change
	iUnique	requests) into different categories for identification of automation
		opportunities
	Data Collector	It is responsible for collecting ticket information from the ITSM tool
	Conoric Executor	It is used for data processing at the DB layer for enabling backend
Application	Generic Executor	processes.
Component	PPA Executor	It helps in triggering the identified runbook for automatic resolution
component	NDA EXecutor	using an underlying RBA tool
		It is used to release the ticket in case an appropriate runbook is not
	Release	recommended OR runbook execution for a ticket fails. In the latter
	Generic ExecutorIt is used for data processing at the DB layer for enabling backend processes.RBA ExecutorIt helps in triggering the identified runbook for automatic resolution using an underlying RBA toolReleaseIt is used to release the ticket in case an appropriate runbook is not recommended OR runbook execution for a ticket fails. In the latter case, the ticket is released and assigned to a human agent.	
		Ticket passes through multiple stages during the resolution lifecycle
		using BigFix Runbook AI. Generic Listener module is responsible for
	Conorialistopor	ensuring the ticket is moved to the next stage based on the current
	Generic Listener	outcome. Its job is to identify the status of the present stage and based
		on success / failure, move the ticket to the consequent stage in the
		lifecycle
	AD Sync	It is responsible for fetching LDAP user from LDAP Server.
	Email Service	It is responsible for sending mail notifications to user
		It returns a list of relevant documents for a query that have been
Advanced Al	Advanced Knowledge	crawled from different repositories like SNOW KB, Web URL, Satori
Component		repository, and internal files and folders.
component	iKnowlodge	It returns a list of relevant results from Google for a query, if no
	INTOWIEUSE	relevant documents exist in the organization's repository.
	1	



Knowledge rating	It enables users to provide feedback as a rating for the document
Kilowieuge rating	search corresponding to the ticket summary.
	It helps in automated runbook creation for ticket categories for which
iScrape	runbooks don't exist by exploring various internal and external data
	sources for relevant executable code snippets and scripts.

- 3. Select the components as planned for the server configuration.
- 4. Select the **Web Component**, **Application Component**, or **Advanced Al Component** check boxes to install all the components listed under the servers simultaneously or select a single component to install it individually.
- 5. After component selection, their corresponding details are auto filled and enables user to select the **Port** for each component.
- 6. On selecting **Advance AI Components**, user must provide the MongoDB and Solr database details else the setup will display the **Server Configuration** page.
- To continue with the installation, click Next.
   This enables the Configure MongoDB and Solr tab on the left navigation pane. Type the following details to set up the MongoDB and Solr databases:
- 8. On the Configure MongoDB page:
  - a. Type the MongoDB Server Name (including the port details).
  - b. In the User ID and Password fields, type username and password to access the server.
  - c. Select the Version Type.
  - d. Select the **HA** mode.
  - Based on the selected "Version Type" and HA mode (selected / unselected), please follow the below steps:

Version Type	HA Mode	Number of Servers Required*	CA File Required	PEM File Required
Community	Enabled	At least 3	Not Required	
Community	Disabled	1	Not Required	
Enterprise	Enabled	At least 3	Depends**	Required
Enterprise	Disabled	1	Depends**	Required

Table 13 - MongoDB Configuration Parameters

\* - As per the best practices, number of servers required should be odd in numbers. Provide the list of all MongoDB instances as comma separated pairs of hostname and port.



#### \*\* -. CA File is only required if and only if MongoDB installation mandates use of CA file

- 9. On the **Configure Solr** page:
  - a. Type the **Solr Server**.
  - b. In the User ID and Password fields, type user ID and password to access the server.
  - c. The default port is auto filled in the **PORT** field next to each component.
  - d. Click Next.

2	DATABASE DETAILS	Configure MongoDB				(
		MongoDB Server +	Enter MongoDB Server IP,	'HostName/URI	L	
Ξ	COMPONENT SELECTION	User ID 🔹	Enter MongoDB User Id	Password +	Enter MongoDB Password	
1		Version Type 🔹	Community ~	НА 🗌		
0. LA	CONFIGURE MONGODB AND SOLR	Pem File			Browse	
Ø	SERVER CONFIGURATION	CA file available				
		CA File			Browse	
~	PRE-REQUISITE CHECKER					
		Configure Solr				
ġ,	CONFIGURE ADMIN DETAILS	Solr Server 🔹	Enter Solr Server IP/HostN	lame/URL		
8		User ID 🔹	Enter Solr User Id	Password +	Enter Solr Password	
ή¢	INSTALLATION	ZooKeeper Port 🔹	9983	Port +	8983	
	View Installation Guide					
(	BigFix	Back				Next
	•					

Figure 7 - Configure Mongo DB and Solr

e. User will be prompted to check the connection status. Click **Yes** to proceed with

checking the connection status or  $\ensuremath{\mathbf{No}}$  to continue with the Installation.

1	Do you want to check connection with Mongodb and Solr?.
	No Yes
Figur	ra 8 Chack Manga DB and Salt Connection Status

The Server Configuration page appears.

All fields marked with an asterisk (\*) are mandatory.

### 3.4.5 Server Configuration

This section describes how to set up and configure a server for BigFix Runbook AI installation.

To configure servers, provide the following details:

1. The IP Address/Host Name, where user wants to install the components.

The installer automatically detects the host name where the installer is running and auto-fills the information in the text box.

- 2. Select the Account Type from the available options:
  - Local Administrator
  - Domain Account
- 3. Type the Domain Name.

DATABASE DETAILS	Server Configuration			Ø
	IP Address/HostName 🔹 Account Type 🔹	Enter Server IPaddress/HostName	]	
CONFIGURE MONGODB AND SOLR	Domain 🔹	Enter Domain	]	
SERVER CONFIGURATION	User Name 🔹	mishra_as	]	
	Password +	Enter Password	Check User Validity	
	Installation Path 🔹		Browse	
CONFIGURE ADMIN DETAILS				
View Installation Guide				
<b>BigFix</b>	Back			Next

Figure 9- Server Configuration

- 4. In the User Name and Password fields, type the login credentials to access the application server.
- 5. Click **Check User Validity** to validate the user to connect to the server.
- 6. Click **Browse** to specify the appropriate **Installation Path** to install the server components.
- 7. On successful connection to the server, a **Validation Successful** message appears beside the Password field.

Address/HostName *	localhost		
ccount Type 🔹	Domain Account	~	
omain +	Dryicelabs		
ser Name 🔹	DryiceUser		
assword *	*****	Check User Validity	
stallation Path *		Browse	
Back			Next

8. Click Next.

The Pre-Requisite Checker page appears.

All fields marked with an asterisk (\*) are mandatory.

### 3.4.6 Run Pre-Requisite Checker

This section describes the procedure to check if all BigFix Runbook AI installation prerequisites have been met before the installation. The Prerequisite Checker identifies all the missing pre-requisite software and utilities. User will have to ensure that the identified prerequisites are installed manually before proceeding further.

To run the **Prerequisite Checker**, perform the following steps:

1. Click Run.



¢	DATABASE DETAILS				
Ξ	COMPONENT SELECTION	IP Address/Host Name	Component	Prerequisite	Status ^
		IAUWIAPMYCT001	Web UI	Checking For Port 80	
Ö	CONFIGURE MONGODE AND SOLE	IAUWIAPMYCT001	Web UI	Checking For Microsoft .NET Framework 4.8	
		IAUWIAPMYCT001	Web UI	Checking For Microsoft.ACE.OLEDB.12.0	
		IAUWIAPMYCT001	Web UI	Checking For IIS	
Ø	SERVER CONFIGURATION	IAUWIAPMYCT001	Web UI	Checking For Certificate	
_		IAUWIAPMYCT001	Web UI	Checking For PythonCertificate	
		IAUWIAPMYCT001	Data Collector	Checking For Port 8012	10000
~	PRE-REQUISITE CHECKER	IAUWIAPMYCT001	Data Collector	Checking For Microsoft .NET Framework 4.8	
		IAUWIAPMYCT001	Data Collector	Checking For Certificate	
Ö	CONFIGURE ADMIN DETAILS	IAUWIAPMYCT001	Email Service	Checking For Port 9025	10000
		IAUWIAPMYCT001	Email Service	Checking For Microsoft .NET Framework 4.8	10000
		IAUWIAPMYCT001	Email Service	Checking For Certificate	10000
<b>?</b>	INSTALLATION	IAUWIAPMYCT001	Generic Executor	Checking For Port 8015	10000
		IAUWIAPMYCT001	Generic Executor	Checking For Microsoft .NET Framework 4.8	
	View Installation Guide	Failed but not mandatory   ×	Failed and mandatory V Success	a l' P A UP I	·
(	BigFix	Back			Run

Figure 11 - Prerequisite Checker

The **Pre-requisite Checker** always runs as part of the BigFix Runbook AI setup.

2. A progress bar appears while the **Pre-Requisite Checker** runs.

IP Address/Host Name	Component	Prerequisite	Status	^
ocalhost	Web UI	Checking For Certificate		
ocalhost	Web UI	Checking For PythonCertificate	~	
ocalhost	Data Collector	Checking For Port 8012	×	
ocalhost	Data Collector	Checking For Microsoft .NET Framework 4.8		
localhost	Data Collector	Checking For Certificate	· · · ·	
localhost	Email Service	Checking For Port 9025	×	
localhost	Email Service	Checking For Microsoft .NET Framework 4.8	~	
localhost	Email Service	Checking For Certificate	~	
localhost	Generic Executor	Checking For Port 8015	×	
localhost	Generic Executor	Checking For Microsoft .NET Framework 4.8		
localhost	Generic Executor	Checking For Certificate		
localhost	iKnowledge	Checking For Port 8024	×	
localhost	iKnowledge	Checking For Python 3.6.0		
localhost	iKnowledge	Checking For Apache 2.4		
D Failed but not mandatory   >	Failed and mandatory Success		Re-Ru	1 <b>~</b>

Figure 12 - Pre-Requisite Checking in Progress

If you encounter a failure status for any of the Ports, either go back Section 3.4.4- Component Setup, to choose a different port, or make sure all the mentioned ports are available to use

3. In the **Status** column, each prerequisite is marked a success or a failure.

IF Address/Host Name	Component	Prerequisite	Status ^
ocalhost	Web UI	Checking For Certificate	Image: A start of the start
ocalhost	Web UI	Checking For PythonCertificate	✓
ocalhost	Data Collector	Checking For Port 8012	×
ocalhost	Data Collector	Checking For Microsoft .NET Framework 4.8	Image: A state of the state
ocalhost	Data Collector	Checking For Certificate	✓
ocalhost	Email Service	Checking For Port 9025	×
ocalhost	Email Service	Checking For Microsoft .NET Framework 4.8	
ocalhost	Email Service	Checking For Certificate	~
ocalhost	Generic Executor	Checking For Port 8015	×
ocalhost	Generic Executor	Checking For Microsoft .NET Framework 4.8	✓
ocalhost	Generic Executor	Checking For Certificate	Image: A start of the start
ocalhost	iKnowledge	Checking For Port 8024	×
ocalhost	iKnowledge	Checking For Python 3.6.0	$\checkmark$
ocalhost	iKnowledge	Checking For Apache 2.4	<ul> <li>Image: A second s</li></ul>
		at 12 m 10	· · ·

- In case of failure, **Re-Run** button appears.
- Please ensure that the identified issue is resolved and re-run the pre-requisite checker.
- 4. Upon successful validation of all the pre-requisites, Next button is enabled
- 5. Click **Export** to export the **Pre-Requisite Checker** report, if required.

IP Address/Host Name	Component	Prerequisite	Status ^
ocalhost	Web UI	Checking For Microsoft.ACE.OLEDB.12.0	
localhost	Web UI	Checking For IIS	~
ocalhost	Web UI	Checking For Certificate	~
ocalhost	Web UI	Checking For PythonCertificate	~
localhost	Data Collector	Checking For Port 8014	
localhost	Data Collector	Checking For Microsoft .NET Framework 4.8	
localhost	Data Collector	Checking For Certificate	~
localhost	Email Service	Checking For Port 9026	V
localhost	Email Service	Checking For Microsoft .NET Framework 4.8	V
localhost	Email Service	Checking For Certificate	V
localhost	Generic Executor	Checking For Port 8016	V
localhost	Generic Executor	Checking For Microsoft .NET Framework 4.8	~
localhost	Generic Executor	Checking For Certificate	V
localhost	iParse	Checking For Port 8007	
D Failed but not mandatory   X	Failed and mandatory Success	a u t au aca	Novt

#### Figure 14 - Prerequisite Checker Report

Use **Back** to go to the previous page.

## **BigFix**

6. Click Next. The Configure Admin Details page appears.

### 3.4.7 Configure Admin Details

Administrative roles provide controlled decentralization of administrative responsibilities and the functionality to add or manage more administrators or users, manage settings, and perform governance actions.

This section describes the steps involved to configure the Super Administrator which is required after the initial setup of BigFix Runbook AI.

To configure Super Administrator details, perform the following steps:

1. On the **Configure** Admin **Details** page, type the new administrator's **Name, Email** and **Password**.

ø	DATABASE DETAILS	Configure Admir	Details	2
Ē	COMPONENT SELECTION	Name 🔹	Enter Name	_
		Email 🔹	Enter Email	
,Ö	CONFIGURE MONGODB AND SOLR	Password +	Enter Password	
ø	SERVER CONFIGURATION	Re-enter Password *	Re-enter Password	
~	PRE-REQUISITE CHECKER	Password Policy: Pass Spac	vord must contain at least 1 capital letter,1 small letter,1 number and 1 special character and 8-15 characters length. :e not allowed.Only !,@,#,\$,% Special characters are allowed.	
ø	CONFIGURE ADMIN DETAILS			
ዎ	INSTALLATION			
	View Installation Guide			
	BigFix	Back	Ne	≥xt

Figure 15 - Configure Admin Details

If the database provided in the <u>Database Setup</u> already exists at the time of installation, then the **Configure Admin Details** page will remain unavailable.

Post installation, the administration console can be accessed by this **Super Administrator** account to configure BigFix Runbook AI.

2. Click **Next** to review the information provided on previous pages.

Click **Reset** to reset the admin credentials. Click **Back** to navigate to the previous pages for making any changes. All fields marked with an asterisk (\*) are mandatory.

### 3.4.8 Install

This section describes the installation of BigFix Runbook AI after all components and admin configuration is completed.

- 1. Before proceeding with the Installation, review the information on the **Installation** page and, if required, click **Back** to make any changes.
- 2. Click **Run** to start the installation.

DATABASE DETAILS	Installation	Overall Status : Not yet started 🤇
	Server Type : Database	
COMPONENT SELECTION	IP/Hostname Address : localhost	
	Database	
	Database Instance:	
SERVER CONFIGURATION	Database Name: iAutomateDB	
PRE-REQUISITE CHECKER	Server Type : Web   Application	
	IP Address : localhost	User Name : DrviceUser
CONFIGURE ADMIN DETAILS		
	Web UI	
	Component Name: Web UI	
	Site Name: HCLiAutomateBaseUI	
View Installation Guide	Path : C:\NewFolder	
	0.1	
	Back	Run

#### Figure 16 – Installation

The progress bar displays the installation progress.

<b>D</b> E	BigFix
------------	--------

stallation	OverAll Status In Progress	(?)
erver Type : DataBase		^
Server Details		
IP/Hostname Address : localhost		
DataBase ·		
DataBase Instance:		
Database Name: iAutomateDB		
erver Type : Web Server Details	User Name : Drv/ceUser	=
W-E III		
web UI		
Component Name: Web UI		
Site Name: HCLiAutomateBaseUI		
Path : C:\iAutomateComponent		
		>
	F	
	L	KIL

Figure 17 - Installation Progress

stallation	OverAll Status : Fail	?
IP/Hostname Address : localhost		^
DataBase		-1
DataBase Instance:	Success	
DataBase Name: iAutomateDB		
erver Type : Web Server Details		
IP Address : localhost	User Name : DrylceUser	
Web UI		
Component Name: Web UI	Folder/file is missing at Sourcepath C:\D Drive\IAut	
Site Name: HCLiAutomateBaseUI		
Path : C:\iAutomateComponent	\$	
Web API		
Component Name: Web API	Success	
		>

In case of installation failure, error messages for the corresponding component appear on the screen. Click **Rollback** button to uninstall the components and re-run the Installer after resolving the issues. To perform the cleanup, delete all the folders manually on the server installation path provided earlier. Contact the product team administrator for further assistance.

3. After successful installation, the Launch Application button appears. Click Exit to exit the installer.

eport	OverAll Status : Success	2
Server Type : DataBase		^
IP/Hostname Address : localhost		
DataBase		
DataBase Instance:	Success	
DataBase Name: iAutomateDB		
Server Type : Web	User Name : DrylceUser	
Web III		
Component Name: Web UI	Success	
Site Name: HCLiAutomateBaseUI		
Path : C:\iAutomateComponent		
	>	•
	Launch Application	

Navigate to the {PythonHome}/Lib/site-packages/pkg\_resources/\_vendor folder and Delete the below marked folders.

Name ^	Date modified	Туре	Size
<pre></pre>	8/2/2022 12:20 AM	File folder	
importlib_resources	8/2/2022 12:20 AM	File folder	
🗹 📔 jaraco	8/2/2022 12:20 AM	File folder	
more_itertools	8/2/2022 12:20 AM	File folder	
packaging	8/2/2022 12:20 AM	File folder	
Dyparsing	8/2/2022 12:20 AM	File folder	
🔁 _init_	8/2/2022 12:20 AM	Python File	0 KB
🛃 appdirs	8/2/2022 12:20 AM	Python File	25 KB
Zipp	8/2/2022 12:20 AM	Python File	9 KB

#### Figure 20 - Delete Folders before launch

- 4. Restart all Apache/ Python component services.
- 5. Click Launch Application button to start BigFix Runbook AI.



1	Web UI can take bit more time in launching application as IIS is configuring website for first time. WebSite http://localhost:8001	URL : -
		ОК
	Figure 21 - Message on Launching BigFix Runbook AI	

6. Click **OK** to navigate to the **BigFix Runbook AI Login Page**.

上 Email			
	NEXT		

Figure 22 - BigFix Runbook AI Login Page

### 3.5 Post Installation Activities

This section describes how to perform certain post installation activities which are strictly dependent on the organization's requirements.

It includes the following:

- Enable Secure Communication (Changing HTTP to HTTPS)
- <u>Configuration Changes Certificate Name Change (Type PFX)</u>
- <u>Configuration Changes Certificate Name Change (for PEM/CRT/KEY Certificates)</u>
- Load Balancer Configuration
- <u>Configuration Changes Access BigFix Runbook AI without Certificate (Type PFX)</u>
- <u>Configuration Changes Access BigFix Runbook AI with Certificate (Type PFX)</u>



- <u>Configuration Changes Access BigFix Runbook AI without Certificate (Type PEM)</u>
- <u>Configuration Changes SaaS based Ticket Analysis</u>
- <u>Configuration Changes Run BASEUI and WEBAPI on same port</u>

All the post installation activities listed above are optional.

### 3.5.1 Enable Secure Communication (Changing HTTP to

HTTPS)

This section describes how to enable the secure communication by changing HTTP to HTTPS. It can be enabled for both the BigFix Runbook AI website and the deployed components.

#### 3.5.1.1Website Only

This section describes how to enable the secure communication by changing HTTP to HTTPS for the BigFix Runbook AI website.

Following changes are required in the underlying components to achieve the same.

#### 3.5.1.1.1Key Rotation Service (KRS)

To change the hosting of KRS from HTTP to HTTPS using the existing certificate, for e.g. 'HclTech.iautomate.Web', please follow the below steps:

- 1. Press Win+R and type inetmgr.
- 2. Click OK to open IIS.

	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	inetmgr ~
	OK Cancel <u>B</u> rowse



3. Expand Sites and click HCLiAutomateKRS.



Figure 24 - Hosting KRS from HTTP to HTTPS (cont.)

4. Click on **Bindings** in the **Edit Site** section.



Figure 25 - Hosting KRS from HTTP to HTTPS (cont.)

	, Site Bindi	ngs			?	XA	ctions
ASP.NET	Type http	Host Name	Port IP Addre 8080 *	ss Binding Informa	<u>A</u> dd <u>E</u> dit		Explore Edit Permissions Edit Site Bindings Basic Settings
.NET .NET .f Authorizat Compilation	l l				Browse		View Applications View Virtual Directories
						N	lanage Website
lachine Key Pages and F Controls IIS ASP Authentic							Restart Start Stop Browse Website Browse *:8080 (http)
					<u>C</u> lose		Configure Limits
Logging MIME Types I Management Configurat Editor	Aodules	Output Re Caching Filt	quest SSL Settings ering			- •	) Help

Figure 26 - Hosting KRS from HTTP to HTTPS (cont.)

- 5. Click Add New.
- 6. Select **Type** as **'https'. Port** information gets populated automatically. Select the **SSL Certificate**.
- 7. Click **OK**.

HCLiAutomate	Site Bindings ?	Actions
Filter	Type Add Site Binding ? X	Edit Permissions
ASP.NET	Ittp     Iype:     IP address:     Port:       https     All Unassigned     443       Host name:	Edit Site Bindings Basic Settings View Applications View Virtual Directories Manage Website 🔊
IIS ASP Authentic	SSL certificate: HCL.iAutomate OK Cancel	Stop Browse Website Browse *:8080 (http) Advanced Settings Configure
Logging MIME Types N	Andules Output Request SS Settings	Limits
Management Configurat Editor	Caching Filtering	

Figure 27 - Hosting KRS from HTTP to HTTPS (cont.)

- 8. Right click HCLiAutomateKRS.
- 9. Click Explore.
- 10. Find Web.config file and open it in a Notepad.





Figure 29 - Hosting KRS from HTTP to HTTPS (cont.)

12. Save the file for changes to be reflected.

</security>

13. Select the service and click **Restart** to restart the services.

#### 3.5.1.1.2 Base User interface

To change the hosting of BaseUI from HTTP to HTTPS using the existing certificate, for e.g. 'HclTech.iautomate.Web', please follow the below steps:

- 1. Press Win+R and type inetmgr.
- 2. Click OK to open IIS.



3. Expand Sites and click HCLiAutomateBaseUI.

## **BigFix**



Figure 31 - Hosting Base user interface from HTTP to HTTPS (cont.)

4. Click on Bindings in the Edit Site section.



Figure 32 - Hosting Base user interface from HTTP to HTTPS (cont.)

	Site Bindings	? × Actions
HCLIAUtomate	Type Host Name Port IP Address Binding I	nforma Add Edit Permissions
ASP.NET	http 8080 *	Edit Bindings
🍋 👹		Remove Basic Settings
.NET .NET .N uthorizat Compilation		Browse View Applications View Virtual Directories
		Manage Website
achine Key Pages and Pr		🤣 Restart
Controls		Start
IIS		Stop
🚑 🔏		Browse Website Browse *:8080 (http)
ASP Authentic		Advanced Settings
		Close Configure
Logging MIME Types Mo	dules Output Request SSL Settings Caching Filtering	Help
Management		<b>^</b>
onfigurat		
Editor		
Euror		

Figure 33 - Hosting Base user interface from HTTP to HTTPS (cont.)

- 5. Click Add.
- 6. Select **Type** as **https**. **Port** information gets populated automatically. Select the **SSL Certificate**.
- 7. Click **OK**.

ton -	Туре	Add Site Binding	?	×		Explore Edit Permissions
SP.NET .NET .N thorizat Compilation	http	Iype:     IP address:     Pgrt:       https     All Unassigned     443       Host name:	]	ve se		Edit Site Bindings Basic Settings View Applications View Virtual Directories
		Require Server Name Indication			Ma	nage Website
achine Key Pages and Pr Controls		SSL certificate:	V			Restart Start Stop
ASP Authentic		NCLIADUMATE V Seject	<u>v</u> iew Cancel		Ŷ	Browse Website Browse *:8080 (http) Advanced Settings
	L	₽° ── <b>`</b> ₩		<u>C</u> lose		Configure Limits
Logging MIME Types Moo Management	dules	Output Request SSL Settings Caching Filtering		^	0	Help
iiiii nfigurat Editor						

Figure 34 - Hosting Base user interface from HTTP to HTTPS (cont.)

- 8. Right-click HCLiAutomateBaseUI.
- 9. Click Explore.



10. Find **Web.config** file and open it in a Notepad.



12. If the certificate is self-signed, find the key **IsSelfSigned\_KRS** and change its value to **'Y'**. Else, the value will be **'N'**.



- 13. Save the file for changes to be reflected.
- 14. Select the service and click **Restart** to restart the services.

#### 3.5.1.1.3Web API

To change the hosting of Web API from HTTP to HTTPS using the existing certificate, for e.g.

'HclTech.iautomate.Web', please follow the below steps:

- 1. Press Win+R and type inetmgr.
- 2. Click OK to open IIS.

💷 Run	×
	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	inetmgr ~
	OK Cancel <u>B</u> rowse
-	
Fi	gure 38 - Hosting Web API from HTTP to HTTPS

3. Expand Sites and right-click HCLiAutomateWEBAPI.



4. Click Explore.

V 🐻 Sites	ication Pools	
<u>→</u> 😝 F	ICLiAutomateBaseUI	
🗸 🌍 F	ICLiAutomateWEBAPI	
> -	📋 bin	
> -	🔋 iAutomateWebApiLog	
> 🖞	🖻 KRS	
> -	scripts	- 8
		_

5. Find **Web.config** file and open it in a Notepad.



7. If the certificate is self-signed, find the key IsSelfSigned\_KRS and change its value to 'Y'. Else, the value will be 'N'.



- 8. Save the file for changes to be reflected.
- 9. Select the service and click **Restart** to restart the services.

#### 3.5.1.1.4Listener

To change the configuration of the Listener from HTTP to HTTPS, please follow the below steps:

1. Press Win+R and type services.msc.



Figure 43 - Hosting Listener from HTTP to HTTPS

2. Click **OK** to open the **Windows Services**.

The Action Them	нер				
(= e) 📊 🗐 🤅	i 📑 🛛 🖬 🕨 🖬 🖬				
🔍 Services (Local)	Services (Local)				
	Apache2.4	Name	Description Statu	s Startup Type	Log On As
		🖏 ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
	Stop the service	🏟 Adobe Flash Player Update Service	This service	Manual	Local System
	Restart the service	irtel. OUC		Automatic	Local System
		🏟 AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
	Description:	🚱 Apache2.4	Apache/2.4 Runn	ing Automatic	Local System
	OpenSSI /1.0.2h	🏟 App Readiness	Gets apps re	Manual	Local System
	openade/ noten	🎑 Application Host Helper Service	Provides ad Runn	ing Automatic	Local System
		🖏 Application Identity	Determines	Manual (Trig	Local Service
		🖏 Application Information	Facilitates t Runn	ing Manual (Trig	Local System
		🎑 Application Layer Gateway Service	Provides su	Manual	Local Service
		🎑 Application Management	Processes in	Manual	Local System
		🥋 AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		🖏 ASP.NET State Service	Provides su	Manual	Network Service
		🏟 AssignedAccessManager Service	AssignedAc	Manual	Local System
		🏟 Auto Time Zone Updater	Automatica	Disabled	Local Service
		🌼 Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		🌼 Background Tasks Infrastructure Service	Windows in Runn	ing Automatic	Local System
		🎑 Base Filtering Engine	The Base Fil Runn	ing Automatic	Local Service
		🖏 BES Client	Facilitates u Runn	ing Automatic (D	Local System
		BitLocker Drive Encryption Service	BDESVC hos Runn	ing Manual (Trig	Local System
		🥋 BitLocker Management Client Service	BitLocker M Runn	ing Automatic (D	Local System
		🌼 Block Level Backup Engine Service	The WBENG	Manual	Local System
		🥋 Blue Coat Unified Agent	Provides W Runn	ing Automatic	Local System
		Bluetooth Handsfree Service	Enables wir Runn	ing Manual (Trig	Local Service

Figure 44 - Hosting Listener from HTTP to HTTPS

- 3. Search for HCL.iAutomate.Listener service and right-click on it.
- 4. Click Properties.

🔍 Services			
File Action View	Help		
🦛 🔿 📑 🖬 🙆	🗟 🛛 🖬 🕨 🔲 🔢 🕩		
🔍 Services (Local)	Services (Local)		
	HCL.iAutomate.Listener	Name	D
	<u>Stop</u> the service <u>Restart</u> the service	🤹 HCL.iAutomate.DC 🤹 HCL.iAutomate.EntityModel 🎑 HCL.iAutomate.GenericExecutor	А
		🎑 HCL.iAutomate.iParse	А
		🍓 HCL.iAutomate.iRecommend	А
		🗛 HCL.iAutomate.iUnique	А
		HCL.iAutomate.Listener	
		HCL.iAutomate.RBACompone	Start
		HCL.iAutomate.ReleaseService	Stop
		Human Interface Device Servio	Pause
		W HV Host Service	Resume
		Hyper-V Data Exchange Servic	Restart
		🏩 Hyper-V Guest Shutdown Serv	All Tasks 🔷 🖓
		역 Hyper-V Heartbeat Service 아버 Hyper-V PowerShell Direct Ser	, Refresh
		🍓 Hyper-V Remote Desktop Virti	Properties
		Apper-V Time Synchronization	)
		Shadow Cop	пер

Figure 45 - Hosting Listener from HTTP to HTTPS (cont.)

5. Copy the value mentioned in **Path to executable** field as shown in the image below.

# bigFix

CL.iAutomate.Li	stener Prope	erties (Local C	omputer)		$\times$
ieneral Log On	Recovery	Dependencies			
Service name:	HCL.iAutom	nate.Listener			
Display name:	HCL.iAutom	nate.Listener			
Description:				1	<u>`</u>
Path to executab	le:				
her_20190808_19	94655162\Lis	tner <mark>\HCL.iAuto</mark>	mate.Listner.	Service.Host.e	xe
Startup type:	Automatic			•	~
Service status:	Running				-
Start	Stop	P	ause	Resume	
You can specify t from here. Start parameters:	he start parar	meters that appl	y when you s	tart the service	•
	r	OK	Cancel	Ann	lu
		UK	Cancer	- TPP	, ,
		UK	Cancer		, ,

6. Open File Explorer, then paste the copied path and press Enter to open the desired folder.

7. Search for HCL.iAutomate.Listner.Service.Host config file and open it in a Notepad.



8. Within the **HCL.iAutomate.Listner.Service.Host** config file, find the key **URL** and change its value from HTTP to HTTPS.



9. If the certificate is self-signed, find the key **IsSelfSigned\_KRS** and change its value to **'Y'**. Else, the value will be **'N'**.



<add key="IsSelfSigned\_KRS" value="N" />

- 10. Save the file for changes to be reflected.
- 11. Select the service and click **Restart** to restart the services.

#### 3.5.1.1.5Configuration Changes via GUI

To change the configuration of Screen from HTTP to HTTPS, please follow the below steps:

- 1. Login to BigFix Runbook AI using the **Super Admin** credentials.
- 2. Roll-over to the Environment and click BigFix Runbook AI Configuration.
- 3. Select Component Name as Web API.
- 4. Change the Load Balancer URL from HTTP to HTTPS.

Component Name *	Web API
Load Balancer URL*	https:// <ip>:<port></port></ip>
Test Connection	Test Connection
	Cancel Update

Figure 49 - Changing LB IP via GUI from HTTP to HTTPS

5. Click **Update** to save the changes.

#### 3.5.1.2Components

This section describes how to enable the secure communication by changing HTTP to HTTPS for the BigFix Runbook AI Components.

As a prerequisite, user needs to have the Thumbprint of the certificate which can be identified using the below steps:

1. Press Win+R and type mmc.
| ٨             | Type the name of a program, folder, document, or Internet resource, and Windows will open it for you. |
|---------------|---|
| <u>O</u> pen: | mmc v   |
|               | OK Cancel <u>B</u> rowse  |

Figure 50 - Identify Thumbprint of the Certificate

2. Click OK to open the Microsoft Management Console.

onsole1 - [Console Root]			- 0	×
le Action View Favorites	Window Help			- 8 ×
N 🖬 🔒 🛛 🖬				
onsole Root	Name		Actions	
		There are no items to show in this view.	Console Root	•
			More Actions	•
				I
				_

Figure 51 - Identify Thumbprint of the Certificate (cont.)

3. From the File menu, select Add / Remove Snap-in.

🚡 Fil	e Action View Favorite	s Window	н
	New	Ctrl+N	L
	Open	Ctrl+O	Г
	Save	Ctrl+S	
	Save As		
	Add/Remove Snap-in	Ctrl+M	
	Options		
	1 services.msc		
	2 certmgr.msc		
	3 secpol.msc		
	4 eventvwr.msc		
	Exit		
_			4

4. From the Available snap-ins list, select Certificates, then click Add.

6	BigF	Fix
---	------	-----

able snap-ins:			Selected snap-ins:	
ap-in	Vendor	^	Console Root	Edit Extensions
ActiveX Control	Microsoft Cor			Remove
Authorization Manager	Microsoft Cor			
Certificates	Microsoft Cor			Mayalla
Component Services	Microsoft Cor			Move Up
Computer Managem Device Manager	Microsoft Cor			Move Down
Disk Management	Microsoft and		Add >	
Event Viewer	Microsoft Cor			
Folder	Microsoft Cor			
Group Policy Object	Microsoft Cor			
Internet Informatio	Microsoft Cor			
IP Security Monitor	Microsoft Cor			
IP Security Policy M	Microsoft Cor	$\mathbf{v}$		Advanced
i-ti				
ipuon:		the		
Certificates shap-in alid	ows you to browse	me	ontents of the certificate stores for yoursell, a servic	e, or a computer.

- 5. Click **OK**.
- 6. From the Certificates Snap-In window, select Computer Account and click Next.

Certificates snap-in			×
This snap-in will always manage certificates for:			
◯ My user account			
Service account			
Computer account			
	< Back	Next >	Cancel

Figure 54 - Identify Thumbprint of the Certificate (cont.)

- 7. In the left pane, under Console Root, click Certificates (Local Computer).
- 8. Click Personal folder to expand it and then click Certificates folder to expand it.

🚆 Console Root 🚽 🗸	Issued To	Issued By	Expiration Date	Intended Pu ^
✓ ☐ Certificates (Local Comput	🕼 dfe29558-0f27-4733-9cab-24e5	MS-Organization-P2P-Access [20	4/6/2019	Server Authe
V Personal	G dfe29558-0f27-4733-9cab-24e5	MS-Organization-P2P-Access [20	3/28/2019	Server Authe
Certificates	🔓 dfe29558-0f27-4733-9cab-24e5	MS-Organization-P2P-Access [20	7/11/2019	Server Authe
> Irusted Root Certificati	🔓 dfe29558-0f27-4733-9cab-24e5	MS-Organization-P2P-Access [20	4/13/2019	Server Authe
Enterprise Trust	🛱 dfe29558-0f27-4733-9cab-24e5	MS-Organization-P2P-Access [20	3/19/2019	Server Authe
Trusted Publishers	🕼 dfe29558-0f27-4733-9cab-24e5	MS-Organization-P2P-Access [20	6/5/2019	Server Authe
Untrusted Certificates	🕼 dfe29558-0f27-4733-9cab-24e5	MS-Organization-P2P-Access [20	6/16/2019	Server Authe
> Third-Party Root Certifi	🕼 dfe29558-0f27-4733-9cab-24e5	MS-Organization-P2P-Access [20	5/4/2019	Server Authe
> 📋 Trusted People	🕼 dfe29558-0f27-4733-9cab-24e5	MS-Organization-P2P-Access [20	8/2/2019	Server Authe
> Client Authentication Is	🙀 dfe29558-0f27-4733-9cab-24e5	MS-Organization-P2P-Access [20	7/5/2019	Server Authe
> 📔 Preview Build Roots	🙀 dfe29558-0f27-4733-9cab-24e5	MS-Organization-P2P-Access [20	4/23/2019	Server Authe
> 📔 AAD Token Issuer	🙀 dfe29558-0f27-4733-9cab-24e5	MS-Organization-P2P-Access [20	3/19/2019	Server Authe
> 📋 Other People	🙀 dfe29558-0f27-4733-9cab-24e5	MS-Organization-P2P-Access [20	3/19/2019	Server Authe
> 📔 eSIM Certification Auth	🙀 dfe29558-0f27-4733-9cab-24e5	MS-Organization-P2P-Access [20	8/6/2019	Server Authe
> Homegroup Machine C	🕼 HCL.iAutomate	Root Agency	1/1/2040	<all></all>

Figure 55 - Identify Thumbprint of the Certificate (cont.)

- 9. In the list of certificates, find certificate HclTech.iautomate.Web.
- 10. Double-click the certificate to open the **Certificate** dialog box.
- 11. Scroll through the list of fields and click **Thumbprint** to display the value.

IOW: <aii></aii>	<b></b>	
Field	Value	^
Public key Subject Key Identifier	RSA (2048 Bits)	
Basic Constraints	Subject Type=CA, Path Lengt sha1	ш
Thumbprint	b8 72 70 3b 9d c7 74 ce 0b da	
All Shines		-
arn more about <u>certificate det</u>	Edit Properties Copy to File	•

Figure 56 - Identify Thumbprint of the Certificate (cont.)

Following changes are required in the underlying components:

#### 3.5.1.2.1Listener

To change the configuration of Listener from HTTP to HTTPS, please follow the below steps:

1. Press **Win+R** and type **services.msc**.



Figure 57 - Hosting Listener from HTTP to HTTPS

2. Click OK to open Windows Services.

View Help				
🔲 🕢 🔒 🛿 📷 🕨 🔲 🛙	IÞ.			
ocal) O. Services (Local)				
Apache2.4	Name	Description Status	Startup Type	Log On As
	ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
Stop the service	Adobe Flash Player Update Service	This service	Manual	Local System
Restart the service	airtel. OUC		Automatic	Local System
	AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
Description:	Apache2.4	Apache/2.4 Running	Automatic	Local System
Apache/2.4.23 (Win64)	App Readiness	Gets apps re	Manual	Local System
OpenSSL/ 1.0.2h	Application Host Helper Service	Provides ad Running	Automatic	Local System
	Application Identity	Determines	Manual (Trig	Local Service
	Application Information	Facilitates t Running	Manual (Trig	Local System
	Application Layer Gateway Service	Provides su	Manual	Local Service
	Application Management	Processes in	Manual	Local System
	AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
	ASP.NET State Service	Provides su	Manual	Network Service
	AssignedAccessManager Service	AssignedAc	Manual	Local System
	Auto Time Zone Updater	Automatica	Disabled	Local Service
	Background Intelligent Transfer Service	Transfers fil	Manual	Local System
	Background Tasks Infrastructure Service	Windows in Running	Automatic	Local System
	Base Filtering Engine	The Base Fil Running	Automatic	Local Service
	SES Client	Facilitates u Running	Automatic (D	Local System
	BitLocker Drive Encryption Service	BDESVC hos Running	Manual (Trig	Local System
	BitLocker Management Client Service	BitLocker M Running	Automatic (D	Local System
	Block Level Backup Engine Service	The WBENG	Manual	Local System
	Blue Coat Unified Agent	Provides W Running	Automatic	Local System
	Bluetooth Handsfree Service	Enables wir Running	Manual (Trig	Local Service
	Bluetooth Support Service	The Bluetoo Running	Manual (Trig	Local Service
	BranchCache	This service	Manual	Network Service
	Capability Access Manager Service	Provides fac	Manual	Local System
	Certificate Propagation	Copies user Running	Automatic	Local System
	Cisco AnyConnect Network Access Manager	Establishes Running	Automatic	Local System
	and the second of the second s		A 10 10	

#### Figure 58 - Hosting Listener from HTTP to HTTPS (cont.)

- 3. Search for HCL.iAutomate.Listener service and right-click on it.
- 4. Click Properties.

🍇 Services			
File Action View	Help		
🗭 🔿   📰   🏟 🖨	🗟 📄 🛛 📷 📄 🔍 💷 🚺		
🔍 Services (Local)	🔍 Services (Local)		
	HCL.iAutomate.Listener	Name ^	C
	<u>Stop</u> the service <u>Restart</u> the service	<ul> <li>HCL.iAutomate.DC</li> <li>HCL.iAutomate.EntityModel</li> <li>HCL.iAutomate.GenericExecutor</li> <li>HCL.iAutomate.iParse</li> <li>HCL.iAutomate.iParse</li> <li>HCL.iAutomate.iRecommend</li> <li>HCL.iAutomate.iIunique</li> <li>HCL.iAutomate.Istener</li> <li>HCL.iAutomate.ReleaseService</li> <li>HCL.iAutomate.ReleaseService</li> <li>HUMana Interface Device Service</li> <li>HV Host Service</li> <li>Hyper-V Data Exchange Service</li> <li>Hyper-V Guest Service Interface</li> <li>Hyper-V Guest Service</li> <li>Hyper-V PowerShell Direct Service</li> <li>Hyper-V Remote Desktop Virt</li> <li>Hyper-V Time Synchronization</li> <li>Hyper-V Volume Shadow Cop</li> </ul>	Start Stop Pause Resume Restart All Tasks Refresh Properties Help

#### Figure 59 - Hosting Listener from HTTP to HTTPS (cont.)

5. Copy the value mentioned in **Path to executable** as shown in the image below.

## bigFix

CL.iAutomate.Li	stener Properties (Local Computer)	~
General Log On	Recovery Dependencies	
Service name:	HCL.iAutomate.Listener	
Display name:	HCL.iAutomate.Listener	
Description:		$\hat{}$
Path to executab	le: 246551624 Listner AHCL iAutomate Listner Service Host	
nel_20130000_1	40001021Listner Andel Addunate. Listner, Service. Host	exe
C1		
Startup type:	Automatic	$\sim$
Startup type:	Automatic	~
Startup type: 	Automatic	~
Startup type: Service status: Start	Automatic Running Stop Pause Resume	~
Startup type: Service status: Start You can specify from here.	Automatic Running Stop Pause Resume the start parameters that apply when you start the servi	ce
Startup type: Service status: Start You can specify from here. Start parameters:	Automatic Running Stop Pause Resume the start parameters that apply when you start the servi	ce
Startup type: Service status: Start You can specify I from here. Start parameters:	Automatic         Running         Stop       Pause         Resume         the start parameters that apply when you start the servior	ce
Startup type: Service status: Start You can specify I from here. Start parameters:	Automatic         Running         Stop       Pause         Resume         the start parameters that apply when you start the servi         OK       Cancel	ce
Startup type: Service status: Start You can specify f from here. Start parameters:	Automatic         Running         Stop       Pause         Resume         the start parameters that apply when you start the servi         OK       Cancel	ce

Figure 60 - Hosting Listener from HTTP to HTTPS (cont.)

- 6. Open File Explorer and paste the copied path and press Enter to open the desired folder.
- 7. Search for HCL.iAutomate.Listner.Service.Host config file and open it in a Notepad.



8. Within the **HCL.iAutomate.Listner.Service.Host** config file, find the key **URL** and change its value from HTTP to HTTPS



9. Within the HCL.iAutomate.Listner.Service.Host config file, find the key 'IsSelfSigned\_Service' and change its value from N to Y.

#### **BigFix**

<add key="IsSelfSigned\_Service" value="N"/>

Figure 63 - Hosting Listener from HTTP to HTTPS (cont.)

- 10. Save the file for changes to be reflected.
- 11. Open the command prompt as administrator and run the following command.

```
netsh http add sslcert ipport=<ip>:<port on which service is
running> appid={fa605232-f580-4d28-895e-3e021ffed82d}
certhash="<Thumbprint of the certificate>"
```

Replace the < Thumbprint of the certificate> with the GUID identified earlier.

12. Select HCL.iAutomate.Listener service and click Restart to restart the service.

HCL.iAutomate.Listener	Name	Description	Status	Startup Type
	🎑 HCL.iAutomate.DC		Running	Automatic
Stop the service Postart the convice	🎑 HCL.iAutomate.EntityModel	Apache/2.4	Running	Automatic
restart the service	🖏 HCL.iAutomate.GenericExecutor		Running	Automatic
	🌼 HCL.iAutomate.iParse	Apache/2.4	Running	Automatic
	🌼 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automatic
	🖏 HCL.iAutomate.iUnique	Apache/2.4	Running	Automatic
	🙀 HCL.iAutomate.Listener		Running	Automatic
	🖏 HCL.iAutomate.RBAComponent		Running	Automatic
	🎑 HCL.iAutomate.ReleaseService		Running	Automatic

#### 3.5.1.2.2Data Collector

To change the configuration of Data Collector from HTTP to HTTPS, please follow the below steps:

1. Press **Win+R** and type **services.msc**.

🖅 Run	×
	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	services.msc 🗸
	OK Cancel <u>B</u> rowse
Figure	65 - Hosting Data Collector from HTTP to HTTP

2. Click OK to open Windows Services.

ЬВ	BigFix
----	--------

File Action View	w Help				
♦ ♦ 🖬 🗟	Q →   2 □   ▶ ■ II ▶				
Services (Local)	Services (Local)				
	Apache2.4	Name	Description Status	Startup Type	Log On As
		ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
	Stop the service	Adobe Flash Player Update Service	This service	Manual	Local System
	Restart the service	airtel, OUC		Automatic	Local System
		AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
	Description:	Apache2.4	Apache/2.4 Runnii	g Automatic	Local System
	Apache/2.4.23 (Win64)	App Readiness	Gets apps re	Manual	Local System
	OpenSSE/ 1.0.2h	Application Host Helper Service	Provides ad Runnir	g Automatic	Local System
		Application Identity	Determines	Manual (Trig	Local Service
		Application Information	Facilitates t Runnir	g Manual (Trig	Local System
		🖏 Application Layer Gateway Service	Provides su	Manual	Local Service
		🏟 Application Management	Processes in	Manual	Local System
		🌼 AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		🤹 ASP.NET State Service	Provides su	Manual	Network Service
		🌼 AssignedAccessManager Service	AssignedAc	Manual	Local System
		🍓 Auto Time Zone Updater	Automatica	Disabled	Local Service
		🍓 Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		🧟 Background Tasks Infrastructure Service	Windows in Runnii	g Automatic	Local System
		🔍 Base Filtering Engine	The Base Fil Runnir	g Automatic	Local Service
		RES Client	Facilitates u Runnir	g Automatic (D	Local System
		BitLocker Drive Encryption Service	BDESVC hos Runnir	ig Manual (Trig	Local System
		BitLocker Management Client Service	BitLocker M Runnir	g Automatic (D	Local System
		Block Level Backup Engine Service	The WBENG	Manual	Local System
		Blue Coat Unified Agent	Provides W Runnir	g Automatic	Local System
		Bluetooth Handsfree Service	Enables wir Runnir	ig Manual (Trig	Local Service
		Sluetooth Support Service	The Bluetoo Runnii	ig Manual (Trig	Local Service
		StanchCache	This service	Manual	Network Service
		Capability Access Manager Service	Provides fac	Manual	Local System
		Certificate Propagation	Copies user Runnir	ig Automatic	Local System
		🍓 Cisco AnyConnect Network Access Manager	Establishes Runnir	g Automatic	Local System

Figure 66 - Hosting Data Collector from HTTP to HTTPS (cont.)

- 3. Search for HCL.iAutomate.DC service and right-click on it.
- 4. Click Properties.

HCL.iAutomate.DC	Name	Description Stat	us Startup Type	Log On As
	🍓 HCL.iAutomate.DC	Run	ning Automatic	
Stop the service	🌼 HCL.iAutomate.EntityModel	Apache/2.4 Run	ning Automatic	Start
+	🌼 HCL.iAutomate.GenericExecutor	Run	ning Automatic	Stop
	🖏 HCL.iAutomate.iParse	Apache/2.4 Run	ning Automatic	Pause
	🌼 HCL.iAutomate.iRecommend	Apache/2.4 Run	ning Automatic	Resume
	🏟 HCL.iAutomate.iUnique	Apache/2.4 Run	ning Automatic	Restart
	🏟 HCL.iAutomate.Listener	Run	ning Automatic	
	🚳 HCL.iAutomate.RBAComponent	Run	ning Automatic	All Tasks 🔅
	🌼 HCL.iAutomate.ReleaseService	Run	ning Automatic	Refresh
	🧠 Human Interface Device Service	Activates an	Manual (Trig.	Refresh
	🖏 HV Host Service	Provides an	Manual (Trig.	Properties
	🥋 Hyper-V Data Exchange Service	Provides a	Manual (Trig.	Help
	Hyper-V Guest Service Interface	Provides an	Manual (Trig	

Figure 67 - Hosting Data Collector from HTTP to HTTPS (cont.)

5. Copy the value mentioned in 'Path to executable' as shown in the image below.

HCL.iAutomate.D	C Properties (Local Computer)	×
General Log On	Recovery Dependencies	
Service name:	HCL.iAutomate.DC	
Display name:	HCL.iAutomate.DC	
Description:	\$\$	
Path to executab 120448811\Data	le: <mark>aCollection</mark> \HCL.iAutomate.DataCollector.Service.Host.exe	
Startup type:	Automatic ~	
Service status:	Running	
Start	Stop Pause Resume	
You can specify t from here.	he start parameters that apply when you start the service	
Start parameters:		
		-8
	OK Cancel Apply	

Figure 68 - Hosting Data Collector from HTTP to HTTPS (cont.)

- 6. Open File Explorer and paste the copied path and press Enter to open the desired folder.
- 7. Search for HCL.iAutomate.DataCollector.Service.Host.exe config file and open it in a Notepad.



Figure 70 - Hosting Data Collector from HTTP to HTTPS (cont.)

 Within the HCL.iAutomate.DataCollector.Service.Host.exe config file, find the key 'securityMode\_Service' and change its value from 2 to 3.

#### **BigFix**

<add key="securityMode\_Service" value="3"/>

Figure 71 - Hosting Data Collector from HTTP to HTTPS (cont.)

10. Within the **HCL.iAutomate.DataCollector.Service.Host.exe** config file, find the **key 'IsSelfSigned\_Service'** and change its value from N to Y.

<add key="IsSelfSigned\_Service" value="N"/>

Figure 72 - Hosting Data Collector from HTTP to HTTPS (cont.)

- 11. Save the file for changes to be reflected.
- 12. Open the command prompt as administrator and run the following command.

netsh http add sslcert ipport=<ip>:<port on which service is running> appid={dcd67c7b-c67a-4956-b4cc-6545ace1d2e9} certhash="<Thumbprint of the certificate>"

Replace the < Thumbprint of the certificate> with the GUID identified earlier.

13. Select HCL.iAutomate.DC service and click Restart to restart the service.

HCL.iAutomate.DC	Name	Description	Status	Startup Type
	💁 HCL.iAutomate.DC		Running	Automatic
top the service	🎑 HCL.iAutomate.EntityModel	Apache/2.4	Running	Automatic
estart the service	🎑 HCL.iAutomate.GenericExecutor		Running	Automatic
	🎑 HCL.iAutomate.iParse	Apache/2.4	Running	Automatic
	🎑 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automatic
	🎑 HCL.iAutomate.iUnique	Apache/2.4	Running	Automatic
	🎑 HCL.iAutomate.Listener		Running	Automatic
	🎑 HCL.iAutomate.RBAComponent		Running	Automatic
	🎑 HCL.iAutomate.ReleaseService		Running	Automatic
	🎑 Human Interface Device Service	Activates an		Manual (Trig.
	🎑 HV Host Service	Provides an		Manual (Trig.
	🆏 Hyper-V Data Exchange Service	Provides a		Manual (Trig.
	🆏 Hyper-V Guest Service Interface	Provides an		Manual (Trig.
	🎑 Hyper-V Guest Shutdown Service	Provides a		Manual (Trig.
	🆏 Hyper-V Heartbeat Service	Monitors th		Manual (Trig.
	🆏 Hyper-V PowerShell Direct Service	Provides a		Manual (Trig.
	🆏 Hyper-V Remote Desktop Virtualization Service	Provides a p		Manual (Trig.
	🆏 Hyper-V Time Synchronization Service	Synchronize		Manual (Trig.
	🆏 Hyper-V Volume Shadow Copy Requestor	Coordinates		Manual (Trig.
	🆏 IIS Admin Service	Enables this	Running	Automatic
	🏩 IKE and AuthIP IPsec Keying Modules	The IKEEXT	Running	Automatic (T.

Figure 73 - Hosting Data Collector from HTTP to HTTPS (cont.)



#### 3.5.1.2.3Generic Service

To change the configuration of Generic Service from HTTP to HTTPS, please follow the below steps:

1. Press **Win+R** and type **services.msc**.

	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	services.msc 🗸
	OK Cancel <u>B</u> rowse

Figure 74 - Hosting Generic Service from HTTP to HTTPS

2. Click OK to open Windows Services.

n View Help					
📔 🧟 📑 🔽		•			
Local) 🔍 Servi	ces (Local)				
Apache2.4	ļ.	Name	Description Sta	tus Startup Type	Log On As
		ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
Stop the se	rvice	Adobe Flash Player Update Service	This service	Manual	Local System
Kestart the	service	🐘 airtel. OUC		Automatic	Local System
		AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
Description	1:	Apache2.4	Apache/2.4 Ru	nning Automatic	Local System
Apache/2.4	4.23 (Win64)	App Readiness	Gets apps re	Manual	Local System
OpensoL/ I	Opensse/ 1.0.2h	Application Host Helper Service	Provides ad Ru	nning Automatic	Local System
		Application Identity	Determines	Manual (Trig	Local Service
		Application Information	Facilitates t Ru	nning Manual (Trig	Local System
		Application Layer Gateway Service	Provides su	Manual	Local Service
		Application Management	Processes in	Manual	Local System
		AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		ASP.NET State Service	Provides su	Manual	Network Service
		AssignedAccessManager Service	AssignedAc	Manual	Local System
		Auto Time Zone Updater	Automatica	Disabled	Local Service
		Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		Background Tasks Infrastructure Service	Windows in Ru	nning Automatic	Local System
		🔅 Base Filtering Engine	The Base Fil Ru	nning Automatic	Local Service
		S BES Client	Facilitates u Ru	nning Automatic (D.	. Local System
		BitLocker Drive Encryption Service	BDESVC hos Ru	nning Manual (Trig	Local System
		BitLocker Management Client Service	BitLocker M Ru	nning Automatic (D.	. Local System
		Block Level Backup Engine Service	The WBENG	Manual	Local System
		🔍 Blue Coat Unified Agent	Provides W Ru	nning Automatic	Local System
		Bluetooth Handsfree Service	Enables wir Ru	nning Manual (Trig	Local Service
		Bluetooth Support Service	The Bluetoo Ru	nning Manual (Trig	Local Service
		BranchCache	This service	Manual	Network Service
		Capability Access Manager Service	Provides fac	Manual	Local System
		Certificate Propagation	Copies user Ru	nning Automatic	Local System
		Cisco AnyConnect Network Access Manager	Establishes Ru	nning Automatic	Local System
		a construction of the state of		in the state	

Figure 75 - Hosting Generic Service from HTTP to HTTPS (Cont.)

- 3. Search for HCL.iAutomate.GenericExecutor service and right-click on it.
- 4. Click Properties.

ICL.iAutomate.GenericExecutor	Name	Description	Status	Startup Type	Log On As
	HCL.iAutomate.GenericExecutor		Running	Automatic	
Stop the service	🏩 HCL.iAutomate.iParse	Apache/2.4	Running	Automatic	Start
estart the service	🎑 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automatic	Stop
	🌼 HCL.iAutomate.iUnique	Apache/2.4	Running	Automatic	Pause
	🏩 HCL.iAutomate.Listener		Running	Automatic	Resume
	🌼 HCL.iAutomate.RBAComponent		Running	Automatic	Restart
	🌼 HCL.iAutomate.ReleaseService		Running	Automatic	
	🌼 Human Interface Device Service	Activates an		Manual (Trig	All Tasks >
	🔍 HV Host Service	Provides an		Manual (Trig	Refresh
	🌼 Hyper-V Data Exchange Service	Provides a		Manual (Trig	Refresh
	🌼 Hyper-V Guest Service Interface	Provides an		Manual (Trig	Properties
	🎑 Hyper-V Guest Shutdown Service	Provides a		Manual (Trig	Help
	🌼 Hyper-V Heartbeat Service	Monitors th		Manual (Trig	
	🏩 Hyper-V PowerShell Direct Service	Provides a		Manual (Trig	Local Syste
	🌼 Hyper-V Remote Desktop Virtualization Service	Provides a p		Manual (Trig	Local Syste
	🍓 Hyper-V Time Synchronization Service	Synchronize		Manual (Trig	Local Service
	🌼 Hyper-V Volume Shadow Copy Requestor	Coordinates		Manual (Trig	Local Syste
	🏩 IIS Admin Service	Enables this	Running	Automatic	Local Syste
	🖾 IKE and AuthIP IPsec Keving Modules	The IKEEXT	Runnina	Automatic (T	Local Syste

Figure 76 - Hosting Generic Service from HTTP to HTTPS (Cont.)

5. Copy the value mentioned in **Path to executable** as shown in the image below.

àeneral Log On	Recovery Dependencies	
Service name:	HCL.iAutomate.GenericExecutor	
Display name:	HCL.iAutomate.GenericExecutor	
Description:		
Path to executab	le:	
e_20190805_120	1451797\GenericService\HCL.iAutomate.Generic.Host.ex	e
Startup type:	Automatic ~	•
Service status:	Running	-
Service status: Start	Running Stop Pause Resume	
Service status: Start You can specify t from here.	Stop       Pause       Resume         the start parameters that apply when you start the service	
Service status: Start You can specify t from here. Start parameters:	Stop       Pause       Resume         the start parameters that apply when you start the service	
Service status: Start You can specify t from here. Start parameters:	Stop       Pause       Resume         the start parameters that apply when you start the service	-
Service status: Start You can specify t from here. Start parameters:	Stop       Pause       Resume         the start parameters that apply when you start the service	



- 6. Open File Explorer and then paste the copied path and press Enter to open the desired folder.
- 7. Search for HCL.iAutomate.Generic.Host.exe config file and open it in a Notepad.



**'iAutomate.Generic.ServiceHostURL''** and change its value from HTTP to HTTPS.

<add key="iAutomate.Generic.ServiceHostURL" value="https://<ip>:<port>/GenericService" />

Figure 79-Hosting Generic Service from HTTP to HTTPS (Cont.)

9. Within the **HCL.iAutomate.Generic.Host.exe** config file, find the **key 'securityMode\_Service'** and change its value from 2 to 3.



change its value from N to Y.



- 11. Save the file for changes to be reflected.
- 12. Open the command prompt as administrator and run the following command.



Replace the < Thumbprint of the certificate> with the GUID identified earlier.

13. Select HCL.iAutomate.GenericExecutor service and click Restart to restart the service.

	Alexand Alexandre	Description	C1-1-1	Charles The
HCL.IAutomate.GenericExecutor	Name	Description	Status	Startup Type
o	🔍 HCL.iAutomate.DC		Running	Automatic
Stop the service	🎑 HCL.iAutomate.EntityModel	Apache/2.4	Running	Automatic
restart the service	🎇 HCL.iAutomate.GenericExecutor		Running	Automatic
	🎑 HCL.iAutomate.iParse	Apache/2.4	Running	Automatic
	🎑 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automatic
	🆏 HCL.iAutomate.iUnique	Apache/2.4	Running	Automatic
	🆏 HCL. i Automate. Listener		Running	Automatic
	🎑 HCL.iAutomate.RBAComponent		Running	Automatic
	🏟 HCL.iAutomate.ReleaseService		Running	Automatic
	🎑 Human Interface Device Service	Activates an		Manual (Trig.

Figure 82 - Hosting Generic Service from HTTP to HTTPS (Cont.)

#### 3.5.1.2.4RBA Component

To change the configuration of RBA Component from HTTP to HTTPS, please follow the below steps:

1. Press **Win+R** and type **services.msc**.

	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	services.msc ~
	OK Cancel <u>B</u> rowse

2. Click OK to open Windows Services.

<b>D</b> E	BigFix
------------	--------

services					
ile Action View I	Help				
• 🔿 🔟 🖬 🖬	🗟   🛿 📷   🕨 🔲 II IÞ				
Services (Local)	Services (Local)				
A	pache2.4	Name	Description Status	Startup Type	Log On As
		ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
<u>s</u>	top the service	Adobe Flash Player Update Service	This service	Manual	Local System
<u>R</u>	lestart the service	airtel. OUC		Automatic	Local System
		AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
D	escription:	Apache2.4	Apache/2.4 Runni	ng Automatic	Local System
A	Apache/2.4.23 (Win64)	App Readiness	Gets apps re	Manual	Local System
	JpenSSL/1.0.2n	Application Host Helper Service	Provides ad Runni	ng Automatic	Local System
		Application Identity	Determines	- Manual (Trig	Local Service
		Application Information	Facilitates t Runni	ng Manual (Trig	Local System
		Application Layer Gateway Service	Provides su	Manual	Local Service
		Application Management	Processes in	Manual	Local System
		AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		ASP.NET State Service	Provides su	Manual	Network Service
		🖏 AssignedAccessManager Service	AssignedAc	Manual	Local System
		🥋 Auto Time Zone Updater	Automatica	Disabled	Local Service
		🥋 Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		Ackground Tasks Infrastructure Service	Windows in Runni	ng Automatic	Local System
		🖏 Base Filtering Engine	The Base Fil Runni	ng Automatic	Local Service
		🖏 BES Client	Facilitates u Runni	ng Automatic (D	Local System
		🧠 BitLocker Drive Encryption Service	BDESVC hos Runni	ng Manual (Trig	Local System
		🆏 BitLocker Management Client Service	BitLocker M Runni	ng Automatic (D	Local System
		🆏 Block Level Backup Engine Service	The WBENG	Manual	Local System
		🧠 Blue Coat Unified Agent	Provides W Runni	ng Automatic	Local System
		🆏 Bluetooth Handsfree Service	Enables wir Runni	ng Manual (Trig	Local Service
		🆏 Bluetooth Support Service	The Bluetoo Runni	ng Manual (Trig	Local Service
		🌼 BranchCache	This service	Manual	Network Service
		🆏 Capability Access Manager Service	Provides fac	Manual	Local System
		Certificate Propagation	Copies user Runni	ng Automatic	Local System
		🆏 Cisco AnyConnect Network Access Manager	Establishes Runni	ng Automatic	Local System

Figure 84 - Hosting RBA Component from HTTP to HTTPS

- 3. Search for HCL.iAutomate.RBAComponent service and right-click on it.
- 4. Click Properties.

Colocal)	^		1		
HCL.iAutomate.RBAComponent	Name		Descrip	tion	Status
o	🍓 HCL.iAutomate.DC				Running
<u>Stop</u> the service <u>Restart</u> the service	🍓 HCL.iAutomate.EntityModel		Apache	./2.4	Running
	🍓 HCL.iAutomate.GenericExecutor				Running
	🍓 HCL.iAutomate.iParse		Apache	2.4	Running
	🍓 HCL.iAutomate.iRecommend		Apache	2.4	Running
	🍓 HCL.iAutomate.iUnique		Apache	2.4	Running
	🔍 HCL.iAutomate.Listener				Running
	HCL.iAutomate.RBAComponent	<u>.</u>			Running
	HCL.iAutomate.ReleaseService	Start			Running
	🍓 Human Interface Device Service	Stop		s an	
	🔍 HV Host Service	Pause		: an	
	🤐 Hyper-V Data Exchange Service	Resume		:a	
	🚇 Hyper-V Guest Service Interface	Restart		: an	
	🤐 Hyper-V Guest Shutdown Service			:a	
	🔍 Hyper-V Heartbeat Service	All Tasks	>	s th	
	🚇 Hyper-V PowerShell Direct Service	Refresh		;a	
	🏩 Hyper-V Remote Desktop Virtualizati			;ар	
	🔍 Hyper-V Time Synchronization Servi	Properties		nize	
	🏩 Hyper-V Volume Shadow Copy Requ	Heln		ates	
	🔍 IIS Admin Service 📃 📃	p		this	Running

Figure 85 - Hosting RBA Component from HTTP to HTTPS (Cont.)

5. Copy the value mentioned in **Path to executable** as shown in the image below.

## bigFix

HCL.iAutomate.RE	AComponent Properties (Local Computer)	×
General Log On	Recovery Dependencies	-1
Service name:	HCL.iAutomate.RBAComponent	
Display name:	HCL.iAutomate.RBAComponent	
Description:	< >	
Path to executabl	e: 5 <u>120453861\RBA</u> \Hcl.RbaService.Component.Host.exe	
Startup type:	Automatic ~	
Service status:	Running	
Start	Stop Pause Resume	
You can specify th from here.	he start parameters that apply when you start the service	
Start parameters:		
	OK Cancel Apply	

Figure 86 - Hosting RBA Component from HTTP to HTTPS (Cont.)

- 6. Open File Explorer and then paste the copied path and press Enter to open the desired folder.
- 7. Search for HCL.RbaService.Component.Host.exe config file and open it in a Notepad.



8. Within the **HCL.RbaService.Component.Host.exe** config file, find the **key 'ServiceHostURL'** and change its value from HTTP to HTTPS.

<add key="ServiceHostURL" value="https://<ip>:<port>/RbaComponent/" /> Figure 88 - Hosting RBA Component from HTTP to HTTPS (Cont.)

9. Within the HCL.RbaService.Component.Host.exe config file, find the key 'securityMode\_Service' and change its value from 2 to 3.

#### **BigFix**

<add key="securityMode\_Service" value="3"/>

Figure 89 - Hosting RBA Component from HTTP to HTTPS (Cont.)

10. Within the **HCL.RbaService.Component.Host.exe** config file, find the **key 'IsSelfSigned\_Service'** and change its value from N to Y.



Figure 90 - Hosting RBA Component from HTTP to HTTPS (Cont.)

- 11. Save the file for changes to be reflected.
- 12. Open the command prompt as administrator and run the following command.

netsh http add sslcert ipport=<ip>:<port on which service is</pre>

running> appid={11f43d84-3d5c-47cf-b29e-0dd38c0e8f85}

certhash="<Thumbprint of the certificate>"

Replace the < Thumbprint of the certificate> with the GUID identified earlier.

13. Select HCL.iAutomate.RBAComponent service and click Restart to restart the service.

HCL.iAutomate.RBAComponent	Name	Description	Status	Startup Type
	🎑 HCL.iAutomate.DC		Running	Automatic
<u>Stop</u> the service	🎑 HCL.iAutomate.EntityModel	Apache/2.4	Running	Automatic
restant the service	🎑 HCL.iAutomate.GenericExecutor		Running	Automatic
	🆏 HCL. i Automate. i Parse	Apache/2.4	Running	Automatic
	🎑 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automatic
	🎑 HCL.iAutomate.iUnique	Apache/2.4	Running	Automatic
	🎑 HCL.iAutomate.Listener		Running	Automatic
	🎇 HCL.iAutomate.RBAComponent		Running	Automatic
	🍓 HCL. i Automate. Release Service		Running	Automatic
	🎑 Human Interface Device Service	Activates an		Manual (Trig
	🏩 HV Host Service	Provides an		Manual (Trig

Figure 91 - Hosting RBA Component from HTTP to HTTPS (Cont.)

#### 3.5.1.2.5 Release Service

To change the configuration of Release Service from HTTP to HTTPS, please follow the below steps:

1. Press Win+R and type services.msc.



Figure 92 - Hosting Release Service from HTTP to HTTPS

2. Click OK to open Windows Services.

Action View	Help				
	a 🔒 🛛 🖬 🕨 🔲 🖬				
ices (Local)	Services (Local)				
	Apache2.4	Name	Description Status	Startup Type	Log On As
		ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
	Stop the service	🗛 Adobe Flash Player Update Service	This service	Manual	Local System
	Restart the service	🖏 airtel. OUC		Automatic	Local System
		AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
	Description:	🖏 Apache2.4	Apache/2.4 Running	Automatic	Local System
	Apache/2.4.23 (Win64)	💁 App Readiness	Gets apps re	Manual	Local System
	opensac/1.0.2h	Application Host Helper Service	Provides ad Running	Automatic	Local System
		Application Identity	Determines	Manual (Trig	Local Service
		Application Information	Facilitates t Running	Manual (Trig	Local System
		Application Layer Gateway Service	Provides su	Manual	Local Service
		Application Management	Processes in	Manual	Local System
		🏟 AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		ASP.NET State Service	Provides su	Manual	Network Service
		🖏 AssignedAccessManager Service	AssignedAc	Manual	Local System
		🔍 Auto Time Zone Updater	Automatica	Disabled	Local Service
		🏟 Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		Background Tasks Infrastructure Service	Windows in Running	Automatic	Local System
		🐘 Base Filtering Engine	The Base Fil Running	Automatic	Local Service
		🖏 BES Client	Facilitates u Running	Automatic (D	Local System
		🏟 BitLocker Drive Encryption Service	BDESVC hos Running	Manual (Trig	Local System
		BitLocker Management Client Service	BitLocker M Running	Automatic (D	Local System
		🌼 Block Level Backup Engine Service	The WBENG	Manual	Local System
		🥋 Blue Coat Unified Agent	Provides W Running	Automatic	Local System
		🌼 Bluetooth Handsfree Service	Enables wir Running	Manual (Trig	Local Service
		🏟 Bluetooth Support Service	The Bluetoo Running	Manual (Trig	Local Service
		🥋 BranchCache	This service	Manual	Network Service
		🌼 Capability Access Manager Service	Provides fac	Manual	Local System
		🔍 Certificate Propagation	Copies user Running	Automatic	Local System
		Cisco AnyConnect Network Access Manager	Establishes Running	Automatic	Local System

Figure 93 - Hosting Release Service from HTTP to HTTPS (Cont.)

- 3. Search for HCL.iAutomate.ReleaseService service and right-click on it.
- 4. Click on Properties.



Services (Local)			
HCL.iAutomate.ReleaseService	Name	Description	Status
<u>Stop</u> the service <u>Restart</u> the service	<ul> <li>HCL.iAutomate.iParse</li> <li>HCL.iAutomate.iRecommend</li> <li>HCL.iAutomate.iUnique</li> <li>HCL.iAutomate.listener</li> </ul>	Apache/2.4.23 (Win <b>64</b> ) O Apache/2.4.23 (Win <b>64</b> ) O Apache/2.4.23 (Win <b>6</b> 4) O	Running Running Running Running
	Archite Anter Archite		Running
	🕰 HCL.iAutomate.ReleaseService		Running
	🎑 Human Interface Device Service	Start ains t	
	🖏 HV Host Service	Stop ⊧ fort.	
	🆏 Hyper-V Data Exchange Service	Pause ;m to .	
	🎑 Hyper-V Guest Service Interface	Resume e for t.	
	🍓 Hyper-V Guest Shutdown Service	Restart im to .	
	🏩 Hyper-V Heartbeat Service 🏩 Hyper-V PowerShell Direct Service	All Tasks > ;m to .	
	Hyper-V Remote Desktop Virtualization Service	Refresh for co. stem t.	
	🚇 Hyper-V Volume Shadow Copy Requestor	Properties nmun.	
	KE and AuthIP IPsec Keying Modules Interactive Services Detection	Help iosts t.	Running
	Internet Connection Sharing (ICS)	Provides network address .	
	আলে Helper @ Psec Policy Agent	Provides tunnel connectiv. Internet Protocol security .	Running Running

Figure 94 - Hosting Release Service from HTTP to HTTPS (Cont.)

5. Copy the value mentioned in **Path to executable** as shown in the image below.

HCL.iAutomate.Ri	eleaseService Properties (Local Computer)	×
General Log On	Recovery Dependencies	
Service name:	HCL.iAutomate.ReleaseService	- 1
Display name:	HCL.iAutomate.ReleaseService	- 1
Description:		
Path to executab	le: 844897\BeleaseService\HCL_i&utomate Belease Host ex	æ
Startup type:	Automatic	
Service status:	Running	1
Start	Stop Pause Resume	
You can specify I from here.	he start parameters that apply when you start the service	
Start parameters:		
	OK Cancel Appl	y

Figure 95 - Hosting Release Service from HTTP to HTTPS (Cont.)

- 6. Open File Explorer, then paste the copied path and press Enter to open the desired folder.
- 7. Search for HCL.iAutomate.Release.Host.exe config file and open it in a Notepad.



Within the HCL.iAutomate.Release.Host.exe config file, find the key
 'iAutomate.Release.ServiceHostURL' and change its value from HTTP to HTTPS.

<add key="iAutomate.Release.ServiceHostURL" value="https://<ip>:<port>/ReleaseService" />

Figure 97 - Hosting Release Service from HTTP to HTTPS (Cont.)

9. Within the **HCL.iAutomate.Release.Host.exe** config file, find the key **'securityMode\_Service'** and change its value from 2 to 3.

### **BigFix**

<add key="securityMode\_Service" value="3"/>

Figure 98 - Hosting Release Service from HTTP to HTTPS (Cont.)

10. Within the **HCL.iAutomate.Release.Host.exe** config file, find the key **'IsSelfSigned\_Service'** and change its value from N to Y.



Figure 99 - Hosting Release Service from HTTP to HTTPS (Cont.)

- 11. Save the file for changes to be reflected.
- 12. Open the command prompt as administrator and run the following command.

netsh http add sslcert ipport=<ip>:<port on which service is</pre>

running> appid={d32cb30c-7e1a-4549-a2e2-32bf01a1d345}

certhash="<Thumbprint of the certificate>"

Replace the < Thumbprint of the certificate> with the GUID identified earlier.

13. Select HCL.iAutomate.ReleaseService service and click Restart to restart the service.

Services (Local)				
HCL.iAutomate.ReleaseService	Name	Description	Status	Startup Type
	🍓 HCL.iAutomate.DC	F	Running	Automatic
otop the service	🎑 HCL.iAutomate.EntityModel	Apache/2.4.23 (Win64) O F	Running	Automatic
<u>Restart</u> the service	💁 HCL.iAutomate.GenericExecutor	F	Running	Automatic
	🖏 HCL.iAutomate.iParse	Apache/2.4.23 (Win64) O F	Running	Automatic
	💁 HCL.iAutomate.iRecommend	Apache/2.4.23 (Win64) O F	Running	Automatic
	🔍 HCL.iAutomate.iUnique	Apache/2.4.23 (Win64) O F	Running	Automatic
	🖏 HCL.iAutomate.Listener	F	Running	Automatic
	💁 HCL.iAutomate.RBAComponent	F	Running	Automatic
	🙀 HCL.iAutomate.ReleaseService	F	Running	Automatic
	🖏 Human Interface Device Service	Activates and maintains t		Manual (Trig
	🖏 HV Host Service	Provides an interface for t		Manual (Trig
	🖏 Hyper-V Data Exchange Service	Provides a mechanism to		Manual (Trig
	🖏 Hyper-V Guest Service Interface	Provides an interface for t		Manual (Trig
	🔍 Hyper-V Guest Shutdown Service	Provides a mechanism to		Manual (Trig
	🔍 Hyper-V Heartbeat Service	Monitors the state of this		Manual (Trig
	🎑 Hyper-V PowerShell Direct Service	Provides a mechanism to		Manual (Trig
	🙃 Huner-V Remote Deckton Virtualization Service	Brovides a platform for co		Manual (Trig

Figure 100 - Hosting Release Service from HTTP to HTTPS (Cont.)

#### 3.5.1.2.6AD Sync

To change the configuration of AD Sync from HTTP to HTTPS, please follow the below steps:

1. Press **Win+R** and type **services.msc**.



Figure 101 - Hosting AD Sync from HTTP to HTTPS

2. Click OK to open Windows Services.

View Help				
📑 🖸 📑 🚺 🖬 🕨 🔳	Ⅱ 1▶			
ocal) Services (Local)				
Apache2.4	Name	Description Status	Startup Type	Log On As
	ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
Stop the service	Adobe Flash Player Update Service	This service	Manual	Local System
Restart the service	airtel, OUC		Automatic	Local System
	AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
Description:	Apache2.4	Apache/2.4 Running	Automatic	Local System
Apache/2.4.23 (Win64)	App Readiness	Gets apps re	Manual	Local System
OpenSSL/1.0.2h	Application Host Helper Service	Provides ad Running	Automatic	Local System
	Application Identity	Determines	Manual (Trig	Local Service
	Application Information	Facilitates t Running	Manual (Trig	Local System
	Application Laver Gateway Service	Provides su	Manual	Local Service
	Application Management	Processes in	Manual	Local System
	AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
	ASP.NET State Service	Provides su	Manual	Network Service
	AssignedAccessManager Service	AssignedAc	Manual	Local System
	Auto Time Zone Updater	Automatica	Disabled	Local Service
	Background Intelligent Transfer Service	Transfers fil	Manual	Local System
	Background Tasks Infrastructure Service	Windows in Running	Automatic	Local System
	Base Filtering Engine	The Base Fil Running	Automatic	Local Service
	BES Client	Facilitates u Running	Automatic (D	Local System
	BitLocker Drive Encryption Service	BDESVC hos Running	Manual (Trig	Local System
	BitLocker Management Client Service	BitLocker M.,. Running	Automatic (D	Local System
	Block Level Backup Engine Service	The WBENG	Manual	Local System
	Blue Coat Unified Agent	Provides W Running	Automatic	Local System
	Bluetooth Handsfree Service	Enables wir Running	Manual (Trig	Local Service
	Bluetooth Support Service	The Bluetoo Running	Manual (Trig	Local Service
	BranchCache	This service	Manual	Network Service
	Capability Access Manager Service	Provides fac	Manual	Local System
	Certificate Propagation	Copies user Running	Automatic	Local System
	Cisco AnyConnect Network Access Manager	Establishes Running	Automatic	Local System
				1 10 1

#### Figure 102 - Hosting AD Sync from HTTP to HTTPS (cont.)

- 3. Search for HCL.iAutomate.ADSyncService and right-click on it.
- 4. Click Properties.

HCL.iAutomate.ADSyncService	Name	Description	Status	Startup Typ	e L.	
	HCL.iAutomate.ADSyncService	Service for	Running	Automatic		
Stop the service	🔍 HCL.iAutomate.DC	Service for	Running	Au St	art	
Restart the service	🌼 HCL.iAutomate.EmailService	Service for E	Running	Au St	ор	
	🌼 HCL.iAutomate.EntityModel	Apache/2.4	Running	Au Pa	ause	
Description:	🌼 HCL.iAutomate.GenericExecutor	Service for	Running	Au R	esume	
Service for ADSync	🆏 HCL.iAutomate.iParse	Apache/2.4	Running	Au	- start	
	🌼 HCL.iAutomate.iRecommend	Apache/2.4	Running	Au Ke	estart	
	🆏 HCL.iAutomate.iUnique	Apache/2.4	Running	Au Al	ll Tasks	
	🆏 HCL.iAutomate.Listener	Service for L	Running	Au		
	🆏 HCL.iAutomate.RBAComponent	Service for	Running	Au	erresn	
	🌼 HCL.iAutomate.ReleaseService	Service for	Running	Au Pi	roperties	
	🆏 Human Interface Device Service	Activates an		Ma		
	🐏 HV Host Service	Provides an		Ma H	elp	

#### Figure 103 - Hosting AD Sync from HTTP to HTTPS (cont.)

5. Copy the value mentioned in 'Path to executable' as shown in the image below.

CL.iAutomate.A	ADSyncService Properties (Local Computer) X
General Log On	Recovery Dependencies
Service name:	HCL.iAutomate.ADSyncService
Display name:	HCL:Automate.ADSyncService
Description:	Service for ADSync
Path to executal	
ADSync_20200	721_120808375\ADSync\HCL.Automate.Service.AD.exe"
Startup type:	Automatic $\checkmark$
Service status:	Bunning
Start	Stop Pause Regime
You can specify from here. Start parameters	the start parameters that apply when you start the service
_	OK Cancel Apply
Figure 10	4 - Hosting AD Sync from HTTP to HTTPS (cont.)

6. Open **File Explorer** and paste the **copied path** and press **Enter** to open the desired folder.



7. Search for HCL.iAutomate.Service.AD.exe config file and open it in a Notepad.



8. Within the **HCL.iAutomate.Service.AD.exe** config file, find the key **'ServiceHostURL'** and change its value from HTTP to HTTPS.

```
<add key="ServiceHostURL" value="https://<IP>:<Port>/ADService" />
```

Figure 106 - Hosting AD Sync from HTTP to HTTPS (cont.)

9. Within the **HCL.iAutomate.Service.AD.exe** config file, find the **key 'securityMode\_Service'** and change its value from 2 to 3.



Figure 107 - Hosting AD Sync from HTTP to HTTPS (cont.)

10. Within the **HCL.iAutomate.Service.AD.exe** config file, find the **key 'IsSelfSigned\_Service'** and change its value from N to Y.



Figure 108 - Hosting AD Sync from HTTP to HTTPS (cont.)

- 11. Save the file for changes to be reflected.
- 12. Open the command prompt as administrator and run the following command:

netsh http add sslcert ipport=<ip>:<port on which service is running> appid={8c00e29d-1a3e-439b-a449-7e26b64b9d27} certhash="<Thumbprint of the certificate>"

Replace the < Thumbprint of the certificate> with the GUID identified earlier.

13. Select HCL.iAutomate.ADSyncService service and click Restart to restart the service.



Services (Local)					
HCL.iAutomate.ADSyncService	Name	Description	Status	Startup Type	L.
o	🖏 HCL.iAutomate.ADSyncService	Service for	Running	Automatic	
Stop the service	🎑 HCL.iAutomate.DC	Service for	Running	Automatic	
restart the service	🥋 HCL.iAutomate.EmailService	Service for E	Running	Automatic	
	🌼 HCL.iAutomate.EntityModel	Apache/2.4	Running	Automatic	
Description:	🥋 HCL.iAutomate.GenericExecutor	Service for	Running	Automatic	
Service for ADSync	🌼 HCL.iAutomate.iParse	Apache/2.4	Running	Automatic	
	🌼 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automatic	
	🌼 HCL.iAutomate.iUnique	Apache/2.4	Running	Automatic	
	ALL: Automate. Listener	Service for L	Running	Automatic	
	HCL.iAutomate.RBAComponent	Service for	Running	Automatic	
	HCL.iAutomate.ReleaseService	Service for	Running	Automatic	

Figure 109 - Hosting AD Sync from HTTP to HTTPS (cont.)

#### 3.5.1.2.7Email Service

To change the configuration of Email Service from HTTP to HTTPS, please follow the below steps:

1. Press Win+R and type services.msc.

	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	services.msc ~
	OK Cancel <u>B</u> rowse

2. Click OK to open Windows Services.

<b>b</b>	Big	Fix
----------	-----	-----

Action View	Help				
🖬 🗐 🞑	🗟 🔽 📷 🕨 🗉 🖬	•			
ervices (Local)	Services (Local)				
	Apache2.4	Name	Description Status	Startup Type	Log On As
		ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
	Stop the service	Adobe Flash Player Update Service	This service	Manual	Local System
	Restart the service	🐘 airtel. OUC		Automatic	Local System
		🐘 AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
	Description:	🚱 Apache2.4	Apache/2.4 Running	Automatic	Local System
	Apache/2.4.23 (Winb4) OpenSSI /1.0.2b	🧠 App Readiness	Gets apps re	Manual	Local System
	opensize/ noizh	🖏 Application Host Helper Service	Provides ad Running	Automatic	Local System
		🆏 Application Identity	Determines	Manual (Trig	Local Service
		Application Information	Facilitates t Running	Manual (Trig	Local System
		🆏 Application Layer Gateway Service	Provides su	Manual	Local Service
		🌼 Application Management	Processes in	Manual	Local System
		🎑 AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		🍓 ASP.NET State Service	Provides su	Manual	Network Service
		AssignedAccessManager Service	AssignedAc	Manual	Local System
		🆏 Auto Time Zone Updater	Automatica	Disabled	Local Service
		🌼 Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		🍓 Background Tasks Infrastructure Service	Windows in Runnin	Automatic	Local System
		🍓 Base Filtering Engine	The Base Fil Runnin	Automatic	Local Service
		🖏 BES Client	Facilitates u Runnin	Automatic (D	Local System
		BitLocker Drive Encryption Service	BDESVC hos Runnin	Manual (Trig	Local System
		BitLocker Management Client Service	BitLocker M Runnin	Automatic (D	Local System
		Block Level Backup Engine Service	The WBENG	Manual	Local System
		🔍 Blue Coat Unified Agent	Provides W Runnin	Automatic	Local System
		Bluetooth Handsfree Service	Enables wir Runnin	) Manual (Trig	Local Service
		Bluetooth Support Service	The Bluetoo Runnin	Manual (Trig	Local Service
		🖳 BranchCache	This service	Manual	Network Service
		🐘 Capability Access Manager Service	Provides fac	Manual	Local System
		Certificate Propagation	Copies user Runnin	Automatic	Local System
		Cisco AnyConnect Network Access Manager	Establishes Running	Automatic	Local System

Figure 111 - Hosting Email Service from HTTP to HTTPS (cont.)

- 3. Search for HCL.iAutomate.EmailService and right-click on it.
- 4. Click Properties.

HCL.iAutomate.EmailService	Name	Description	Status	Startup Type	L.
	🌼 HCL.iAutomate.ADSyncService	Service for	Running	Automatic	
otop the service	🔍 HCL.iAutomate.DC	Service for	Running	Automatic	
the service	HCL.iAutomate.EmailService	Service for E	Running	Automatic	
	🔍 HCL.iAutomate.EntityModel	Apache/2.4	Running	Automat	Start
Description:	HCL.iAutomate.GenericExecutor	Service for	Running	Automat	Stop
ervice for EmailService	🎑 HCL.iAutomate.iParse	Apache/2.4	Running	Automat	Pause
	🆏 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automat	Resume
	🤹 HCL.iAutomate.iUnique	Apache/2.4	Running	Automat	Pestart
	🆏 HCL.iAutomate.Listener	Service for L	Running	Automat	Restart
	🌼 HCL.iAutomate.RBAComponent	Service for	Running	Automat	All Tasks >
	🎑 HCL.iAutomate.ReleaseService	Service for	Running	Automat	Defeat
	🎑 Human Interface Device Service	Activates an		Manual (	Kerresh
	🎑 HV Host Service	Provides an		Manual (	Properties
	🆏 Hyper-V Data Exchange Service	Provides a		Manual (	
	🎡 Hyper-V Guest Service Interface	Provides an		Manual	Help

Figure 112 - Hosting Email Service from HTTP to HTTPS (cont.)

5. Copy the value mentioned in 'Path to executable' as shown in the image below.

## bigFix

HCL.iAut	omate.En	nailService	Properties (	Local Compu	ter)	×
General	Log On	Recovery	Dependence	ies		- 1
Service	name:	HCL.iAuton	nate.EmailSe	vice		
Display	name:	HCL.iAuton	nate.EmailSe	vice		
Descrip	tion:	Service for	EmailService	•	< >	
Path to	executable	e: sil Son tiss VI	CL iAutomato	EmpilContion	Service Heat ave	
Startup	time:		CL.IAutomate	EmailService.	Service.nost.exe	
Stattup	type.	Automatic			× ×	
Service	status:	Running				
S	òtart	Stop		Pause	Resume	
You car from her	n specify tł re.	ne start parar	meters that a	oply when you	start the service	1
Start pa	irameters:					
			ОК	Cance	Apply	- 1

Figure 113 - Hosting Email Service from HTTP to HTTPS (cont.)

- 6. Open File Explorer and paste the copied path and press Enter to open the desired folder.
- 7. Search for HCL.iAutomate.EmailService.Service.Host.exe config file and open it in a Notepad.



Figure 114 - Hosting Email Service from HTTP to HTTPS (cont.)

 Within the HCL.iAutomate.EmailService.Service.Host.exe config file, find the key 'ServiceHostURL' and change its value from HTTP to HTTPS.

```
<add key="ServiceHostURL" value="https://<IP>:<Port>/EmailService/" />
```

Figure 115 - Hosting Email Service from HTTP to HTTPS (cont.)

9. Within the HCL.iAutomate.EmailService.Service.Host.exe config file, find the key 'securityMode\_Service' and change its value from 2 to 3.

<add key="securityMode\_Service" value="3"/>

Figure 116 - Hosting Email Service from HTTP to HTTPS (cont.)

10. Within the HCL.iAutomate.EmailService.Service.Host.exe config file, find the key 'IsSelfSigned Service' and change its value from N to Y.



Figure 117 - Hosting Email Service from HTTP to HTTPS (cont.)

- 11. Save the file for changes to be reflected.
- 12. Open the command prompt as administrator and run the following command.

netsh http add sslcert ipport=<ip>:<port on which service is running> appid={21fa9088-0c69-479e-8fdc-a81eb836e264} certhash="<Thumbprint of the certificate>"

Replace the < Thumbprint of the certificate> with the GUID identified earlier.

13. Select HCL.iAutomate.EmailService service and click Restart to restart the service.

Services (Local)				
HCL.iAutomate.EmailService	Name	Description	Status	Startup Type
Stop the service Restart the service	🍓 HCL.iAutomate.DC	Service for	Running	Automatic
	🔐 HCL.iAutomate.EmailService	Service for E	Running	Automatic
	🔍 HCL.iAutomate.EntityModel	Apache/2.4	Running	Automatic
Description: Service for EmailService	🤹 HCL.iAutomate.GenericExecutor	Service for	Running	Automatic
	🎑 HCL.iAutomate.iParse	Apache/2.4	Running	Automatic
	🌼 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automatic

Figure 118 – Hosting Email Service from HTTP to HTTPS (cont.)

#### 3.5.1.2.8Configuration Changes via GUI

To change the configuration for various components via GUI from HTTP to HTTPS, please follow the below stops:

the below steps:

- 1. Login to **BigFix Runbook AI** using the Super Admin credentials.
- 2. Roll-over to the Environment and click BigFix Runbook AI Configuration.
- 3. Select Component Name as Web API.
- 4. Change the Load Balancer URL from HTTP to HTTPS.



Component Name *	Web API
Load Balancer URL*	https:// <ip>:<port></port></ip>
Test Connection	Test Connection
	Cancel Update

#### Figure 119 - Configuration Changes via GUI from HTTP to HTTPS

- 5. Click **Update** to save the changes.
- 6. Select Component Name as Data Collector.
- 7. Change the Load Balancer URL from HTTP to HTTPS.

Component Name *	Data Collector 🗸	
Load Balancer URL*	https:// <ip>:<port></port></ip>	
Test Connection	Test Connection	
	Cancel Update	

Figure 120 - Configuration Changes via GUI from HTTP to HTTPS (Cont.)

- 8. Click **Update** to save the changes.
- 9. Select Component Name as 'Generic Service'.
- 10. Change the Load Balancer URL from HTTP to HTTPS.

Component Name *	Generic Service	i.		
Load Balancer URL*	https:// <ip>:<port></port></ip>	U		
Test Connection	Test Connection	U		
Cancel Update				

Figure 121 - Configuration Changes via GUI from HTTP to HTTPS (Cont.)

- 11. Click **Update** to save the changes.
- 12. Select Component Name as 'Release Service'.
- 13. Change the Load Balancer URL from HTTP to HTTPS.



Component Name *	Release Service
Load Balancer URL*	https:// <ip>:<port></port></ip>
Test Connection	Test Connection
	Cancel Update

#### Figure 122 - Configuration Changes via GUI from HTTP to HTTPS (Cont.)

- 14. Click **Update** to save the changes.
- 15. Select Component Name as 'RBA Service'.
- 16. Change the Load Balancer URL from HTTP to HTTPS.

Component Name *	RBA Service ~	]		
Load Balancer URL*	https:// <ip>:<port></port></ip>			
Test Connection	Test Connection			
Cancel Update				

#### Figure 123 - Configuration Changes via GUI from HTTP to HTTPS (Cont.)

- 17. Click **Update** to save the changes.
- 18. Select Component Name as 'Active Directory'.
- 19. Change the Load Balancer URL from HTTP to HTTPS.

Component Name *	Active Directory	~	
Load Balancer URL*	https:// <ip>:<port></port></ip>		
Test Connection	Test Connection		
	Cancel Update		

Figure 124 - Configuration Changes via GUI from HTTP to HTTPS (Cont.)

- 20. Click **Update** to save the changes.
- 21. Select Component Name as 'Email Service'.
- 22. Change the Load Balancer URL from HTTP to HTTPS.



Component Name *	Email Service	~
Load Balancer URL*	https:// <ip>:<port></port></ip>	
Test Connection	Test Connection	
	Cancel Update	

Figure 125 - Configuration Changes via GUI from HTTP to HTTPS (Cont.)

23. Click **Update** to save the changes.

#### 3.5.2 Configuration Changes – Certificate Name Change (Type

- PFX)

This section describes how to make the configurational changes if the SSL certificate name (Type -

PFX) is other than 'HCL.iAutomate'.

Please install the certificate through the **Microsoft Management Console** in both **Personal** as well as **Trusted People** folder. Refer to the pre-requisites document for the detailed procedure for certificate installation at required locations.

#### 3.5.2.1 Change name of Certificate used to connect KRS

#### 3.5.2.1.1Website

This section describes configuration changes required for the Website in case SSL certificate is other than **HCL.iAutomate**.

Following changes are required in the underlying components.

#### 3.5.2.1.1.1Key Rotation Service (KRS)

To make changes for the KRS, please follow the below steps:

- 1. Press Win+R and type inetmgr.
- 2. Click OK to open IIS.

🖾 Run	×
	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	inetmgr ~
	OK Cancel <u>B</u> rowse
	777 WORTEN - F.W.
	Figure 126 - Certificate Name Change - KRS

3. Expand Sites and click HCLiAutomateKRS.



Figure 127 - Certificate Name Change – KRS (Cont.)

- 4. Right click HCLiAutomateKRS.
- 5. Click Explore.
- 6. Find **Web.config** file and open it in a Notepad.



Figure 129 - Certificate Name Change – KRS (Cont.)

8. If the certificate is self-signed, find the key **'IsSelfSigned'** and change its value to **'Y'**. Else the value will be **'N'**.





Figure 130 - Certificate Name Change – KRS (Cont.)

- 9. Save the file for changes to be reflected.
- 10. Select the service and click **Restart** to restart the services.

#### 3.5.2.1.1.2 Base User interface

To make changes for the BaseUI, please follow the below steps:

- 1. Press **Win+R** and type **inetmgr.**
- 2. Click OK to open IIS.

٨	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	inetmgr ~
	OK Cancel <u>B</u> rowse

3. Expand Sites and click HCLiAutomateBaseUI.



Figure 132 - Certificate Name Change – BaseUI (Cont.)

- 4. Right-click HCLiAutomateBaseUI and click Explore.
- 5. Find Web.config file and open it in a Notepad.




Figure 133 - Certificate Name Change – BaseUI (Cont.)

6. Within the **Web.config** file, find the key **'Certificate\_Name\_KRS'** and change its value with the new **Certificate Name**.



7. If the certificate is self-signed, find the key 'IsSelfSigned\_KRS' and change its value to 'Y'. Else the value will be 'N'.



- 8. Save the file for changes to be reflected.
- 9. Select the service and click **Restart** to restart the services.

### 3.5.2.1.1.3Web API

To make changes for the Web API, please follow the below steps:

- 1. Press Win+R and type inetmgr.
- 2. Click OK to open IIS.

😅 Kun	×
0	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	inetmgr ~
	OK Cancel <u>B</u> rowse

Figure 136 - Certificate Name Change – Web API

- 3. Expand Sites and right-click HCLiAutomateWEBAPI.
- 4. Click **Explore**.

<ul> <li>✓ .</li> </ul>	Application Pools
> •	<ul> <li>HCLiAutomateBaseUI</li> <li>HCLiAutomateWEBAPI</li> <li>Image: Initial content of the second second</li></ul>
Figure 13	7 - Certificate Name Change – Web API (cont.)

5. Find Web.config file and open it in Notepad.



6. Within the **Web.config** file, find the key **'Certificate\_Name\_KRS'** and change its value with the new **Certificate Name**.

7. If the certificate is self-signed, find the key **'IsSelfSigned\_KRS'** and change its value to **'Y'**. Else the value will be **'N'**.



- 8. Save the file for changes to be reflected.
- 9. Select the service and click **Restart** to restart the services.

### 3.5.2.1.2Components

This section describes the configuration changes required for the Components in case the SSL

Certificate name is other than **HCL.iAutomate**.

Following changes are required in the underlying components:



### 3.5.2.1.2.1Listener

To make changes for the Listener, please follow the below steps:

1. Press **Win+R** and type **services.msc**.

٨	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	services.msc 🗸
	OK Cancel <u>B</u> rowse

Figure 141 - Certificate Name Change – Listener

2. Click OK to open Windows Services.

Action View	Help				
• •   🗖   🗐	3 🗟 🛛 🖬 🕨 🖬 🖬				
Services (Local)	Services (Local)				
	Apache2.4	Name	Description Stat	tus Startup Type	Log On As
		🖏 ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
	Stop the service	🏟 Adobe Flash Player Update Service	This service	Manual	Local System
	Restart the service	airtel. OUC		Automatic	Local System
		🖏 AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
	Description:	🚱 Apache2.4	Apache/2.4 Rur	nning Automatic	Local System
	Apache/2.4.23 (Winb4)	🔍 App Readiness	Gets apps re	Manual	Local System
	openase/ noiell	🏟 Application Host Helper Service	Provides ad Rur	nning Automatic	Local System
		Application Identity	Determines	Manual (Trig	Local Service
		🖏 Application Information	Facilitates t Rur	nning Manual (Trig	Local System
		🌼 Application Layer Gateway Service	Provides su	Manual	Local Service
		🏟 Application Management	Processes in	Manual	Local System
		🌼 AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		🖏 ASP.NET State Service	Provides su	Manual	Network Service
		🖏 AssignedAccessManager Service	AssignedAc	Manual	Local System
		🏟 Auto Time Zone Updater	Automatica	Disabled	Local Service
		🌼 Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		🌼 Background Tasks Infrastructure Service	Windows in Rur	nning Automatic	Local System
		🧠 Base Filtering Engine	The Base Fil Rur	nning Automatic	Local Service
		🖏 BES Client	Facilitates u Rur	ning Automatic (D	Local System
		🌼 BitLocker Drive Encryption Service	BDESVC hos Rur	nning Manual (Trig	Local System
		🌼 BitLocker Management Client Service	BitLocker M Rur	nning Automatic (D	Local System
		🌼 Block Level Backup Engine Service	The WBENG	Manual	Local System
		🧠 Blue Coat Unified Agent	Provides W Rur	nning Automatic	Local System
		🖏 Bluetooth Handsfree Service	Enables wir Rur	nning Manual (Trig	Local Service
		🥋 Bluetooth Support Service	The Bluetoo Rur	nning Manual (Trig	Local Service
		🧠 BranchCache	This service	Manual	Network Service
		🍓 Capability Access Manager Service	Provides fac	Manual	Local System
		Certificate Propagation	Copies user Rur	ning Automatic	Local System

Figure 142 - Certificate Name Change – Listener (cont.)

- 3. Search for HCL.iAutomate.Listener service and right-click on it.
- 4. Click **Properties**.

🔍 Services			
File Action View	Help		
🔶 🔿   📰   🖾 🍳	🗟 🛛 🛐 🕞 🔲 🖬 🕩		
🔍 Services (Local)	Services (Local)		
	HCL iAutomate. Listener	Name	D
		💁 HCL.iAutomate.DC	
	Stop the service Restart the service	Archite Automate. Entity Model	А
		Kerneric Executor	
		🤹 HCL.iAutomate.iParse	А
		🎑 HCL.iAutomate.iRecommend	А
		🎑 HCL.iAutomate.iUnique	А
		🎇 HCL.iAutomate.Listener	
		🍓 HCL.iAutomate.RBACompone	Start
		🔍 HCL.iAutomate.ReleaseService	Stop
		🏩 Human Interface Device Servi	Pause
		🐏 HV Host Service	Resume
		🐏 Hyper-V Data Exchange Servic	Restart
		Whyper-V Guest Service Interfac	
		Whyper-V Guest Shutdown Serv	All Tasks >
		W Hyper-V Heartbeat Service	Refresh
		W Hyper-V Powershell Direct Ser	
		Winner ) (Time Sunchronization	Properties
		When the synchronization and t	Help
		we w	

Figure 143 - Certificate Name Change – Listener (cont.)

5. Copy the value in **Path to executable** as shown in the image below.

# bigFix

CL.iAutomate.	Listener Prop	erties (Local C	omputer)		×
ieneral Log O	n Recovery	Dependencies			
Service name:	HCL.iAuto	mate.Listener			
Display name:	HCL.iAuto	mate.Listener			
Description:				~	
Path to execut	able:				
her_20190808_	194655162\L	istner <mark>\HCL.iAuto</mark>	mate.Listner.S	iervice.Host.ex	e
Startup type:	Automatic	>		~	
Service status:	Running				
Start	Sto	p P	ause	Resume	
You can specif from here. Start parameter	y the start para	ameters that app	y when you st	art the service	
		ОК	Cancel	Apply	
_					
-	-				

- 6. Open File Explorer then paste the copied path and press Enter to open the desired folder.
- 7. Search for HCL.iAutomate.Listner.Service.Host config file and open it in a Notepad.



8. Within the **HCL.iAutomate.Listner.Service.Host** config file, find the key **'CertificateName\_KRS'** and change its value with the new **Certificate Name**.



9. If the certificate is self-signed, find the key 'IsSelfSigned\_KRS' and change its value to 'Y'. Else the value will be 'N'.



<add key="IsSelfSigned\_KRS" value="N" />

Figure 147- Certificate Name Change – Listener (cont.)

10. Save the file for changes to be reflected.

11. Select the service and click **Restart** to restart the services.

### 3.5.2.1.2.2 Data Collector

To make changes for the Data Collector, please follow the below steps:

1. Press **Win+R** and type **services.msc**.

	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	services.msc ~
	OK Cancel <u>B</u> rowse

2. Click OK to open Windows Services.

0	<b>BigFix</b>
---	---------------

File Action View	Help				
<b> = →    </b>	Q 📑 🛛 🖬 🕨 🖬 🖬	Þ			
Services (Local)	O. Services (Local)				
	Apache2.4	Name	Description Statu	s Startup Type	Log On As
		ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
	Stop the service	Adobe Flash Player Update Service	This service	Manual	Local System
	Restart the service	airtel. OUC		Automatic	Local System
		AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
	Description:	Apache2.4	Apache/2.4 Runi	ning Automatic	Local System
	Apache/2.4.23 (Win64)	App Readiness	Gets apps re	Manual	Local System
	OpenSSL/1.0.2h	Application Host Helper Service	Provides ad Runi	ing Automatic	Local System
		Application Identity	Determines	- Manual (Trig	Local Service
		Application Information	Facilitates t Runi	ing Manual (Trig	Local System
		Application Layer Gateway Service	Provides su	Manual	Local Service
		🏟 Application Management	Processes in	Manual	Local System
		AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		🖏 ASP.NET State Service	Provides su	Manual	Network Service
		🏟 AssignedAccessManager Service	AssignedAc	Manual	Local System
		🆏 Auto Time Zone Updater	Automatica	Disabled	Local Service
		🌼 Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		🌼 Background Tasks Infrastructure Service	Windows in Runn	ing Automatic	Local System
		🖏 Base Filtering Engine	The Base Fil Runn	ing Automatic	Local Service
		🖏 BES Client	Facilitates u Runn	ing Automatic (D	Local System
		🏩 BitLocker Drive Encryption Service	BDESVC hos Runi	ning Manual (Trig	Local System
		🎑 BitLocker Management Client Service	BitLocker M Runi	ing Automatic (D	Local System
		🧠 Block Level Backup Engine Service	The WBENG	Manual	Local System
		🖏 Blue Coat Unified Agent	Provides W Runn	ing Automatic	Local System
		Bluetooth Handsfree Service	Enables wir Runn	ning Manual (Trig	Local Service
		🧟 Bluetooth Support Service	The Bluetoo Runi	ning Manual (Trig	Local Service
		🖏 BranchCache	This service	Manual	Network Service
	1	🎑 Capability Access Manager Service	Provides fac	Manual	Local System

Figure 149 - Certificate Name Change – Data Collector (Cont.)

- 3. Search for HCL.iAutomate.DC service and right-click on it.
- 4. Click on **Properties**.

HCL.iAutomate.DC	Name	Description S	Status	Startup Type	Log On As
	🍓 HCL.iAutomate.DC	R	Running	Automatic	
the service	🌼 HCL.iAutomate.EntityModel	Apache/2.4 R	Running	Automatic	Start
+	🌼 HCL.iAutomate.GenericExecutor	R	Running	Automatic	Stop
	🖏 HCL.iAutomate.iParse	Apache/2.4 R	Running	Automatic	Pause
	🌼 HCL.iAutomate.iRecommend	Apache/2.4 R	Running	Automatic	Resume
	🏟 HCL.iAutomate.iUnique	Apache/2.4 R	Running	Automatic	Restart
	🏟 HCL.iAutomate.Listener	R	Running	Automatic	
	🌼 HCL.iAutomate.RBAComponent	R	Running	Automatic	All Tasks 🔅 🔅
	Acceleration and Accelerate Acceleration and Accelerat	R	Running	Automatic	Refrech
	🤹 Human Interface Device Service	Activates an		Manual (Trig.	Refresh
	<table-of-contents></table-of-contents>	Provides an		Manual (Trig.	Properties
	🍓 Hyper-V Data Exchange Service	Provides a		Manual (Trig.	Halm
	Arrow Guest Service Interface	Provides an		Manual (Trig	neip

Figure 150 - Certificate Name Change – Data Collector (Cont.)

5. Copy the value mentioned in **Path to executable** as shown in the image below.

# bigFix

HCL.iAutomate.D	C Properties (Local Computer)	×
General Log On	Recovery Dependencies	_
Service name:	HCL.iAutomate.DC	
Display name:	HCL.iAutomate.DC	
Description:		
Path to executab 120448811\Data	ile: <mark>aCollection</mark> \HCL.iAutomate.DataCollector.Service.Host.e:	ke
Startup type:	Automatic	
Service status:	Running	
Start	Stop Pause Resume	
You can specify from here.	the start parameters that apply when you start the service	
Start parameters:		
	OK Cancel Appl	y
-		

Figure 151 - Certificate Name Change – Data Collector (Cont.)

- 6. Open File Explorer, then paste the copied path and press Enter to open the desired folder.
- 7. Search for HCL.iAutomate.DataCollector.Service.Host.exe config file and open it in a Notepad.



- certificate is self-signed find the key **'IsSelfSigned KRS'** and change its value to
- 9. If the certificate is self-signed, find the key 'IsSelfSigned\_KRS' and change its value to 'Y'. Else the value will be 'N'..

### **O** BigFix

<add key="IsSelfSigned\_KRS" value="N" />

Figure 154 - Certificate Name Change – Data Collector (Cont.)

- 10. Save the file for changes to be reflected.
- 11. Select HCL.iAutomate.DC service and click Restart to restart the service.

CL.iAutomate.DC	Name	Description	Status	Startup Type
	🙀 HCL.iAutomate.DC		Running	Automatic
top the service	🚳 HCL.iAutomate.EntityModel	Apache/2.4	Running	Automatic
estart the service	🖏 HCL.iAutomate.GenericExecutor		Running	Automatic
	🖏 HCL.iAutomate.iParse	Apache/2.4	Running	Automatic
	🖏 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automatic
	🖏 HCL.iAutomate.iUnique	Apache/2.4	Running	Automatic
	🎑 HCL.iAutomate.Listener		Running	Automatic
	🎑 HCL.iAutomate.RBAComponent		Running	Automatic
	🎑 HCL.iAutomate.ReleaseService		Running	Automatic
	🎑 Human Interface Device Service	Activates an		Manual (Trig.
	🖏 HV Host Service	Provides an		Manual (Trig.
	🆏 Hyper-V Data Exchange Service	Provides a		Manual (Trig.
	🆏 Hyper-V Guest Service Interface	Provides an		Manual (Trig.
	🆏 Hyper-V Guest Shutdown Service	Provides a		Manual (Trig.
	🆏 Hyper-V Heartbeat Service	Monitors th		Manual (Trig.
	🎑 Hyper-V PowerShell Direct Service	Provides a		Manual (Trig.
	🆏 Hyper-V Remote Desktop Virtualization Service	Provides a p		Manual (Trig.
	🎑 Hyper-V Time Synchronization Service	Synchronize		Manual (Trig.
	🎑 Hyper-V Volume Shadow Copy Requestor	Coordinates		Manual (Trig.
	🔍 IIS Admin Service	Enables this	Running	Automatic
	🤹 IKE and AuthIP IPsec Keying Modules	The IKEEXT	Running	Automatic (T

Figure 155 - Certificate Name Change – Data Collector (Cont.)

### 3.5.2.1.2.3 Generic Service

To make changes for the Generic Service, please follow the below steps:

1. Press **Win+R** and type **services.msc**.

🖅 Run	×
	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	services.msc ~

Figure 156 - Certificate Name Change – Generic Service

2. Click OK to open Windows Services.

v Help				
a 🗟 🚺 🖬 🖬 🖬	IÞ.			
Services (Local)				
Apache2.4	Name	Description Status	Startup Type	Log On As
	ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
Stop the service	Adobe Flash Player Update Service	This service	Manual	Local System
Restart the service	airtel. OUC		Automatic	Local System
	🎑 AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
Description:	Apache2.4	Apache/2.4 Running	Automatic	Local System
Apache/2.4.23 (Win64)	🧠 App Readiness	Gets apps re	Manual	Local System
opense/ noizh	Application Host Helper Service	Provides ad Running	Automatic	Local System
	🧠 Application Identity	Determines	Manual (Trig	Local Service
	Application Information	Facilitates t Running	Manual (Trig	Local System
	🥋 Application Layer Gateway Service	Provides su	Manual	Local Service
	🎑 Application Management	Processes in	Manual	Local System
	🍓 AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
	🖏 ASP.NET State Service	Provides su	Manual	Network Service
	🖏 AssignedAccessManager Service	AssignedAc	Manual	Local System
	🍓 Auto Time Zone Updater	Automatica	Disabled	Local Service
	🌼 Background Intelligent Transfer Service	Transfers fil	Manual	Local System
	🍓 Background Tasks Infrastructure Service	Windows in Running	Automatic	Local System
	🌼 Base Filtering Engine	The Base Fil Running	Automatic	Local Service
	🖏 BES Client	Facilitates u Running	Automatic (D	Local System
	BitLocker Drive Encryption Service	BDESVC hos Running	Manual (Trig	Local System
	BitLocker Management Client Service	BitLocker M Running	Automatic (D	Local System
	Block Level Backup Engine Service	The WBENG	Manual	Local System
	🍓 Blue Coat Unified Agent	Provides W Running	Automatic	Local System
	🍓 Bluetooth Handsfree Service	Enables wir Running	Manual (Trig	Local Service
	🍓 Bluetooth Support Service	The Bluetoo Running	Manual (Trig	Local Service
	🖏 BranchCache	This service	Manual	Network Service
	🍓 Capability Access Manager Service	Provides fac	Manual	Local System
	🍓 Certificate Propagation	Copies user Running	Automatic	Local System
	🌼 Cisco AnyConnect Network Access Manager	Establishes Running	Automatic	Local System

Figure 157 - Certificate Name Change – Generic Service (cont.)

- 3. Search for HCL.iAutomate.GenericExecutor service and right-click on it.
- 4. Click on **Properties**.

# **BigFix**

CL.iAutomate.GenericExecutor	Name	Description	Status	Startup Type	Log On As
	🎇 HCL.iAutomate.GenericExecutor		Running	Automatic	
op the service	🍓 HCL.iAutomate.iParse	Apache/2.4	Running	Automatic	Start
riestant the service	🎑 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automatic	Stop
	🍓 HCL.iAutomate.iUnique	Apache/2.4	Running	Automatic	Pause
	🎑 HCL.iAutomate.Listener		Running	Automatic	Resume
	🍓 HCL.iAutomate.RBAComponent		Running	Automatic	Restart
	🎑 HCL.iAutomate.ReleaseService		Running	Automatic	
	🍓 Human Interface Device Service	Activates an		Manual (Trig	All Tasks >
	🍓 HV Host Service	Provides an		Manual (Trig	Refresh
	🧠 Hyper-V Data Exchange Service	Provides a		Manual (Trig	
	🎑 Hyper-V Guest Service Interface	Provides an		Manual (Trig	Properties
	🎑 Hyper-V Guest Shutdown Service	Provides a		Manual (Trig	Halp
	🎑 Hyper-V Heartbeat Service	Monitors th		Manual (Trig	
	🧠 Hyper-V PowerShell Direct Service	Provides a		Manual (Trig	Local Syste
	🌼 Hyper-V Remote Desktop Virtualization Service	Provides a p		Manual (Trig	Local Syste
	🍓 Hyper-V Time Synchronization Service	Synchronize		Manual (Trig	Local Service
	🌼 Hyper-V Volume Shadow Copy Requestor	Coordinates		Manual (Trig	Local Syste
	🎑 IIS Admin Service	Enables this	Running	Automatic	Local Syste
	🖾 IKE and AuthIP IPsec Keving Modules	The IKEEXT	Runnina	Automatic (T	Local Svste

Figure 158 - Certificate Name Change – Generic Service (cont.)

5. Copy the value in **Path to executable** as shown in the image below.

# bigFix

	omate.Ge	enericExecu	itor Propei	rties (Loc	al Com	puter)		×
ieneral	Log On	Recovery	Depender	ncies				
Service	name:	HCL.iAutor	mate.Gener	icExecuto	ſ			
Display	name:	HCL.iAutor	mate.Gener	icExecuto	ſ			
Descrip	tion:						<b>~</b> •	
Path to	executabl	e: 45170750				· · · · · · ·		
8_20190	0800_120	401797 \Ger	nericservice	NHUL.IAU	itomate.	Generic.	Host.exe	
Startup	type:	Automatic	;				~	
Service	status:	Running						
Service S	status: itart	Running Stop	D	Pause		Res	ume	
Service S You car from her	status: itart n specify tl re.	Running Stop he start para	o ameters that	Pause apply whe	en you :	Res start the	ume service	
Service S You car from her Start pa	status: itart n specify tl re. irameters:	Running Stop he start para	o ameters that	Pause	en you :	Res	ume service	
Service S You car from her Start pa	status: itart n specify tl re. irameters:	Running Stop he start para	o ameters that	Pause apply who	en you s	Res start the	ume service	
Service S You car from her Start pa	itart itart n specify tl re. irameters:	Running Stop he start para	o ameters that	Pause apply whe	en you : Cancel	Res start the	ume service	
Service S You car from her Start pa	status: itart n specify tl re. arameters:	Running Stop he start para	o ameters that OK	Pause	en you : Cancel	Res start the	ume service Apply	

Figure 159 - Certificate Name Change – Generic Service (cont.)

- 6. Open File Explorer and paste the copied path and press Enter to open the desired folder.
- 7. Search for HCL.iAutomate.Generic.Host.exe config file and open it in a Notepad.



Figure 160- Certificate Name Change – Generic Service (cont.)

8. Within the **HCL.iAutomate.Generic.Host.exe** config file, find the **key 'CertificateName\_KRS'** and change its value with the new **Certificate Name**.



9. If the certificate is self-signed, find the key 'IsSelfSigned\_KRS' and change its value to 'Y'. Else the value will be 'N'.

<add key="IsSelfSigned\_KRS" value="N" />

Figure 162 - Certificate Name Change – Generic Service (cont.)

- 10. Save the file for changes to be reflected.
- 11. Select HCL.iAutomate.GenericExecutor service and click Restart to restart the service.

<ul> <li>Services (Local)</li> </ul>				
HCL.iAutomate.GenericExecutor	Name	Description	Status	Startup Type
	🔍 HCL.iAutomate.DC		Running	Automatic
Stop the service Restart the service	🎑 HCL.iAutomate.EntityModel	Apache/2.4	Running	Automatic
Restart the service	🚳 HCL.iAutomate.GenericExecutor		Running	Automatic
	🎑 HCL.iAutomate.iParse	Apache/2.4	Running	Automatic
	🎑 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automatic
	🎑 HCL.iAutomate.iUnique	Apache/2.4	Running	Automatic
	🎑 HCL.iAutomate.Listener		Running	Automatic
	🎑 HCL.iAutomate.RBAComponent		Running	Automatic
	🎑 HCL.iAutomate.ReleaseService		Running	Automatic
	🥋 Human Interface Device Service	Activates an		Manual (Trig

Figure 163- Certificate Name Change – Generic Service (cont.)

### 3.5.2.1.2.4 RBA Component

To make changes for the RBA component, please follow the below steps:

1. Press Win+R and type services.msc.



Figure 164 - Certificate Name Change – RBA Component

2. Click OK to open Windows Services.

<b>b</b> I	Big	Fix
------------	-----	-----

Action View	/ Help				
*   🗖   🗐 (	Q 📑 🛛 🖬 🕨 🖬 🖬	Þ			
ervices (Local)	Services (Local)				
	Apache2.4	Name	Description Status	Startup Type	Log On As
		🖏 ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
	Stop the service	🏟 Adobe Flash Player Update Service	This service	Manual	Local System
	Restart the service	airtel. OUC		Automatic	Local System
		🖏 AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
	Description:	🚱 Apache2.4	Apache/2.4 Runn	ng Automatic	Local System
	Apache/2.4.23 (Win64)	🔍 App Readiness	Gets apps re	Manual	Local System
	openaac/ noten	Application Host Helper Service	Provides ad Runn	ng Automatic	Local System
		🏟 Application Identity	Determines	Manual (Trig	Local Service
		🥋 Application Information	Facilitates t Runni	ng Manual (Trig	Local System
		Application Layer Gateway Service	Provides su	Manual	Local Service
		🏟 Application Management	Processes in	Manual	Local System
		🖏 AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		ASP.NET State Service	Provides su	Manual	Network Service
		🆏 AssignedAccessManager Service	AssignedAc	Manual	Local System
		🆏 Auto Time Zone Updater	Automatica	Disabled	Local Service
		🌼 Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		🤹 Background Tasks Infrastructure Service	Windows in Runn	ng Automatic	Local System
		🧠 Base Filtering Engine	The Base Fil Runn	ng Automatic	Local Service
		🖏 BES Client	Facilitates u Runn	ng Automatic (D	Local System
		🧠 BitLocker Drive Encryption Service	BDESVC hos Runn	ng Manual (Trig	Local System
		🥋 BitLocker Management Client Service	BitLocker M Runn	ng Automatic (D	Local System
		🎑 Block Level Backup Engine Service	The WBENG	Manual	Local System
		🆏 Blue Coat Unified Agent	Provides W Runn	ng Automatic	Local System
		🌼 Bluetooth Handsfree Service	Enables wir Runn	ng Manual (Trig	Local Service
		🖏 Bluetooth Support Service	The Bluetoo Runn	ng Manual (Trig	Local Service
		🖏 BranchCache	This service	Manual	Network Service
		🖏 Capability Access Manager Service	Provides fac	Manual	Local System
		🖏 Certificate Propagation	Copies user Runn	ng Automatic	Local System
		Cisco AnvConnect Network Access Manager	Establishes Runn	ng Automatic	Local System

Figure 165 - Certificate Name Change – RBA Component (cont.)

- 3. Search for HCL.iAutomate.RBAComponent service and right-click on it.
- 4. Click Properties.

Services (Local)					
HCL.iAutomate.RBAComponent	Name		Descrip	tion	Status
	🎑 HCL.iAutomate.DC				Running
Stop the service	🆏 HCL.iAutomate.EntityModel		Apache	./2.4	Running
Mestari the service	🍓 HCL.iAutomate.GenericExecutor			Running	
	🍓 HCL. i Automate. i Parse		Apache	/2.4	Running
	🍓 HCL.iAutomate.iRecommend		Apache	/2.4	Running
	🍓 HCL.iAutomate.iUnique		Apache	./2.4	Running
	ACL.iAutomate.Listener				Running
	HCL.iAutomate.RBAComponent				Running
	HCL.iAutomate.ReleaseService	Start			Running
	🏩 Human Interface Device Service	Stop		s an	
	🔍 HV Host Service	Pause		; an	
	🏩 Hyper-V Data Exchange Service	Resume		;a	
	🔍 Hyper-V Guest Service Interface	Restart		; an	
	🏩 Hyper-V Guest Shutdown Service			; a	
	🏩 Hyper-V Heartbeat Service	All Tasks	>	s th	
	Apper-V PowerShell Direct Service	Refresh		:a	
	🔐 Hyper-V Remote Desktop Virtualizati			;ар	
	🔐 Hyper-V Time Synchronization Servi	Properties		nize	
	🎇 Hyper-V Volume Shadow Copy Requ	Help		ates	
	🤐 IIS Admin Service			this	Running

Figure 166 - Certificate Name Change – RBA Component (cont.)

5. Copy the value mentioned in **Path to executable** as shown in the image below.

	mate.RE	BACompon	ent Prope	rties (Lo	cal Con	nputer)	)	×
eneral (	Log On	Recovery	Depender	ncies				
Service n	name:	HCL.iAutor	mate.RBAC	omponei	nt			
Display n	ame:	HCL.iAutor	mate.RBAC	ompone	nt			
Descriptio	on:						$\sim$	
Path to e	xecutabl	e:						
0\RBA_2	2019080	5_12045386	S1\RBA <mark>\H</mark> c	l.RbaSe	rvice.Co	mponer	nt.Host.exe	•
Startup ty	pe:	Automatic	;				~	
	tab io:	Bunning						
Service s	allus.							
Service s Sta	art	Stop	2	Paus	e	Re	esume	
Service s Sta You can : from here	art specify tl	Stop he start para	o Imeters that	Paus apply w	e hen you	Re start the	esume	
Service s Sta You can a from here Start para	art specify tl  ameters:	Stop	o Imeters that	Paus apply w	e hen you	Re start the	esume	
Starvice s Star You can a from here Start para	art specify t ameters:	Stop	nmeters that	Paus apply w	e hen you	Re start the	esume e service	
Strain Star	art specify tl ameters:	Stop	o meters that	Paus apply w	e hen you Cance	Re start the	e service Apply	
Start para	art specify tl 	Stop	o imeters that OK	Paus apply w	e hen you Cance	Re start the	e service Apply	

Figure 167 - Certificate Name Change – RBA Component (cont.)

- 6. Open File Explorer, then paste the copied path and press Enter to open the desired folder.
- 7. Search for HCL.RbaService.Component.Host.exe config file and open it in a Notepad.



8. Within the HCL.RbaService.Component.Host.exe config file, find the key 'CertificateName\_KRS' and change its value with the new Certificate Name.



9. If the certificate is self-signed, find the key **'IsSelfSigned\_KRS'** and change its value to **'Y'**. Else the value will be **'N'**.

**BigFix** 

<add key="IsSelfSigned\_KRS" value="N" />

Figure 170 - Certificate Name Change – RBA Component (cont.)

- 10. Save the file for changes to be reflected.
- 11. Select HCL.iAutomate.RBAComponent service and click Restart to restart the service.

HCL.iAutomate.RBAComponent	Name	Description	Status	Startup Type
	🆏 HCL.iAutomate.DC		Running	Automatic
Stop the service	🆏 HCL.iAutomate.EntityModel	Apache/2.4	Running	Automatic
the service	🆏 HCL.iAutomate.GenericExecutor		Running	Automatic
	🆏 HCL. i Automate. i Parse	Apache/2.4	Running	Automatic
	🖏 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automatic
	🆏 HCL.iAutomate.iUnique	Apache/2.4	Running	Automatic
	🆏 HCL. i Automate. Listener		Running	Automatic
	🎇 HCL.iAutomate.RBAComponent		Running	Automatic
	🆏 HCL. i Automate. Release Service		Running	Automatic
	🆏 Human Interface Device Service	Activates an		Manual (Trig
	🥋 HV Host Service	Provides an		Manual (Trig

Figure 171 - Certificate Name Change – RBA Component (cont.)

#### 3.5.2.1.2.5 Release Service

To make changes for the Release Service, please follow the below steps:

1. Press Win+R and type services.msc.



Figure 172 - Certificate Name Change – Release Service

2. Click OK to open Windows Services.

0	Big	Fix
---	-----	-----

on View	Help				
. 🗐 🧿	🔒 🛛 🖬 🕨 🖬 🖬	Þ			
(Local)	Services (Local)				
	Apache2.4	Name	Description Sta	atus Startup Type	Log On As
		ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
	Stop the service	🆏 Adobe Flash Player Update Service	This service	Manual	Local System
	Nestart the service	🏟 airtel. OUC		Automatic	Local System
		🏟 AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
	Description:	🚱 Apache2.4	Apache/2.4 Ru	nning Automatic	Local System
	Apache/2.4.23 (Winb4) OpenSSI /1.0.2b	🖏 App Readiness	Gets apps re	Manual	Local System
	opensse/ no.zn	🆏 Application Host Helper Service	Provides ad Ru	nning Automatic	Local System
		🆏 Application Identity	Determines	Manual (Trig	Local Service
		Application Information	Facilitates t Ru	nning Manual (Trig	Local System
		🏟 Application Layer Gateway Service	Provides su	Manual	Local Service
		🏟 Application Management	Processes in	Manual	Local System
		AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		ASP.NET State Service	Provides su	Manual	Network Service
		🖏 AssignedAccessManager Service	AssignedAc	Manual	Local System
		🖏 Auto Time Zone Updater	Automatica	Disabled	Local Service
		🧠 Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		🏟 Background Tasks Infrastructure Service	Windows in Ru	nning Automatic	Local System
		🖏 Base Filtering Engine	The Base Fil Ru	nning Automatic	Local Service
		🖏 BES Client	Facilitates u Ru	nning Automatic (D	Local System
		🥋 BitLocker Drive Encryption Service	BDESVC hos Ru	nning Manual (Trig	Local System
		🏟 BitLocker Management Client Service	BitLocker M Ru	nning Automatic (D	Local System
		Block Level Backup Engine Service	The WBENG	Manual	Local System
		🏟 Blue Coat Unified Agent	Provides W Ru	nning Automatic	Local System
		🏟 Bluetooth Handsfree Service	Enables wir Ru	nning Manual (Trig	Local Service
		🖏 Bluetooth Support Service	The Bluetoo Ru	nning Manual (Trig	Local Service
		🔍 BranchCache	This service	Manual	Network Service
		🌼 Capability Access Manager Service	Provides fac	Manual	Local System
		Certificate Propagation	Copies user Ru	nning Automatic	Local System

Figure 173 - Certificate Name Change – Release Service (cont.)

- 3. Search for HCL.iAutomate.ReleaseService and right-click on it.
- 4. Click Properties.



Services (Local)				
HCL.iAutomate.ReleaseService	Name	Description	Status	
<u>Stop</u> the service <u>Restart</u> the service	<ul> <li>HCL.iAutomate.iParse</li> <li>HCL.iAutomate.iRecommend</li> <li>HCL.iAutomate.iUnique</li> <li>HCL.iAutomate.iListener</li> </ul>	Apache/2.4.23 (Win64) O Apache/2.4.23 (Win64) O Apache/2.4.23 (Win64) O	Running Running Running Running	
	A HCL.jAutomate.RBAComponent		Running	
	HCL.iAutomate.ReleaseService		Running	
	🎑 Human Interface Device Service	Start ains		
	🖏 HV Host Service	Stop e for	t	
	🖏 Hyper-V Data Exchange Service	Pause in to		
	🎑 Hyper-V Guest Service Interface	Resume e for	t	
	🎑 Hyper-V Guest Shutdown Service	Restart im to		
	🔍 Hyper-V Heartbeat Service 🖾 Hyper-V PowerShell Direct Service	All Tasks > im to		
	🤹 Hyper-V Remote Desktop Virtualization Service	Refresh for c	o	
	GAL Hyper-V Time Synchronization Service	Properties		
	IKE and AuthIP IPsec Keying Modules Interactive Services Detection	Help iosts	 t Running 	
	🎑 Internet Connection Sharing (ICS)	Provides network address	5	
	🔍 IP Helper	Provides tunnel connecti	v Running	
	🔍 IPsec Policy Agent	Internet Protocol security	Running	

Figure 174 - Certificate Name Change – Release Service (cont.)

5. Copy the value mentioned in **Path to executable** as shown in the image below.

HCL.iAutomate.R	eleaseService Prope	rties (Local Com	puter)	×
General Log On	Recovery Depen	dencies		
Service name:	HCL.iAutomate.Rel	easeService		
Display name:	HCL.iAutomate.Rel	easeService		
Description:			< >	
Path to executab	le: 844897\BalassaSaru	ice <mark>\</mark> HCL iAutomate	. Balaasa Host ave	
Charkup kuper	Automatia	Centre Automate	.nelease.nosi.ex	
stattup type.	Automatic		~	
Service status:	Running			
Start	Stop	Pause	Resume	
You can specify from here.	he start parameters ti	nat apply when you	i start the service	
Start parameters:				
	01	< Cano	el Apply	

Figure 175 - Certificate Name Change – Release Service (cont.)

- 6. Open File Explorer, then paste the copied path and press Enter to open the desired folder.
- 7. Search for HCL.iAutomate.Release.Host.exe config file and open it in a Notepad.



8. Within the **HCL.iAutomate.Release.Host.exe** config file, find the key '**CertificateName\_KRS**' and change its value with the new **Certificate Name**.



9. If the certificate is self-signed, find the key 'IsSelfSigned\_KRS' and change its value to 'Y'. Else the value will be 'N'.



<add key="IsSelfSigned KRS" value="N" />

Figure 178 - Certificate Name Change – Release Service (cont.)

- 10. Save the file for changes to be reflected.
- 11. Select HCL.iAutomate.ReleaseService service and click Restart to restart the service.

ICL.iAutomate.ReleaseService	Name	Description	Status	Startup Type
	🍓 HCL.iAutomate.DC		Running	Automatic
top the service	🖏 HCL.iAutomate.EntityModel	Apache/2.4.23 (Win64) O	Running	Automatic
estart the service	🖏 HCL.iAutomate.GenericExecutor		Running	Automatic
	🖏 HCL.iAutomate.iParse	Apache/2.4.23 (Win64) O	Running	Automatic
	🖏 HCL.iAutomate.iRecommend	Apache/2.4.23 (Win64) O	Running	Automatic
	🏟 HCL.iAutomate.iUnique	Apache/2.4.23 (Win64) O	Running	Automatic
	🖏 HCL.iAutomate.Listener		Running	Automatic
	🖏 HCL.iAutomate.RBAComponent		Running	Automatic
	🙀 HCL.iAutomate.ReleaseService		Running	Automatic
	🆏 Human Interface Device Service	Activates and maintains t		Manual (Trig.
	🖏 HV Host Service	Provides an interface for t		Manual (Trig.
	🆏 Hyper-V Data Exchange Service	Provides a mechanism to		Manual (Trig.
	🆏 Hyper-V Guest Service Interface	Provides an interface for t		Manual (Trig.
	🆏 Hyper-V Guest Shutdown Service	Provides a mechanism to		Manual (Trig.
	🖏 Hyper-V Heartbeat Service	Monitors the state of this		Manual (Trig.
	🎑 Hyper-V PowerShell Direct Service	Provides a mechanism to		Manual (Trig.
	🝈 Huner-V Remote Deckton Virtualization Service	Provides a platform for co		Manual (Trin

Figure 179 - Certificate Name Change – Release Service (cont.)

### 3.5.2.1.2.6AD Sync

To change the configuration of AD Sync from HTTP to HTTPS, please follow the below steps:

1. Press **Win+R** and type **services.msc**.

🖅 Run	×
	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
Open:	services.msc 🗸
	OK Cancel <u>B</u> rowse
Figur	e 180 - Certificate Name Change – AD Sync Servic

2. Click OK to open Windows Services.

$\bigcirc$	BigFix
------------	--------

🤹 Services					
File Action View	/ Help				
♦ ♦	Q 🔒 🛛 🖬 🖿 🕨 💷 🖬	•			
Services (Local)	Services (Local)				
	Apache2.4	Name	Description Status	Startup Type	Log On As
		ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
	Stop the service Restart the service	🔍 Adobe Flash Player Update Service	This service	Manual	Local System
		🔍 airtel. OUC		Automatic	Local System
		AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
	Description:	Apache2.4	Apache/2.4 Runnin	g Automatic	Local System
	Apache/2.4.23 (Win64)	🖏 App Readiness	Gets apps re	Manual	Local System
	opensse/ no.zh	Application Host Helper Service	Provides ad Runnin	g Automatic	Local System
		Application Identity	Determines	Manual (Trig	Local Service
		Application Information	Facilitates t Runnin	g Manual (Trig	Local System
		🧠 Application Layer Gateway Service	Provides su	Manual	Local Service
		Application Management	Processes in	Manual	Local System
		AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		ASP.NET State Service	Provides su	Manual	Network Service
		🔍 AssignedAccessManager Service	AssignedAc	Manual	Local System
		🔍 Auto Time Zone Updater	Automatica	Disabled	Local Service
		Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		Background Tasks Infrastructure Service	Windows in Runnin	g Automatic	Local System
		🧠 Base Filtering Engine	The Base Fil Runnin	g Automatic	Local Service
		🧠 BES Client	Facilitates u Runnin	g Automatic (D	Local System
		🌼 BitLocker Drive Encryption Service	BDESVC hos Runnin	g Manual (Trig	Local System
		🌼 BitLocker Management Client Service	BitLocker M Runnin	g Automatic (D	Local System
		🧠 Block Level Backup Engine Service	The WBENG	Manual	Local System
		🧠 Blue Coat Unified Agent	Provides W Runnin	g Automatic	Local System
		Bluetooth Handsfree Service	Enables wir Runnin	g Manual (Trig	Local Service
		🌼 Bluetooth Support Service	The Bluetoo Runnin	g Manual (Trig	Local Service
		🍓 BranchCache	This service	Manual	Network Service
		🧠 Capability Access Manager Service	Provides fac	Manual	Local System
		Certificate Propagation	Copies user Runnin	Automatic	Local System

Figure 181 - Certificate Name Change – AD Sync Service (cont.)

- 3. Search for HCL.iAutomate.ADSyncService and right-click on it.
- 4. Click Properties.

HCL.iAutomate.ADSyncService	Name	Description	Status	Startup	Type L.
	HCL.iAutomate.ADSyncService	Service for	Running	Autom	atic
Stop the service	🔍 HCL.iAutomate.DC	Service for	Running	Au	Start
Restart the service	🌼 HCL.iAutomate.EmailService	Service for E	Running	Au	Stop
	🌼 HCL.iAutomate.EntityModel	Apache/2.4	Running	Au	Pause
Description: Service for ADSync	🌼 HCL.iAutomate.GenericExecutor	Service for	Running	Au	Resume
	🌼 HCL.iAutomate.iParse	Apache/2.4	Running	Au	Destant
	🌼 HCL.iAutomate.iRecommend	Apache/2.4	Running	Au	Restart
	🌼 HCL.iAutomate.iUnique	Apache/2.4	Running	Au	All Tasks
	🌼 HCL.iAutomate.Listener	Service for L	Running	Au	
	🌼 HCL.iAutomate.RBAComponent	Service for	Running	Au	Refresh
	KeleaseService	Service for	Running	Au	Properties
	🌼 Human Interface Device Service	Activates an		Ma	
	🌼 HV Host Service	Provides an		Ma	Help

Figure 182 - Certificate Name Change – AD Sync Service (cont.)

5. Copy the value mentioned in 'Path to executable' as shown in the image below.

# bigFix

HCL.iAut	omate.Al	DSyncServi	ce Properti	es (Local Co	mputer)	×
General	Log On	Recovery	Dependen	cies		
Service	name:	HCL.iAutor	mate.ADSyn	cService		_
Display	name:	HCL.iAutor	mate.ADSyn	cService		_
Descrip	tion:	Service for	r ADSync			Ŷ
Path to	executabl	e:				
ADSyn	c_202007	21_1208083	375\ADSync	HCL.iAutom	ate.Service.Al	).exe"
Startup	type:	Automatic	:			~
Service	status:	Running				
S	Start	Stop	<b>)</b>	Pause	Resum	e
You car from he	n specify t re.	he start para	meters that a	apply when yo	ou start the ser	vice
Start pa	arameters:					
			OK	Can	cel	Apply

Figure 183 - Certificate Name Change – AD Sync Service (cont.)

- 6. Open File Explorer and paste the copied path and press Enter to open the desired folder.
- 7. Search for HCL.iAutomate.Service.AD.exe config file and open it in a Notepad.



8. Within the HCL.iAutomate.Service.AD.exe config file, find the key 'CertificateName\_KRS' and change its value with the new Certificate Name.



9. If the certificate is self-signed, find the key 'IsSelfSigned\_KRS' and change its value to 'Y'. Else the value will be 'N'.

<add key="IsSelfSigned KRS" value="N" />

Figure 186 - Certificate Name Change – AD Sync Service (cont.)

- 10. Save the file for changes to be reflected.
- 11. Select HCL.iAutomate.ADSyncService service and click Restart to restart the service.

Services (Local)					
HCL.iAutomate.ADSyncService	Name	Description	Status	Startup Type	L.
	HCL.iAutomate.ADSyncService	Service for	Running	Automatic	
Stop the service	ArcLiAutomate.DC	Service for	Running	Automatic	
<u>Restart</u> the service	ACL.iAutomate.EmailService	Service for E	Running	Automatic	
	ACL.iAutomate.EntityModel	Apache/2.4	Running	Automatic	
Description:	HCL.iAutomate.GenericExecutor	Service for	Running	Automatic	
Service for ADSync	ACL.iAutomate.iParse	Apache/2.4	Running	Automatic	
	ACL.iAutomate.iRecommend	Apache/2.4	Running	Automatic	
	ACL.iAutomate.iUnique	Apache/2.4	Running	Automatic	
	ACL.iAutomate.Listener	Service for L	Running	Automatic	
	HCL.iAutomate.RBAComponent	Service for	Running	Automatic	
	HCL.iAutomate.ReleaseService	Service for	Running	Automatic	

Figure 187 - Certificate Name Change – AD Sync Service (cont.)

### 3.5.2.1.2.7Email Service

**BigFix** 

To change the configuration of Email Service from HTTP to HTTPS, please follow the below steps:

1. Press **Win+R** and type **services.msc**.

💷 Run	×
٨	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	services.msc 🗸
	OK Cancel <u>B</u> rowse
Figu	re 188 - Certificate Name Change – Email Service

2. Click OK to open Windows Services.

<b>D</b> E	BigF	ix
------------	------	----

Services					
File Action View	Help				
	2 🗟 🛛 🛐 🕨 🔲 🗤 🕩				
Services (Local)	Services (Local)				
	Apache2.4	Name	Description Status	Startup Type	Log On As
		ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
	Stop the service	🏟 Adobe Flash Player Update Service	This service	Manual	Local System
	Restart the service	🖏 airtel. OUC		Automatic	Local System
		🏟 AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
	Description:	🚱 Apache2.4	Apache/2.4 Runni	g Automatic	Local System
	Apache/2.4.23 (Win64)	App Readiness	Gets apps re	Manual	Local System
	Open332/ 1.0.211	🏟 Application Host Helper Service	Provides ad Runni	g Automatic	Local System
		Application Identity	Determines	Manual (Trig	Local Service
		Application Information	Facilitates t Runni	g Manual (Trig	Local System
		🧠 Application Layer Gateway Service	Provides su	Manual	Local Service
		🏟 Application Management	Processes in	Manual	Local System
		🆏 AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		🖏 ASP.NET State Service	Provides su	Manual	Network Service
		🖏 AssignedAccessManager Service	AssignedAc	Manual	Local System
		🔍 Auto Time Zone Updater	Automatica	Disabled	Local Service
		🌼 Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		🌼 Background Tasks Infrastructure Service	Windows in Runni	g Automatic	Local System
		🏟 Base Filtering Engine	The Base Fil Runni	g Automatic	Local Service
		🖏 BES Client	Facilitates u Runni	g Automatic (D	Local System
		🍓 BitLocker Drive Encryption Service	BDESVC hos Runni	g Manual (Trig	Local System
		🌼 BitLocker Management Client Service	BitLocker M Runni	g Automatic (D	Local System
		🆏 Block Level Backup Engine Service	The WBENG	Manual	Local System
		🆏 Blue Coat Unified Agent	Provides W Runni	g Automatic	Local System
		🆏 Bluetooth Handsfree Service	Enables wir Runni	g Manual (Trig	Local Service
		🌼 Bluetooth Support Service	The Bluetoo Runni	g Manual (Trig	Local Service
		🔍 BranchCache	This service	Manual	Network Service
		🎑 Capability Access Manager Service	Provides fac	Manual	Local System
		🏟 Certificate Propagation	Copies user Runni	g Automatic	Local System

Figure 189 - Certificate Name Change – Email Service (cont.)

- 3. Search for HCL.iAutomate.EmailService and right-click on it.
- 4. Click Properties.

ICL.iAutomate.EmailService	Name	Description	Status	Startup Type	L.
	🆏 HCL.iAutomate.ADSyncService	Service for	Running	Automatic	
top the service	🆏 HCL.iAutomate.DC	Service for	Running	Automatic	
Restart the service	HCL.iAutomate.EmailService	Service for E	Running	Automatic	
	🆏 HCL.iAutomate.EntityModel	Apache/2.4	Running	Automat	Start
escription:	🎑 HCL.iAutomate.GenericExecutor	Service for	Running	Automat	Stop
ervice for EmailService	🌼 HCL.iAutomate.iParse	Apache/2.4	Running	Automat	Pause
	🌼 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automat	Resume
	🎑 HCL.iAutomate.iUnique	Apache/2.4	Running	Automat	Pestart
	🌼 HCL.iAutomate.Listener	Service for L	Running	Automat	Nesidii
	🌼 HCL.iAutomate.RBAComponent	Service for	Running	Automat	All Tasks >
	🌼 HCL.iAutomate.ReleaseService	Service for	Running	Automat	Defeash
	🌼 Human Interface Device Service	Activates an		Manual (	Ketresh
	🌼 HV Host Service	Provides an		Manual (	Properties
	🌼 Hyper-V Data Exchange Service	Provides a		Manual (	
	🎡 Hyper-V Guest Service Interface	Provides an		Manual (	Help

Figure 190 - Certificate Name Change – Email Service (cont.)

5. Copy the value mentioned in 'Path to executable' as shown in the image below.

# bigFix

ICL.iAuto	omate.En	nailService I	Properties	(Local Com	puter)	×
General	Log On	Recovery	Depender	ncies		
Service	name:	HCL.iAutom	nate.Email	Service		- 1
Display r	name:	HCL.iAutom	nate.Email\$	Service		- 1
Descript	Description: Service for EmailService					
Path to e	executabl	e: ailService <mark>\</mark> H0	CL.iAutoma	te.EmailServic	e.Service.Host.e	xe"
Startup t	ype:	Automatic				~
Service	status:	Running				- 1
St	tart	Stop		Pause	Resume	
You can from her Start par	n <b>specify ti</b> e. rameters:	ne start parar	meters that	apply when y	ou start the servic	×
	_	[	OK	Can	cel Ap	ply
Figur	re 191 -	Certificate	e Name	Change – Ei	mail Service (	cont.)

- 6. Open File Explorer and paste the copied path and press Enter to open the desired folder.
- 7. Search for HCL.iAutomate.EmailService.Service.Host.exe config file and open it in a Notepad.



9. If the certificate is self-signed, find the key 'IsSelfSigned\_KRS' and change its value to 'Y'. Else the value will be 'N'.

<add key="IsSelfSigned\_KRS" value="N" />

Figure 194 - Certificate Name Change – Email Service (cont.)

10. Save the file for changes to be reflected.

11. Select HCL.iAutomate.EmailService service and click Restart to restart the service.

Services (Local)				
HCL.iAutomate.EmailService	Name	Description	Status	Startup Type
<u>Stop</u> the service <u>Restart</u> the service	🆏 HCL.iAutomate.DC	Service for	Running	Automatic
	HCL.iAutomate.EmailService	Service for E	Running	Automatic
	🔍 HCL.iAutomate.EntityModel	Apache/2.4	Running	Automatic
	🌼 HCL.iAutomate.GenericExecutor	Service for	Running	Automatic
Description:	🎑 HCL.iAutomate.iParse	Apache/2.4	Running	Automatic
Service for EmailService	🌼 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automatic

Figure 195 – Certificate Name Change – Email Service (cont.)

### 3.5.2.1.2.8iRecommend

To make changes for iRecommend service, please follow the below steps:

1. Press Win+R and type services.msc.



2. Click OK to open Windows Services.

<b>D</b> E	BigFix
------------	--------

ile Action Viev	/ Help				
⊨ 🔿 📊 📑	Q 🛃 🛛 📷 🕨 🔲 🖬	Þ			
Services (Local)	O. Services (Local)				
	Apache2.4	Name	Description Stat	tus Startup Type	Log On As
		ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
	Stop the service	Adobe Flash Player Update Service	This service	Manual	Local System
	Restart the service	airtel. OUC		Automatic	Local System
		AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
	Description:	Apache2.4	Apache/2.4 Run	nning Automatic	Local System
	Apache/2.4.23 (Win64)	App Readiness	Gets apps re	Manual	Local System
	opensor/ no.20	Application Host Helper Service	Provides ad Run	nning Automatic	Local System
		Application Identity	Determines	Manual (Trig	Local Service
		Application Information	Facilitates t Run	nning Manual (Trig	Local System
		🏟 Application Layer Gateway Service	Provides su	Manual	Local Service
		🏟 Application Management	Processes in	Manual	Local System
		🥋 AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		🖏 ASP.NET State Service	Provides su	Manual	Network Service
		🆏 AssignedAccessManager Service	AssignedAc	Manual	Local System
		🆏 Auto Time Zone Updater	Automatica	Disabled	Local Service
		🌼 Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		🌼 Background Tasks Infrastructure Service	Windows in Run	nning Automatic	Local System
		🥋 Base Filtering Engine	The Base Fil Run	nning Automatic	Local Service
		🖏 BES Client	Facilitates u Run	nning Automatic (D	Local System
		BitLocker Drive Encryption Service	BDESVC hos Run	nning Manual (Trig	Local System
		🎑 BitLocker Management Client Service	BitLocker M Run	nning Automatic (D	Local System
		🎑 Block Level Backup Engine Service	The WBENG	Manual	Local System
		🌼 Blue Coat Unified Agent	Provides W Run	nning Automatic	Local System
		🌼 Bluetooth Handsfree Service	Enables wir Run	nning Manual (Trig	Local Service
		🌼 Bluetooth Support Service	The Bluetoo Run	nning Manual (Trig	Local Service
		🌼 BranchCache	This service	Manual	Network Service
		🌼 Capability Access Manager Service	Provides fac	Manual	Local System
		Certificate Propagation	Copies user Run	nning Automatic	Local System

Figure 197 - Certificate Name Change – iRecommend (Cont.)

- 3. Search for HCL.iAutomate.Listener service and right-click on it.
- 4. Click on **Properties**.

🐇 Services			
File Action View	Help		
🗭 🔿 🔚 🖬 🖬	🗟   🛛 📷   🕨 🔲 🕪		
🔍 Services (Local)	Services (Local)		
	HCL.iAutomate.Listener	Name ^	[
	<u>Stop</u> the service <u>Restart</u> the service	<ul> <li>HCL.iAutomate.DC</li> <li>HCL.iAutomate.EntityModel</li> <li>HCL.iAutomate.GenericExecutor</li> <li>HCL.iAutomate.iParse</li> <li>HCL.iAutomate.iRecommend</li> <li>HCL.iAutomate.iUnique</li> <li>HCL.iAutomate.Recompone</li> <li>HCL.iAutomate.ReleaseService</li> <li>HUMMAN Interface Device Service</li> <li>HV Host Service</li> <li>Hyper-V Data Exchange Service</li> <li>Hyper-V Guest Service Interface</li> <li>Hyper-V Heartbeat Service</li> <li>Hyper-V PowerShell Direct Service</li> <li>Hyper-V Remote Desktop Virt</li> <li>Hyper-V Time Synchronization</li> </ul>	Start Stop Pause Resume Restart All Tasks Refresh Properties
		🚇 Hyper-V Volume Shadow Cop	Help

Figure 198 - Certificate Name Change – iRecommend (Cont.)

5. Copy the value mentioned in **Path to executable** as shown in the image below.

HCL.iAutomate.Li	tener Proper	ties (Local Co	mputer)		×
General Log On	Recovery [	) ependencies			-1
Service name:	HCL.iAutoma	ite.Listener			
Display name:	HCL.iAutoma	ite.Listener			
Description:				<b>^</b>	1
Path to executable D:\\AUTOMATE4	e: .0 <mark>\Listner_20</mark> '	190819_19485	0725\Listne	r\HCL.iAutomate	
Startup type:	Automatic			~	
	Bunning				1
Start	Stop	Pa	iuse	Resume	1
You can specify t from here.	ne start param	eters that apply	when you s	tart the service	1
Start parameters:					
_					
Figure 199 -	Certificate	Name Char	nge – iRec	ommend (Co	nt.)

- 6. Open File Explorer and paste the copied path and press Enter to open the desired folder.
- 7. Go to iRecommend folder. Locate irecommend.config file.
- 8. Open irecommend.config in a Notepad and search for below line.



- name.
- 10. Save the file to implement the changes.
- 11. Go to **iRecommend**  $\rightarrow$  **config** folder.
- 12. Locate **entity.config** file.
- 13. Open entity.config in a Notepad and search for below line.

Certificate\_Name = HclTech.iautomate.Web

Figure 201 - Certificate Name Change – iRecommend (Cont.)



- 14. Change **Certificate\_Name** and the value from **HclTech.iautomate.Web** to the new Certificate name.
- 15. Save the file for changes to get reflected.

### 3.5.2.1.2.9iParse

To make changes for iParse service, please follow the below steps:

1. Press Win+R and type services.msc.

💷 Run	×
0	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	services.msc ~

Figure 202 - Certificate Name Change – iParse

2. Click OK to open Windows Services.

View Help				
🔲 🔍 🛃 🚺 🖬 🕨 💷	1Þ			
cal) O Services (Local)				
Apache2.4	Name	Description Stat	us Startup Type	Log On As
	ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
Stop the service	🌼 Adobe Flash Player Update Service	This service	Manual	Local System
Restart the service	irtel. OUC		Automatic	Local System
	🖏 AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
Description:	🚱 Apache2.4	Apache/2.4 Rur	ning Automatic	Local System
Apache/2.4.23 (Win64)	🔯 App Readiness	Gets apps re	Manual	Local System
openose/ noizh	🌼 Application Host Helper Service	Provides ad Rur	ning Automatic	Local System
	🖏 Application Identity	Determines	Manual (Trig	Local Service
	Application Information	Facilitates t Rur	ning Manual (Trig	Local System
	Application Layer Gateway Service	Provides su	Manual	Local Service
	Application Management	Processes in	Manual	Local System
	AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
	ASP.NET State Service	Provides su	Manual	Network Service
	AssignedAccessManager Service	AssignedAc	Manual	Local System
	🖏 Auto Time Zone Updater	Automatica	Disabled	Local Service
	Background Intelligent Transfer Service	Transfers fil	Manual	Local System
	Background Tasks Infrastructure Service	Windows in Rur	ning Automatic	Local System
	Base Filtering Engine	The Base Fil Rur	ning Automatic	Local Service
	🖏 BES Client	Facilitates u Rur	ning Automatic (D	Local System
	👸 BitLocker Drive Encryption Service	BDESVC hos Rur	ning Manual (Trig	Local System
	BitLocker Management Client Service	BitLocker M Rur	ning Automatic (D	Local System
	Block Level Backup Engine Service	The WBENG	Manual	Local System
	Blue Coat Unified Agent	Provides W Rur	ining Automatic	Local System
	Bluetooth Handsfree Service	Enables wir Rur	ning Manual (Trig	Local Service
	Bluetooth Support Service	The Bluetoo Rur	ning Manual (Trig	Local Service
	StanchCache	This service	Manual	Network Service
	Capability Access Manager Service	Provides fac	Manual	Local System
	Certificate Propagation	Copies user Rur	ning Automatic	Local System
	Cisco AnyConnect Network Access Manager	Establishes Rur	ning Automatic	Local System

#### Figure 203 - Certificate Name Change – iParse (Cont.)



- 3. Search for HCL.iAutomate.Listener service and right-click on it.
- 4. Click on **Properties**.



Figure 204 - Certificate Name Change – iParse (Cont.)

5. Copy the value mentioned in **Path to executable** as shown in the image below.

HCL.iAut	omate.Li:	stener Prop	erties (Local C	omputer)		×
General	Log On	Recovery	Dependencie	S		
Service	name:	HCL.iAutor	nate.Listener			1
Display	name:	HCL.iAutor	nate.Listener			1
Descrip	tion:				$\sim$	
Path to D:\IAU	executabl	e: <mark>.0</mark> \Listner_2	0190819_1948	50725\Listi	ner\HCL.iAutomate	
Startup	type:	Automatic			~	
Service	status:	Running				
9	òtart	Stop	) F	ause	Resume	
You car from he	n specify t re.	he start para	meters that app	ly when you	u start the service	
Start pa	arameters:					
F	-igure 2	05 - Certif	icate Name	Change -	- iParse (Cont.)	)

- 6. Open File Explorer and paste the copied path and press Enter to open the desired folder.
- 7. Go to \iParse\IParse\iparse\config folder.
- 8. Locate parse\_config.config file.
- 9. Open parse\_config.config in a Notepad and search for below line.



10. Change **Certificate\_Name** and the value from **HclTech.iautomate.Web** to the new Certificate name.

11. Save the file to implement the changes.

#### 3.5.2.1.2.10iScrape

To make changes for iScrape service, please follow the below steps:

- 1. Go to the folder where user has installed knowledge components.
- 2. Go to \iScript\IScript\iScript\config folder.
- 3. Locate iScrape.cfg file.
- 4. Open iScrape.cfg in a Notepad and search for below line.



Certificate\_Name = HclTech.iautomate.Web

Figure 207 - Certificate Name Change – iScrape

- 5. Change Certificate\_Name and value from HclTech.iautomate.Web to the new Certificate name.
- 6. Save the file to implement the changes.

### 3.5.2.1.2.11iUnique

To make changes for iUnique service, please follow the below steps:

1. Press **Win+R** and type **services.msc**.

	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	services.msc ~
	OK Cancel <u>B</u> rowse

2. Click OK to open Windows Services.

<b>b</b>	Big	Fix
----------	-----	-----

Action View	v Help					
	Q 📑 🛛 🖬 🕨 🔲 🖬	•				
Services (Local)	Services (Local)					
	Apache2.4	Name	Description 9	Status	Startup Type	Log On As
		ActiveX Installer (AxInstSV)	Provides Us		Manual	Local System
	Stop the service	🧠 Adobe Flash Player Update Service	This service		Manual	Local System
	Restart the service	🔍 airtel. OUC			Automatic	Local System
		🔍 AllJoyn Router Service	Routes AllJo		Manual (Trig	Local Service
	Description:	🚱 Apache2.4	Apache/2.4 F	Running	Automatic	Local System
	Apache/2.4.23 (Winb4)	🔍 App Readiness	Gets apps re		Manual	Local System
	openase/ no.21	🖏 Application Host Helper Service	Provides ad F	Running	Automatic	Local System
		🏩 Application Identity	Determines		Manual (Trig	Local Service
		🖏 Application Information	Facilitates t	Running	Manual (Trig	Local System
		🎑 Application Layer Gateway Service	Provides su		Manual	Local Service
		🌼 Application Management	Processes in		Manual	Local System
		🎑 AppX Deployment Service (AppXSVC)	Provides inf		Manual	Local System
		🖏 ASP.NET State Service	Provides su		Manual	Network Service
		🖏 AssignedAccessManager Service	AssignedAc		Manual	Local System
		🎑 Auto Time Zone Updater	Automatica		Disabled	Local Service
		🎑 Background Intelligent Transfer Service	Transfers fil		Manual	Local System
		🎑 Background Tasks Infrastructure Service	Windows in F	Running	Automatic	Local System
		🔍 Base Filtering Engine	The Base Fil F	Running	Automatic	Local Service
		🔍 BES Client	Facilitates u F	Running	Automatic (D	Local System
		🥋 BitLocker Drive Encryption Service	BDESVC hos F	Running	Manual (Trig	Local System
		🌼 BitLocker Management Client Service	BitLocker M F	Running	Automatic (D	Local System
		🍓 Block Level Backup Engine Service	The WBENG		Manual	Local System
		🌼 Blue Coat Unified Agent	Provides W F	Running	Automatic	Local System
		🌼 Bluetooth Handsfree Service	Enables wir F	Running	Manual (Trig	Local Service
		🖏 Bluetooth Support Service	The Bluetoo F	Running	Manual (Trig	Local Service
		🧠 BranchCache	This service		Manual	Network Service
		🌼 Capability Access Manager Service	Provides fac		Manual	Local System
		Certificate Propagation	Copies user F	Running	Automatic	Local System
		Cisco AnyConnect Network Access Manager	Establishes F	Running	Automatic	Local System

Figure 209 - Certificate Name Change – iUnique

- 3. Search for HCL.iAutomate.Listener service and right-click on it.
- 4. Click on **Properties**.

🔍 Services						
File Action View	Help					
	à 📑   🛐 🖬   🕨 🔳 II 🕨					
🎑 Services (Local)	Services (Local)					
	HCL.iAutomate.Listener	Name		D		
	Stop the service Restart the service	ICL.iAutomate.DC ICL.iAutomate.EntityModel ICL.iAutomate.GenericExecutor				
		🎑 HCL.iAutomate.iParse	A			
		🎑 HCL.iAutomate.iRecommend	A			
		🍓 HCL.iAutomate.iUnique		A		
		HCL.iAutomate.Listener				
		💁 HCL.iAutomate.RBACompone	Start			
		HCL.iAutomate.ReleaseService	Stop			
		🐏 Human Interface Device Servi	Pause	·		
		HV Host Service	Resume	1		
		🤐 Hyper-V Data Exchange Servic 🎑 Hyper-V Guest Service Interfac	Restart			
		🍓 Hyper-V Guest Shutdown Serv	All Tasks	>		
		🤐 Hyper-V Heartbeat Service 🧟 Hyper-V PowerShell Direct Ser	Refresh	í		
		💁 Hyper-V Remote Desktop Virti	Properties			
		ູ Hyper-V Time Synchronizatio Q Hyper-V Volume Shadow Cop	Help	)		
		Hyper-V Time Synchronization	Help			

### Figure 210 - Certificate Name Change – iUnique

5. Copy the value in 'Path to executable' as shown in the image below.
| HCL.iAutomate.Li              | stener Properties (Local Computer)  | × |
|-------------------------------|---|---|
| General Log On                | Recovery Dependencies   |   |
| Service name:                 | HCL.iAutomate.Listener  |   |
| Display name:                 | HCL.iAutomate.Listener  |   |
| Description:                  | ~   |   |
| Path to executab              | le:<br><mark>4.0</mark> \Listner_20190819_194850725\Listner\HCL.iAutomate |   |
| Startup type:                 | Automatic ~   |   |
| Service status:               | Running   |   |
| Start                         | Stop Pause Resume   |   |
| You can specify<br>from here. | the start parameters that apply when you start the service                |   |
| Start parameters:             |   |   |
|                               |   |   |
|                               |   |   |
| Figur                         | e 211 - Certificate Name Change – iUnique                                 |   |

- 6. Open File Explorer, then paste the copied path and press Enter to open the desired folder.
- 7. Go to \iUnique\IUnique\iUnique\_final\config folder.
- 8. Locate iUnique.cfg file.
- 9. Open iUnique.cfg in Notepad and search for below line.



- 10. Change **Certificate\_Name** and the value from **HclTech.iAutomate.Web** to the new Certificate Name.
- 11. Save the file to implement the changes.

#### 3.5.2.1.2.12Knowledge

To make changes for Knowledge service, please follow the below steps:

- 1. Go to the folder where user has installed knowledge components.
- 2. Go to \KnowledgeRating\KnowledgeRating\iKnowledge\_Rating folder.
- 3. Locate **rating.cfg** file.



4. Open rating.cfg in a Notepad and search for below line.

Certificate\_Name = HclTech.iautomate.Web

Figure 213 - Certificate Name Change – Knowledge

- 5. Change Certificate\_Name and the value from HclTech.iautomate.web to the new Certificate name.
- 6. Save the file for changes to get reflected.
- 7. Go to the folder where user has installed knowledge components.
- 8. Go to \ AdvanceKnowledge\Crawler\crawler\_v5\config folder. Locate icrawler.cfg file.
- 9. Open **indexer.cfg** in a Notepad and search for below line.

Certificate\_Name = HclTech.iautomate.Web

Figure 214 - Certificate Name Change – Knowledge (Cont.)

- 10. Change Certificate\_Name and their value from **HclTech.iautomate.web** to the new Certificate name.
- 11. Save the file for changes to get reflected.
- 12. Go to the folder where user has installed knowledge components.
- 13. Go to \ AdvanceKnowledge\iKnowledge\_Indexer folder. Locate indexer.cfg file.
- 14. Open **indexer.cfg** in a Notepad and search for below line.

Certificate\_Name = HclTech.iautomate.Web

Figure 215 - Certificate Name Change – Knowledge (Cont.)

- 15. Change Certificate\_Name and their value from **HclTech.iautomate.Web** to the new Certificate name.
- 16. Save the file for changes to get reflected.
- 17. Go to the folder where user has installed knowledge components.
- 18. Go to AdvanceKnowledge\iKnowledge\_Screen folder.
- 19. Locate iKnowledge\_Screen.cfg file.
- 20. Open **iKnowledge\_Screen.cfg** in a Notepad and search for below line.

Certificate\_Name = HclTech.iautomate.Web

Figure 216 - Certificate Name Change – Knowledge (Cont.)

21. Change Certificate\_Name and the value from HclTech.iautomate.Web to the new Certificate name.

- 22. Save the file for changes to get reflected.
- 23. Go to the folder where user has installed knowledge components.
- 24. Go to \AdvanceKnowledge\iKnowledge\_Search folder.



- 25. Locate iKnowledge\_Search file.
- 26. Open **iKnowledge\_Search** in a Notepad and search for below line.

Certificate\_Name = HclTech.iautomate.Web

Figure 217 - Certificate Name Change – Knowledge (Cont.)

- 27. Change **Certificate\_Name** and the value from **HclTech.iautomate.Web** to the new Certificate name.
- 28. Save the file for changes to get reflected.
- 29. Go to the folder where user has installed knowledge components.
- 30. Go to iKnowledge\iKnowledge\knowledge\_v4 folder.
- 31. Locate iKnowledge.cfg file.
- 32. Open iKnowledge.cfg in a Notepad and search for below line.

Certificate\_Name = HclTech.iautomate.Web

Figure 218 - Certificate Name Change – Knowledge (Cont.)

33. Change Certificate\_Name and the value from HclTech.iautomate.Web to the new Certificate name.34. Save the file to implement the changes.

### 3.5.2.2 CHANGE NAME OF CERTIFICATE USED TO CONNECT SERVICES

This section describes configuration changes required for the components in case ssl certificate is

other than HclTech.iautomate.App.

Follow all steps mentioned in section "change name of certificate used to connect KRS" with below changes:

Search for key "CertificateName\_Service" instead 'CertificateName\_KRS'.

Search for key 'IsSelfSigned\_Service' instead 'IsSelfSigned\_KRS'.

For below components:

Base User Interface, Listener, Data Collector, Generic Service, RBA Component, Release Service,

Email Service, Ad Sync

For BASEUI and Listener follow below steps:

Search for "<dns value="HclTech.iautomate.App" />" in web.config and change with New Certificate.

### 3.5.3 Configuration Changes – Certificate Name Change for

### PEM/CRT/KEY Certificates

If the Certificate that is used for connecting the REST API hosted by Apache gets changed (PEM/CRT/KEY), user needs to change some parameters (params) in the **httpd.conf** file in apache directory: **/Apache24/conf/httpd.conf**.

The parameters define the path of the certificates that are used along with certificate names.

For instance, suppose the certificate changes from **server.crt** to **server1.crt** then, by default, they are set to default location as **"C:/Program Files/certificate/server.crt"**, which needs to be changed to new file name of certificates as **"C:/Program Files/certificate/server1.crt"**.



### 3.5.4 Load Balancer Configuration

This section describes the steps for making the required configurational changes if, BigFix Runbook

Al is installed in High Availability mode.

To make the configuration changes, please follow the below steps:

- 1. Press Win+R and type services.msc.
- 2. Click OK to open IIS.



Figure 220 - Load Balancer Configuration

3. Expand Sites under Connections and click HCLiAutomateBaseUI.

Start Page
V
- 者 Application Pools
🗸 🗃 Sites
> 😜 HCLiAutomateBaseUI
🗸 🈜 HCLiAutomateWEBAPI
🍌 - 🦰 bin
🖕 🛅 iAutomateWebApiLog
🦕 👘 KRS
> - 🦰 scripts

Figure 221 - Load Balancer Configuration (cont.)

4. Click on **Bindings** in the **Edit Site** section.

nections		Actions
	HCLIAUtomateBaseUI Home	🔉 Explore
Start Page	Filter	Edit Permissions
Application Book	ASP NET	Edit Site
- Sites		Bindings
> 🚭 Default		Basic Settings
	.NET .NET INET Fror .NET NET Profile .NET Roles .NET Tust .NET Users Application Connection	View Applications
	Authorizat. Compliation Pages Globalization Levels Settings Strings	View Virtual Directories
2. <b>•</b> 164		Manage Website
	Machine Key Pages and Providers Session State SMTP E-mail	😴 Restart
	Controls	Start
	115	Stop
		Browse Website
		Browse *:80 (http)
	ASP Authentic CG Compression Default Directory Error Pages Handler HTTP ISAPI Hiters Document Browsing Mapping Respon	Browse *:443 (https)
		Advanced Settings
		Configure
	Logging MIME Types Modules Output Request SSL Settings	Limits
	Caching Filtering	Help
	Management .	
	Editor	



LICI Automata	Site Bindi	ngs				? ×	Ac	tions	
	Tuno	Hest Name	Dort II	D. Addross	Pinding Informa	0.d.d	1	Explore Edit Permissions	
ASP.NET	http	Host Name	8080 *	Address	binding informa	<u>E</u> dit		Edit Site Bindings	
.NET .NET .N .uthorizat Compilation						<u>R</u> emove <u>B</u> rowse		View Applications View Virtual Directorie	:5
Aachine Key Pages and P Controls IIS ASP Authentic							M 2 1	anage Website Restart Start Stop Browse Website Browse *:8080 (http) Advanced Settings	۲
Logging MIME Types	1odules	Output Re	quest SSL Se	₽ ettings		<u>C</u> lose		Configure Limits Help	
Management ionfigurat Editor	_					~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			

#### Figure 223 - Load Balancer Configuration (cont.)

- 5. Ensure that the value of **Port** mentioned is same as configured in Load Balancer. If that is not the case, click **Edit** to change the **Port** value.
- 6. Right-click on **HCLiAutomateBaseUI** and click **Explore**.
- 7. Find **Web.config** file and open it in a Notepad.





8. Within the **Web.config** file, search for the key '**URL'** and replace the '**localhost:portnumber**' with the *Load balancer IP* and *Web API Port*.

```
<add key="URL" value="http://localhost:8080/KRS/KeyManagement.svc" />
Figure 225 - Load Balancer Configuration (cont.)
```

- 9. Save the file to implement the changes.
- 10. Select the service and click **Restart** to restart the services.
- 11. Expand Sites in Connections section and click HCLiAutomateWEBAPI.



Figure 226 - Load Balancer Configuration (cont.)

nections		Actions
🗐 🖄 😥	HCLIAUTOMATEVVEBAPI HOME	📓 Explore
Start Page	Filter So - E Show All Group by Area - By	Edit Permissions
Application Pools       Stes       > ⊕ Default       > ⊕ HCLiAutomateBaseUI       > ⊕ HCLiAutomateWEBAPI       > ⊕ Test	ASP.NET	Edit Site Binding Basic Settings View Applications View Victual Directories Manage Website
	Machine Key Pages and Providers Session State SMTP E-mail Controls IS	Restart     Start     Stop     Browse Website     Browse *:8080 (http)
	ASP Authentic CG Compression Detault Directory Error Pages Handler HTTP ISAPP Hiters Document Browsing Mappings Respon	Advanced Settings Configure Limits
	Logging MIME Types Modules Output Requert SSL Settings Caching Filtering Management Configurat Editor	😢 Help

Figure 227 - Load Balancer Configuration (cont.)

- 12. Right-click on HCLiAutomateWEBAPI and click Explore.
- 13. Find **Web.config** file and open it in a Notepad.



14. Within the **Web.config** file, search for the key '**URL'** and replace the '**localhost:portnumber**' with the *Load balancer IP* and *Web API Port*.

<add key="URL" value="http://localhost:8080/KRS/KeyManagement.svc" /> Figure 229 - Load Balancer Configuration (cont.)

- 15. Save the file to implement the changes.
- 16. Select the service and click **Restart** to restart the services.
- 17. Press **Win+R** and type **services.msc**.



18. Click OK to open Windows Services.

e Action View	Help				
ad 🗖 🗖 🖉	🗟 📑 🛛 🛐 📄 🖬 🕪				
Services (Local)	Services (Local)				
	Apache2.4	Name	Description Status	Startup Type	Log On As
		ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
	Stop the service	Adobe Flash Player Update Service	This service	Manual	Local System
	Restart the service	airtel. OUC		Automatic	Local System
		🖏 AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
	Description:	Apache2.4	Apache/2.4 Runnin	g Automatic	Local System
	Apache/2.4.23 (Win64)	🖏 App Readiness	Gets apps re	Manual	Local System
	openase/ no.21	Application Host Helper Service	Provides ad Runnin	g Automatic	Local System
		Application Identity	Determines	Manual (Trig	Local Service
		Application Information	Facilitates t Runnin	g Manual (Trig	Local System
		🧠 Application Layer Gateway Service	Provides su	Manual	Local Service
		🖏 Application Management	Processes in	Manual	Local System
		🥋 AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		🖏 ASP.NET State Service	Provides su	Manual	Network Service
		AssignedAccessManager Service	AssignedAc	Manual	Local System
		🎑 Auto Time Zone Updater	Automatica	Disabled	Local Service
		🧠 Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		🍓 Background Tasks Infrastructure Service	Windows in Runnin	g Automatic	Local System
		🍓 Base Filtering Engine	The Base Fil Runnin	g Automatic	Local Service
		🖏 BES Client	Facilitates u Runnin	g Automatic (D	Local System
		🍓 BitLocker Drive Encryption Service	BDESVC hos Runnin	g Manual (Trig	Local System
		🎑 BitLocker Management Client Service	BitLocker M Runnin	g Automatic (D	Local System
		🔍 Block Level Backup Engine Service	The WBENG	Manual	Local System
		🔍 Blue Coat Unified Agent	Provides W Runnin	g Automatic	Local System
		🔍 Bluetooth Handsfree Service	Enables wir Runnin	g Manual (Trig	Local Service
		Bluetooth Support Service	The Bluetoo Runnin	g Manual (Trig	Local Service
		BranchCache	This service	Manual	Network Service
		Capability Access Manager Service	Provides fac	Manual	Local System
		🔍 Certificate Propagation	Copies user Runnin	g Automatic	Local System
		Cisco AnyConnect Network Access Manager	Establishes Runnin	g Automatic	Local System
1	R		n 11 or n 1	A 4 4	1 18.1

Figure 231 - Load Balancer Configuration (cont.)

- 19. Search for HCL.iAutomate.Listener service and right-click on it.
- 20. Click Properties.

<table-of-contents> Services</table-of-contents>				
File Action View	Help			
🗭 🔿 📅 🖬 🧔	🛃   🔽 🧰   🕨 🔲 🕪			
🔍 Services (Local)	🔍 Services (Local)			
	HCL.iAutomate.Listener	Name		D
	<u>Stop</u> the service <u>Restart</u> the service	<ul> <li>HCL.iAutomate.DC</li> <li>HCL.iAutomate.EntityModel</li> <li>HCL.iAutomate.GenericExecutor</li> <li>HCL.iAutomate.iParse</li> <li>HCL.iAutomate.iRecommend</li> <li>HCL.iAutomate.IUnique</li> <li>HCL.iAutomate.Listener</li> <li>HCL.iAutomate.RBACompone</li> <li>HCL.iAutomate.ReleaseService</li> <li>HUL.iAutomate.ReleaseService</li> <li>HUMAN Interface Device Service</li> </ul>	Start <b>Stop</b> Pause	4 4 4 4
		🧛 Hyper-V Data Exchange Servic	Resume	
		🍓 Hyper-V Guest Service Interfac	Restart	
		🏩 Hyper-V Guest Shutdown Ser.	All Tasks	>
		🤐 Hyper-V Heartbeat Service 🎑 Hyper-V PowerShell Direct Ser	Refresh	
		🔍 Hyper-V Remote Desktop Virti	Properties	
		🤐 Hyper-V Time Synchronization	Help	

Figure 232 - Load Balancer Configuration (cont.)

21. Copy the value mentioned in **Path to executable** as shown in the image below.

# bigFix

CL.iAutomate.Lis	tener Properties (Local Computer)	×
àeneral Log On	Recovery Dependencies	
Service name:	HCL.iAutomate.Listener	
Display name:	HCL.iAutomate.Listener	
Description:		$\sim$
Path to executable ber 20190808-19	e: 46551.62\Listner∖HCL i∆utomate Listner Service Ho	st eve
Startup tupe:	Automatic	
Service status:	Running	
Service status: Start	Running Stop Pause Resume	е
Service status: Start You can specify th from here.	Running Stop Pause Resume ne start parameters that apply when you start the serv	e vice
Service status: Start You can specify th from here. Start parameters:	Running Stop Pause Resume ne start parameters that apply when you start the serv	e vice
Service status: Start You can specify th from here. Start parameters:	Running Stop Pause Resume ne start parameters that apply when you start the serve	e vice
Service status: Start You can specify th from here. Start parameters:	Running       Stop       Pause       Resume         ne start parameters that apply when you start the served       Image: Compare the served start parameters that apply ap	e vice
Service status: Start You can specify th from here. Start parameters:	Stop       Pause       Resume         ne start parameters that apply when you start the server       0K       Cancel       A	e vice

Figure 233 - Load Balancer Configuration (cont.)

22. Open File Explorer, then paste the copied path and press Enter to open the desired folder.23. Search for HCL.iAutomate.Listner.Service.Host config file and open it in a Notepad.



24. Within the **HCL.iAutomate.Listner.Service.Host** config file, search for the key '**URL'** and replace the '**localhost:portnumber**' with the *Load balancer IP* and *Web API Port*.

<add key="URL" value="http://localhost:8080" Figure 235 - Load Balancer Configuration (cont.) 25. Save the file to implement the changes.

- 26. Select the service and click **Restart** to restart the services.

Repeat the steps mentioned above on all the load balanced servers.



- 27. Login to BigFix Runbook AI using the Super Admin credentials.
- 28. Roll-over Environment and click BigFix Runbook AI Configuration.

29. Select Component Name as 'Web API'. Change the Load Balancer URL to the Load Balancer IP.

omponent Name *	Web API
oad Balancer URL*	https:// <ip>:ort&gt; </ip>
	Update Cancel

Figure 236 - Load Balancer Configuration (cont.)

- 30. Click **Update** to save the changes.
- 31. Above step must be repeated for all the components. Additionally, for the Component Name 'iRecommend', provide the path of the shared drive location in the 'iRecommend Model Location' field.

Component Configuration		
Component Name *	iRecommend	~
Load Balancer URL*	https:// <ip>:<port></port></ip>	
Test Connection	Test Connection	
iRecommend Model Location*	D:\IAutomate6.0\IRecommend\Model	
Threshold*	.95	

Figure 237 - Load Balancer Configuration (cont.)

- 32. Click Update to save the changes.
- 33. Additionally, for the **Component Name Entity Model**, provide the path of the shared drive location in the **EntityModel Model Location** field.

ad Balancer URL*	https:// <ip>:<port></port></ip>
st Connection	Test Connection
tityModel Model Location*	c:\check

34. Click Update to save the changes.



35. Additionally, for the **Component Name** given as **Crawler**, provide the path of the shared drive location in the **Data Directory Location** field.

component Configuration		
Component Name *	Crawler	~
Load Balancer URL*	https:// <ip>:<port></port></ip>	
Test Connection	Test Connection	
Data Directory Location*	C:\Apache24\iKnowledge_Default	

Figure 239 - Load Balancer Configuration (cont.)

36. Click Update to save the changes.

3.5.5 Configuration Changes – Access BigFix Runbook AI

### without Certificate (Type – PFX)

This section describes the steps for making the required configurational changes to enable access

to BigFix Runbook AI when PFX certificate is not available.

To make the configuration changes, please follow the below steps:

### 3.5.5.1 Without Certificate used to connect KRS

#### 3.5.5.1.1WCF Services:

1. When no certificate is present in **Personal** and **Trusted** folder, following error will occur while loading the KRS wsdl ( <IP address:port>/KRS/KeyManagement.svc )



- Certificate (Type PFX)
- 2. Go to <BigFix Runbook AI Installer path>.

BigFix

Name	Date modified	Туре	Size
ADSync_20230410_213331	4/10/2023 9:33 PM	File folder	
AdvanceKnowledge_20230410_213323	4/10/2023 9:36 PM	File folder	
BaseUI_20230410_213308	6/1/2023 10:26 AM	File folder	
DataCollection_20230410_213316	4/10/2023 9:33 PM	File folder	
EmailService_20230410_213333	4/10/2023 9:33 PM	File folder	
GenericService_20230410_213319	4/10/2023 9:33 PM	File folder	
iKnowledge_20230410_213310	4/10/2023 9:33 PM	File folder	
iParse_20230410_213304	4/10/2023 9:33 PM	File folder	
iRecommend_20230410_213304	4/11/2023 3:53 PM	File folder	
📕 iScript_20230410_213304	4/10/2023 9:33 PM	File folder	
📙 iUnique_20230410_213304	4/10/2023 9:33 PM	File folder	
KnowledgeRating_20230410_213304	4/10/2023 9:33 PM	File folder	
KRS_20230410_213304	4/10/2023 9:33 PM	File folder	
Listner_20230410_213329	4/10/2023 9:33 PM	File folder	
📕 Log_Baseui	4/28/2023 3:53 PM	File folder	
RBA_20230410_213325	4/10/2023 9:33 PM	File folder	
ReleaseService_20230410_213328	4/10/2023 9:33 PM	File folder	
WebAPI 20230410 213306	4/13/2023 2:59 PM	File folder	

Figure 241 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.)

3. Go to Path < BigFix Runbook AI Installer path > \KRS.



- 4. Open Web.config file.
- 5. Add mode=" None" in <security> tag
- 6. Change clientCredentialType="None" in <serviceCredentials> tag.
- 7. Comment the <serviceCertificate> tag in <serviceCredentials>.



Figure 242 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.)

- 8. Go to Path < BigFix Runbook AI Installer path>\ WebAPI
- 9. Open Web.config file.
- 10. Set key "enableCertificate\_KRS" value to "N".

<add key="enableCertificate\_KRS" value="N" />

Figure 243 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.)

- 11. Go to Path < BigFix Runbook AI Installer path>\Listener...\Listener
- 12. Open HCL.iAutomate.Listener.Service.Host.exe config file.
- 13. Set "enableCertificate\_KRS" key to "N"



- 14. Go to Path < BigFix Runbook AI Installer path>\BaseUI...\BaseUI
- 15. Open Web.config file.
- 16. Set "enableCertificate\_KRS" key to "N".

<add key="enableCertificate\_KRS" value="N" />

Figure 245 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.)

- 17. Go to Path < BigFix Runbook AI Installer path>\DataCollection...\DataCollection folder location
- 18. Open HCL.iAutomate.DataCollector.Service.Host.exe config file.
- 19. Set "enableCertificate KRS" key to "N".



20. Follow the last 3 mentioned steps to make the configurational changes required for AD Sync, Email Service, Generic Service, RBA service and Release Service

#### 3.5.5.1.2AI Services:

- 1. Go to Path < BigFix Runbook AI Installer path>\iRecommend...\
- 2. Open IRECOMMEND.CFG file.
- 3. Replace value of "enableCertificate" with "N".



Figure 247 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX)

 Open entity.cfg file in entity folder in same location and replace value of "enableCertificate" with "N"



Figure 248 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX)

- 5. Go to Path < BigFix Runbook AI Installer path>\iParse...\IParse\iparse\config
- 6. Open Parse\_data.cfg file.
- 7. Replace value of "enableCertificate" with "N"



Figure 249 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.)

- 8. Go to Path < BigFix Runbook AI Installer path>\iUnique...\IUnique\iUnique\_final\config
- 9. Open iUnique.cfg file.
- 10. Replace "enableCertificate" with "N"



[DATA_FROM_DB]
VALUE=True
[SIMILARITY]
S VALUE=0.70
[MISC]
KEY=150
loggerState=1
KEY_SALT=560A18CD-6346-4CF0-A2E8-671F9B6B9EA9
Certificate_Name=HCL.iAutomate
Tegelfgigned-V
enableCertificate=N

Figure 250 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.)

- 11. Go to < BigFix Runbook AI Installer path>\iScript...\IScript\iScript\config
- 12. Open iScrape.cfg file.
- 13. Replace "enableCertificate" with "N"

```
1 [DATABASE]
 2
    DB_HOST = 52.62.30.61
 3
    DB USER = sa
4
    DB PASSWORD = Welcome@123
 5
    DB NAME = iAutomateDB
    DOWNLOAD PATH = C:/Apache24/htdocs/Scripts/Scripts
 6
 7
8
   [logging]
9
   filename = action.log
10
11
    [urls]
12
    docsExtensions = .pdf,.doc,.txt,.xlsx,.xlsm,.docx,.sql
13
    scriptExtensions = .ps1,.rar,.psm1
14
15 [MISC]
16 loggerState=0
17
    KEY SALT=560A18CD-6346-4CF0-A2E8-671F9B6B9EA9
18 Certificate Name=HCL.iAutomate
19 TsSelfSigned=V
   enableCertificate=N
20
21
```

Figure 251 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.)

- 14. Go to < BigFix Runbook AI Installer path>\AdvanceKnowledge\Crawler\crawler\_v5\config
- 15. Open iCrawler.cfg file.
- 16. Replace "enableCertificate" with "N"
- 17. Go to < BigFix Runbook AI Installer path>\ AdvanceKnowledge\ iKnowledge\_Indexer
- 18. Open INDEXER.cfg file.

- 19. Replace "enableCertificate" with "N"
- 20. Go to < BigFix Runbook AI Installer path>\ AdvanceKnowledge\ iKnowledge\_Screen
- 21. Open IKNOWLEDGE\_SCREEN.cfg file.
- 22. Replace "enableCertificate" with "N"
- 23. Go to < BigFix Runbook AI Installer path>\ AdvanceKnowledge\ iKnowledge\_Search
- 24. Open IKNOWLEDGE\_SEARCH.cfg file.
- 25. Replace "enableCertificate" with "N"
- 26. Go to < BigFix Runbook AI Installer path>\ KnowledgeRating ...\ iKnowledge\_Rating
- 27. Open rating.cfg file.
- 28. Replace "enableCertificate" with "N"
- 29. Go to < BigFix Runbook AI Installer path>\ iKnowledge \ iKnowledge \ knowledge\_v4
- 30. Open iknowledge.cfg file.
- 31. Replace "enableCertificate" with "N"

### 3.5.5.2 Without Certificate used to connect Services

#### 3.5.5.2.1WCF Services:

1. Go to < BigFix Runbook AI Installer path>.

		Name	Date modified	Туре	Size	
		ADS/mc 20200520 110517752	5/20/2020 11-05 AM	File folder		
	*	AdvanceKnowledge 20200520 110512027	5/20/2020 11:05 AM	File folder		
	*	Bacel II 20200520 110//18718	5/20/2020 11:05 AM	File folder		
	*	DataCollection 20200520 110504500	5/20/2020 11:05 AM	File folder		
	*	EmailService 20200520 110519902	5/20/2020 11:05 AM	File folder		
or		GenericService_20200520_110507939	5/20/2020 11:05 AM	File folder		
		iKnowledge_20200520_110455076	5/20/2020 11:04 AM	File folder		
		iParse_20200520_110448738	5/20/2020 11:04 AM	File folder		
		iRecommend_20200520_110448714	5/20/2020 11:47 AM	File folder		
		iScript_20200520_110448722	6/1/2020 12:05 PM	File folder		
		📙 iUnique_20200520_110448719	5/20/2020 11:05 AM	File folder		
		KnowledgeRating_20200520_110457176	5/20/2020 11:04 AM	File folder		
		Listner_20200520_110514802	5/20/2020 11:05 AM	File folder		
		BRA_20200520_110510063	5/20/2020 11:05 AM	File folder		
		ReleaseService_20200520_110512452	5/20/2020 11:05 AM	File folder		
		WebAPI_20200520_110448718	5/20/2020 11:04 AM	File folder		

Figure 252 – Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.)

- 2. Go to Path < BigFix Runbook AI Installer path>\BaseUI...\BaseUI
- 3. Open Web.config file.
- 4. Replace value of "enableCertificate\_Service" key to "N".



<security mode="None">
 <message clientCredentialType="None" establishSecurityContext="false" negotiateServiceCredential="false" />
</security>

Figure 253 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.)

5. Change mode="None" and clientCertificateType="None".

**BigFix** 

- 6. Go to Path < BigFix Runbook AI Installer path>\Listener...\Listener
- 7. Open HCL.iAutomate.Listener.Service.Host.exe config file.
- 8. Replace value of "enableCertificate\_Service" key to "N".

<add key="enableCertificate\_Service" value="N" />

> Figure 254 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PFX) (cont.)

- 9. Change mode="None" and clientCertificateType="None".
- 10. Go to Path < BigFix Runbook AI Installer path>\DataCollection...\DataCollection folder location
- 11. Open HCL.iAutomate.DataCollector.Service.Host.exe config file.
- 12. Replace value of "enableCertificate\_Service" key to "N".



13. Follow the last 3 mentioned steps to make the configurational changes required for AD Sync, Email Service, Generic Service, RBA service and Release Service



### 3.5.6 Configuration Changes – Access BigFix Runbook AI with

### Certificate (Type – PFX)

This section describes the steps for making the required configurational changes to enable access to BigFix Runbook AI when PFX certificate is available. By default, BigFix Runbook AI will install with Certificate.

To make the configuration changes, please follow the below steps:

### 3.5.6.1 With Certificate used to connect KRS

#### 3.5.6.1.1WCF Services:

1. Go to < BigFix Runbook AI Installed path>.

ame	Date modified	Туре	Size
ADSync_20230410_213331	4/10/2023 9:33 PM	File folder	
AdvanceKnowledge_20230410_213323	4/10/2023 9:36 PM	File folder	
BaseUI_20230410_213308	6/1/2023 10:26 AM	File folder	
DataCollection_20230410_213316	4/10/2023 9:33 PM	File folder	
EmailService_20230410_213333	4/10/2023 9:33 PM	File folder	
GenericService_20230410_213319	4/10/2023 9:33 PM	File folder	
iKnowledge_20230410_213310	4/10/2023 9:33 PM	File folder	
iParse_20230410_213304	4/10/2023 9:33 PM	File folder	
iRecommend_20230410_213304	4/11/2023 3:53 PM	File folder	
iScript_20230410_213304	4/10/2023 9:33 PM	File folder	
iUnique_20230410_213304	4/10/2023 9:33 PM	File folder	
KnowledgeRating_20230410_213304	4/10/2023 9:33 PM	File folder	
KRS_20230410_213304	4/10/2023 9:33 PM	File folder	
Listner_20230410_213329	4/10/2023 9:33 PM	File folder	
Log_Baseui	4/28/2023 3:53 PM	File folder	
RBA_20230410_213325	4/10/2023 9:33 PM	File folder	
ReleaseService_20230410_213328	4/10/2023 9:33 PM	File folder	
WebAPI_20230410_213306	4/13/2023 2:59 PM	File folder	

Figure 256 - Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.)

- 2. Go to Path < BigFix Runbook AI Installer path>\KRS.
- 3. Open Web.config file.
- 4. Add mode=" Message" in <security> tag.
- 5. Change clientCredentialType="Certificate" in <message> tag.



Figure 257 Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.)

6. Change certificateValidationMode="PeerTrust" in <serviceCredentials> tag.



Figure 258 - Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.)

- 7. Uncomment the <serviceCertificate> tag, if commented.
- 8. Go to Path < BigFix Runbook AI Installer path>\ WebAPI
- 9. Open Web.config file.

BigFix

10. Set key "enableCertificate\_KRS" value to "Y".

<add key="enableCertificate\_KRS" value="Y" />
Figure 259 - Configuration Changes – Access BigFix Runbook AI with
Certificate (Type – PFX) (cont.)

- 11. Go to Path < BigFix Runbook AI Installer path>\Listener...\Listener
- 12. Open HCL.iAutomate.Listener.Service.Host.exe config file.
- 13. Set "enableCertificate KRS" key to "Y".



- 14. Go to Path < BigFix Runbook AI Installer path>\BaseUI...\BaseUI
- 15. Open Web.config file.
- 16. Set "enableCertificate\_KRS" key to "Y".

<add key="enableCertificate\_KRS" value="Y" />
Figure 261 - Configuration Changes – Access BigFix Runbook AI with

Certificate (Type - PFX) (cont.)



- 17. Go to Path < BigFix Runbook AI Installer path>\DataCollection...\DataCollection folder location
- 18. Open HCL.iAutomate.DataCollector.Service.Host.exe config file.
- 19. Replace value of "enableCertificate\_KRS" key to "Y".



20. Follow the last 3 mentioned steps to make the configurational changes required for AD Sync, Email Service, Generic Service, RBA service and Release Service

#### 3.5.6.1.2AI Services

- 1. Go to Path < BigFix Runbook AI Installer path>\iRecommend...\
- 2. Open IRECOMMEND.CFG file.
- 3. Replace value of "enableCertificate" with "Y".
- Open entity.cfg file in entity folder in same location and replace value of "enableCertificate" with "γ"
- 5. Go to Path < BigFix Runbook AI Installer path>\iParse...\IParse\iparse\config
- 6. Open Parse\_data.cfg file.
- 7. Replace value of "enableCertificate" with "Y"
- 8. Go to Path < BigFix Runbook AI Installer path>\iUnique...\IUnique\iUnique\_final\config
- 9. Open iUnique.cfg file.
- 10. Replace "enableCertificate" with "Y"
- 11. Go to <BigFix Runbook AI Installer path>\iScript...\IScript\iScript\config
- 12. Open iScrape.cfg file.
- 13. Replace "enableCertificate" with "Y"
- 14. Go to <BigFix Runbook AI Installer path>\AdvanceKnowledge\Crawler\crawler\_v5\config
- 15. Open iCrawler.cfg file.
- 16. Replace "enableCertificate" with "Y"
- 17. Go to < BigFix Runbook AI Installer path>\ AdvanceKnowledge\ iKnowledge\_Indexer
- 18. Open INDEXER.cfg file.
- 19. Replace "enableCertificate" with "Y"
- 20. Go to < BigFix Runbook AI Installer path>\ AdvanceKnowledge\ iKnowledge\_Screen
- 21. Open IKNOWLEDGE\_SCREEN.cfg file.
- 22. Replace "enableCertificate" with "Y"
- 23. Go to <BigFix Runbook AI Installer path>\ AdvanceKnowledge\ iKnowledge\_Search



- 24. Open IKNOWLEDGE\_SEARCH.cfg file.
- 25. Replace "enableCertificate" with "Y"
- 26. Go to <BigFix Runbook AI Installer path>\ KnowledgeRating ...\ iKnowledge\_Rating
- 27. Open rating.cfg file.
- 28. Replace "enableCertificate" with "Y"
- 29. Go to <BigFix Runbook AI Installer path>\ iKnowledge \ iKnowledge \ knowledge\_v4
- 30. Open iknowledge.cfg file.
- 31. Replace "enableCertificate" with "Y"

### 3.5.6.2 With Certificate used to connect Services

#### 3.5.6.2.1WCF Services:

1. Go to <BigFix Runbook AI Installed path>.

	Name	Date modified	Туре	Size	
	ADSync_20200520_110517752	5/20/2020 11:05 AM	File folder		
A	AdvanceKnowledge 20200520 110513027	5/20/2020 11:05 AM	File folder		
*	BaseUI_20200520_110448718	5/20/2020 11:05 AM	File folder		
*	DataCollection_20200520_110504500	5/20/2020 11:05 AM	File folder		
*	EmailService_20200520_110519902	5/20/2020 11:05 AM	File folder		
	GenericService_20200520_110507939	5/20/2020 11:05 AM	File folder		
	iKnowledge_20200520_110455076	5/20/2020 11:04 AM	File folder		
	iParse_20200520_110448738	5/20/2020 11:04 AM	File folder		
	iRecommend_20200520_110448714	5/20/2020 11:47 AM	File folder		
	iScript_20200520_110448722	6/1/2020 12:05 PM	File folder		
	📙 iUnique_20200520_110448719	5/20/2020 11:05 AM	File folder		
	KnowledgeRating_20200520_110457176	5/20/2020 11:04 AM	File folder		
	Listner_20200520_110514802	5/20/2020 11:05 AM	File folder		
	BBA_20200520_110510063	5/20/2020 11:05 AM	File folder		
	ReleaseService_20200520_110512452	5/20/2020 11:05 AM	File folder		
	WebAPI_20200520_110448718	5/20/2020 11:04 AM	File folder		
	-				

Figure 263 - Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.)

- 2. Go to Path <BigFix Runbook AI Installer path>\BaseUI...\BaseUI
- 3. Open Web.config file.
- 4. Replace value of "enableCertificate\_Service" key to "Y".

<add key="enableCertificate Service" value="Y" />

Figure 264- Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.)

- 5. Go to Path <BigFix Runbook AI Installer path>\Listener...\Listener
- 6. Open HCL.iAutomate.Listener.Service.Host.exe config file.
- 7. Replace value of "enableCertificate\_Service" key to "Y".

<add key="enableCertificate\_Service" value="Y" />

Figure 265 - Configuration Changes – Access BigFix Runbook AI with Certificate (Type – PFX) (cont.)

- 8. Go to Path <BigFix Runbook AI Installer path>\DataCollection...\DataCollection folder location
- 9. Open HCL.iAutomate.DataCollector.Service.Host.exe config file.
- 10. Replace value of "enableCertificate\_Service" key to "Y".

<add key="enableCertificate\_Service" value="Y" />
Figure 266 - Configuration Changes - Access BigFix Runbook AI with
Certificate (Type - PFX) (cont.)

11. Follow the last 3 mentioned steps to make the configurational changes required for AD Sync, Email Service, Generic Service, RBA service and Release Service

### 3.5.7 Configuration Changes - Access BigFix Runbook AI

### without Certificate (Type – PEM)

This section describes the steps for making the required configurational changes to enable access

to BigFix Runbook AI when PEM certificate is not available.

To make the configuration changes, please follow the below steps:

#### 3.5.7.1Al Services:

- 1. Go to Path <BigFix Runbook AI Installer path>\Listener...\Listener
- 2. Open HCL.iAutomate.Listener.Service.Host.exe config file.
- 3. Replace value of "enablePEMCertificate" key with "N".



Ð -	<add key="PythonCertiPath" value="C:\Program Files\Certificate\server.pem"></add>
	Check PFX Certificate required or not
	<add key="enableCertificate" value="N"></add>
	<>
	<add key="enablePEMCertificate" value="N"></add>
	<add key="IsSelfSigned" value="N"></add>
	Error log folder Path
	<add key="Errorlog" value="C:\Logs"></add>

Figure 267 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)

- 4. Go to Path <BigFix Runbook AI Installer path>\BaseUI...\BaseUI
- 5. Open Web.config file.
- 6. Replace value of "enablePEMCertificate" key to "N".
- 7. Got to Path C:/Apache24/conf and open iRecommend.cfg file. Comment the following lines:
  - a. SSLEngine on
  - b. SSLCertificateFile "C:/Program Files/certificate/server.crt"
  - c. SSLCertificateKeyFile "C:/Program Files/certificate/server.key"
  - d. SSLCACertificateFile "C:/Program Files/certificate/ca.pem"
  - e. SSLVerifyClient require
  - f. SSLVerifyDepth 10
  - g. LoadModule ssl\_module modules/mod\_ssl.so.

162	#LoadModule slotmem_shm_module modules/mod_slotmem_shm.so
163	#LoadModule socache dbm module modules/mod socache dbm.so
164	#LoadModule socache memcache module modules/mod_socache memcache.so
165	LoadModule socache_shmcb_module modules/mod_socache_shmcb.so
166	#LoadModule speling module modules/mod speling.so
167	#LoadModule ssl_module modules/mod_ssl.so
168	#LoadModule status_module modules/mod_status.so
69	#LoadModule substitute_module modules/mod_substitute.so
L70	#LoadModule unique_id_module modules/mod_unique_id.so
L71	#LoadModule userdir_module modules/mod_userdir.so
172	#LoadModule usertrack module modules/mod usertrack.so

Figure 268 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)

# bigFix



Figure 269 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)

- 8. To make the changes to the Endpoint URL, go to the BigFix Runbook AI website.
- 9. Click Advance Configuration  $\rightarrow$  Product Configuration.

		and the second			
			Product Configuration	*	
			Parameter	>	Se
			iRecommend Rule Configuration	*	
			Configure Key Vault	*	arch
			Connectivity	>	
			Entity	>	
	Actions		WorkBench	>	Confi
			Knowledge	>	
	× ×		¢		
Manage	SMTP		Manage Proxy		
Manage	SMTP		Manage Proxy		
	_				
	Manage Manage	Actions ESS Manage SMTP Manage SMTP	Actions	Actions Act	Actions Recommend Rule Configuration * Configure Key Vault * Connectivity > Entity > WorkBench > Knowledge > Knowledge > Manage SMTP Manage SMTP Manage Proxy Manage Proxy

Figure 270 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)

- 10. Select Component Name as 'iRecommend'.
- 11. Change the Load Balancer URL from 'https' to 'http'.



#### 12. Click Update.

	iRecommend ~
Load Balancer URL*	http://airo0005:9000 http://airo0005:9000
Test Connection	Test Connection
Recommend Model Location*	C:\VAUTOMATEVAUTOMATE5.1VRecommend_20200520_11D448714\\VRecommendModel
Threshold*	.70
	Cancel Update

Figure 271 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)

- 13. Repeat Steps 7 & 8 for each of the AI components mentioned below -
  - Entity
  - iKnowledge
  - iKnowledgeCrawler
  - iKnowledgeIndexer
  - iKnowledgeScreen
  - iKnowledgeSearch
  - iParse
  - iRecommend
  - iScript
  - iUnique
  - ratingMongo

### 3.5.7.2IIS Configuration:

- 1. Press Win + R and type inetmgr.
- 2. Click OK to open IIS.

Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.         Open:       inetmgr	💷 Run	×
Open: inetmgr ~		Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
	<u>O</u> pen:	inetmgr ~
OK Cancel <u>B</u> rowse		OK Cancel <u>B</u> rowse

Figure 272 - Configuration Changes – Access BigFix Runbook AI without	
Certificate (Type – PEM)	

3. Expand Sites.

Start Page Application Pools Application Pools Sites HCLiAutomateBaseUI HCLiAutomateWEBAPI Minimized bin MutomateWebApiLog KMS Cripts
Figure 273 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)

4. Go to Application Pools. Click on your specific application pool. Click Recycle or Stop and then click Start

# **BigFix**

ections	0-m	<b>•</b> •					Actions
	This page lets you view and	POOIS	e list of applicati	on pools on the ser	ver. Application pools	are associated with worker processes, contain one or more applications, and	Add Application Pool Set Application Pool Defaults.
Application Pools	Filter:	• 🐨 Go	- 🕁 Show All	Group by: No Gro	pupina •		Application Pool Tasks  Start
HCLIAutomateBaseUI HCLIAutomateWEBAPI	Name Name NET V4.5 Baselifa Baselifa Check DefaultAcoPool WebAPI	Status Started Started Started Started Started Started	V.0 INET CLR V V4.0 V4.0 V4.0 V4.0 V4.0 V4.0 V4.0	Integrated Integrated Integrated Integrated Integrated Integrated Integrated Integrated	Identity Identity ApplicationPoolld ApplicationPoolld ApplicationPoolld ApplicationPoolld	Applications 0 0 0 1 6 1	Stop Stop Kecycle Edit Application Pool Basic Settings Recycling Advanced Settings Rename Rename Rename View Applications Relations Help

Figure 274 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)

5. Go to Sites. Click the site having name BaseUI. Click on Restart.

<u>v</u>		Edit Permissions
plication Pools ss HCLiAutomateBaseUI HCLiAutomateWEBAPI	Pitter:     •     •     •     •     •       ASP.NET     ASP.NET     Image: Strate	Edit Site Bindings Basic Settings View Applications View Virtual Directories
	Resion State SMTP E-mail	Manage Website
	IIS Authentic Compression Default Directory Error Pages Handler HTTP ISAPI Filters Logging MIME Types Modules Output Manning Manning Continue	Browse Website Browse *:80 (http) Browse *:443 (https)
	Request SSL Settings	Advanced Settings Configure Limits Install Application From
	Management Anna Anna Anna Anna Anna Anna Anna An	<ul> <li>Help</li> </ul>

Figure 275 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)

6. Go to Sites. Click the site having name WEBAPI. Click on Restart.



age	Filter:	Edit Permissions
Application Pools Sites HCLLAutomateBaseUI HCLLAutomateWEBAPI	ASP.NET NET NET NET NET NET From NET INET Profile NET Roles NET Trust Levels NET Users Application Connection Machine Key Pages and Controls Providers Session State SMTP E-mail	Edit Site Bindings Basic Settings View Virtual Directories Manage Website Restart Bart
	IIS Authentic Compression Default Directory Default Directory Browsing Request SSL Settings SSL Settings	Stop Browse Website Browse *18080 (http) Advanced Settings Configure Limits Cinital Application From Galleys
	Management Configuret Editor Platfor	Help

Figure 276 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)

### 3.5.7.3 Restart Services

1. Press Win+R and type services.msc.

💷 Run	×
٨	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	services.msc $\lor$
	OK Denver
	OK Cancer <u>B</u> rowse
Fiere	
Figure	277 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)

2. Click OK to open Windows Services.

<b>D</b> E	BigFix
------------	--------

File Action View	Help				
⊨ → 🗔 🤤 🤇	3 B 1 1 1				
Services (Local)	Q. Services (Local)				
	Apache2.4	Name	Description Statu	s Startup Type	Log On As
		ActiveX Installer (AxInstSV)	Provides Us	Manual	Local System
	Stop the service	Adobe Flash Player Update Service	This service	Manual	Local System
	Restart the service	🔍 airtel. OUC		Automatic	Local System
		AllJoyn Router Service	Routes AllJo	Manual (Trig	Local Service
	Description:	Apache2.4	Apache/2.4 Runn	ing Automatic	Local System
	Apache/2.4.23 (Win64)	App Readiness	Gets apps re	Manual	Local System
	OpenSSL/ 1.0.2h	Application Host Helper Service	Provides ad Runn	ing Automatic	Local System
		Application Identity	Determines	Manual (Trig	Local Service
		Application Information	Facilitates t Runn	ing Manual (Trig	Local System
		🔍 Application Layer Gateway Service	Provides su	Manual	Local Service
		🔍 Application Management	Processes in	Manual	Local System
		🖏 AppX Deployment Service (AppXSVC)	Provides inf	Manual	Local System
		🖏 ASP.NET State Service	Provides su	Manual	Network Service
		🖏 AssignedAccessManager Service	AssignedAc	Manual	Local System
		🖏 Auto Time Zone Updater	Automatica	Disabled	Local Service
		🌼 Background Intelligent Transfer Service	Transfers fil	Manual	Local System
		🌼 Background Tasks Infrastructure Service	Windows in Runn	ing Automatic	Local System
		🌼 Base Filtering Engine	The Base Fil Runn	ing Automatic	Local Service
		💁 BES Client	Facilitates u Runn	ing Automatic (D	Local System
		🌼 BitLocker Drive Encryption Service	BDESVC hos Runn	ing Manual (Trig	Local System
		🌼 BitLocker Management Client Service	BitLocker M Runn	ing Automatic (D	Local System
		🍓 Block Level Backup Engine Service	The WBENG	Manual	Local System
		🍓 Blue Coat Unified Agent	Provides W Runn	ing Automatic	Local System
		🍓 Bluetooth Handsfree Service	Enables wir Runn	ing Manual (Trig	Local Service
		🔍 Bluetooth Support Service	The Bluetoo Runn	ing Manual (Trig	Local Service
		🖏 BranchCache	This service	Manual	Network Service
		Capability Access Manager Service	Provides fac	Manual	Local System
		Certificate Propagation	Copies user Runn	ing Automatic	Local System
		Cisco AnyConnect Network Access Manager	Establishes Runn	ing Automatic	Local System

Figure 278 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)

- 3. Search for Services.
- 4. Restart Apache24 service.
- 5. Restart all **HCL.iAutomate** services.

HCL iAutomate DC	Name
fice.i/utoinate.oc	- Ande
Stop the service	
Restart the service	
Desidentian	
Service for DataCollection	Sala
	-Q.
	HCL.iAutomate.ADSyncService
	HCL.iAutomate.DC
	CL.iAutomate.EmailService
	CL.iAutomate.EntityModel
	CL.iAutomate.GenericExecutor
	ACL.iAutomate.iCrawler
	CL.iAutomate.iKnowledge
	🖏 HCL.iAutomate.iKnowledgeIndexer
	🖏 HCL.iAutomate.iKnowledgeScreen
	🖏 HCL.iAutomate.iKnowledgeSearch
	ALLIAutomate.iParse
	🖏 HCL.iAutomate.iRecommend
	ACL.iAutomate.iScript
	ACL.iAutomate.iUnique
	CL.iAutomate.Listener
	🔅 HCL.iAutomate.RatingMongo
	ArcL.iAutomate.RBAComponent
	ALLIAutomate.ReleaseService

Figure 279 - Configuration Changes – Access BigFix Runbook AI without Certificate (Type – PEM)

### 3.5.8 Configuration Changes - Run BASEUI and WEBAPI on

### Same Port

This section describes the steps for making the required configurational changes to enable BASEUI and WEBAPI on Same Port.

1. Press Win+R and type intemgr.



2. IIS will be opened. Expand the server's name and then the sites.

Internet Information Services (IIS) N	1anager □ ► Sites ►					- 🗆 ×
File View Help						
onnections	( <b>)</b> -m					Actions
· 🗟 🖄 象	Sites					💣 Add Website
Start Page	Filter	• 9 60 × 1	Show All	Sroup by No Grouping		Set Website Defaults
(DRYICELABS	Name	ID	Shahara (	Binding Binding	Dath	💣 Add FTP Site
Application Pools			Status	Binding	Path	Set FTP Site Defaults
A HCLiAutomateBaseIII	HCLIAutomateBaseUI	2	Started (ht	*:443 (https)	C:\iAutom	Help
> 🐠 HCLiAutomateWEBAPI	¢				>	
	Eastures View 🕞 Contar	nt Views				
>	E reatures view E Contei	IIC VIEW				
ady						Sec. 19

Figure 281 - Configuration Changes - Run BASEUI and WEBAPI on Same

Port

3. Right click on HCLiAutomateBaseUI and click on add application.



internet Information Services (IIS)	) Manager						- 🛛	×
File View Help Connections Start Page CORVICELABS Application Pools Sites HCLiAutomateBaseUI HCLiAutomateWEBA CORVICELABS CORVICELAS CO	Sites Filter: Name HCLiAutomateBaseUI Explore Edit Permissions Add Application Add Virtual Directory Edit Bindings Manage Website Refresh Remove Add FTP Publishing Rename	• 🐨 Go • 🖓 ID 2 1	Show All G Status Started (ht Started (ht	iroup by: No Grouping      Binding  *:443 (https)  *:8080 (http)	Path C:\iAutorr C:\iAutorr	Actions G Add Web Set Websi Set FTP S R Help	site ite Defaults Site ite Defaults	

Port

4. On the popup opened, enter Alias as '**WebAPI'**, Application pool as 'iAutomateAppPool' and enter the path till **WebAPI** folder in Physical Path. Click Ok.

dd Application			?	×
Site name: I Path: ,	HCLiAutomateBaseU /	I		
Alias:		Application pool:		
WebAPI		iAutomateAppPool	Select	
Pass-through a Connect as ] Enable Prelo	uthentication Test Settings ad			
		ОК	Cancel	
Figure 283	- Configuration	Changes - Run BASEUI and W	EBAPI on S	ame

5. The WebAPI application will now appear under HCLiAutomateBaseUI.



🎙 Internet Information Services (IIS) Mana	ger					– 🗆 X
← →	► Sites ►					😐 🖂 🔞 -
File View Help						
Connections	Citor					Actions
े 🗔 🖄 😸	Siles					💕 Add Website
✓ - 🗿 Sites 🔨 I CliAutomoto Bound II 🖉 Fi	ilter:	- 🛒 Go	🕞 🚽 🥁 Show A	II Group by: No Grouping		Set Website Defaults
Analysis	ame	ID	Status	Binding	Path	😅 Add FTP Site
🔉 🛅 bin 🧧 🧉	HCLiAutomate	2	Started (ht	*:443 (https)	C:\iAutomate6.	Set FTP Site Defaults
> Content	HCLiAutomate	1	Started (ht	*:8080 (http)	C:\iAutomate6.	🕐 Help
> Contents						
> - Download						
> 🚞 EntityModelPage						
> - 🛗 HelpDoc						
> - KeyVault						
> - Masters						
> 🖀 RBAC						
> - 🛗 Scripts						
> - IcketAnalysis						
>  WebAPI					>	
🐪 📫 WehService 💙 🔚	Features View 💦 C	ontent View				
andu						63.
cauy		_				1.:.

Figure 284 - Configuration Changes - Run BASEUI and WEBAPI on Same Port

- 6. To test whether API and BaseUI is working on same port, if BaseUI is accessible as <a href="https://localhost:443">https://localhost:443</a> then type below URL and see if WebAPI is also accessible with below URL: WebAPI URL: <BaseUI URL>/<Alias Name of Folder>/iAutomateAPI/Request/Getheartbeat Eg: <a href="https://localhost:443/WebAPI/iAutomateAPI/Request/Getheartbeat">https://localhost:443/WebAPI/iAutomateAPI/Request/Getheartbeat</a>
- 7. Go to web.config file of BaseUI. For that, go to IIS, expand server name and sites, and right click on HCLiAutomateBaseUI and click on explore. Search the web.config file in the opened folder and open the file.
- 8. In the web.config file, search for 'sessionState mode= "SQLServer". Comment this line and uncomment the line with sessionState mode= "InProc" like given below:

<sessionState mod<br regenerateExpiredSess <sessionstate <br="" allowcustomsqldatabase="true" mode="1&lt;/th&gt;&lt;th&gt;ke=" partitionresolvertype="iAutomateWeb.App_Code.ConnectionStringResolver" sqlserver"="">sionId="true" compressionEnabled="true" useHostingIdentity="true" timeout="20" /&gt;&gt; nProc" cookieless="false" timeout="3600" /&gt;</sessionstate>	
	Figure 285 - Configuration Changes - Run BASEUI and WEBAPI on Same Port

9. Save the web.config and restart the HCLiAutomateBaseUI in IIS. Now enter the WEBAPI URL (mentioned in Step 6) in browser. Now it should successfully give the below output:


This XML file does not appear to have any style information associated with it. The document tree is shown below.

<string xmlns="http://schemas.microsoft.com/2003/10/Serialization/">ok</string>

Figure 286 - Configuration Changes - Run BASEUI and WEBAPI on Same Port

# 3.5.9 Configuration Changes in Apache – FOR PYTHON COMPONENTS

1. Go to Run (Windows + R) and type services.msc and search and stop the python services.

Name	Description	Status	Startup Type	Log On As
🎑 HCL.iAutomate.DC	Service for	Running	Automatic	spandan
🎑 HCL.iAutomate.EmailService	Service for E	Running	Automatic	spandan
🎑 HCL.iAutomate.EntityModel	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.GenericExecutor	Service for	Running	Automatic	spandan
🎑 HCL.iAutomate.iCrawler	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.iKnowledge	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.iKnowledgeIndexer	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.iKnowledgeScreen	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.iKnowledgeSearch	Apache/2.4	Running	Automatic	spandan
🍓 HCL.iAutomate.iParse	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automatic	spandan
🍓 HCL.iAutomate.iScript	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.iUnique	Apache/2.4	Running	Automatic	spandan
🆏 HCL.iAutomate.Listener	Service for L	Running	Automatic	spandan
🎑 HCL.iAutomate.RatingMongo	Apache/2.4	Running	Automatic	spandan

Figure 445- Apache Upgradation

- Apache2.4
- HCL.iAutomate.Entitymodel
- HCL.iAutomate.iCrawler
- HCL.iAutomate.iknowledge
- HCL.iAutomate.iKnowledgeIndexer
- HCL.iAutomate.iKnowledgeScreen
- HCL.iAutomate.iKnowledgeSearch
- HCL.iAutomate.iRecommend
- HCL.iAutomate.iParse



- HCL.iAutomate.iScript
- HCL.iAutomate.iUnique
- HCL.iAutomate.RatingMongo
- 2. Open below path in explorer: C:\Apache24\conf
- 3. Navigate to the above path mentioned, need to update in .conf file of all python components as mentioned in the below screenshot

Name	Date modified	Туре	Size
📜 extra	3/3/2023 11:25 AM	File folder	
📜 original	3/3/2023 11:25 AM	File folder	
📕 ssl	4/28/2023 5:47 PM	File folder	
charset.conv	8/25/2022 5:06 PM	CONV File	2 KB
Entity.conf	4/10/2023 9:37 PM	CONF File	21 KB
httpd.conf	9/19/2022 8:11 PM	CONF File	21 KB
iKnowledge.conf	4/10/2023 9:36 PM	CONF File	21 KB
iknowledgeCrawler.conf	4/10/2023 9:38 PM	CONF File	21 KB
iKnowledgeIndexer.conf	4/10/2023 9:36 PM	CONF File	21 KB
iKnowledgeScreen.conf	4/10/2023 9:36 PM	CONF File	21 KB
iKnowledgeSearch.conf	4/10/2023 9:36 PM	CONF File	21 KB
l Parse.conf	4/10/2023 9:35 PM	CONF File	21 KB
liRecommend.conf	4/10/2023 9:35 PM	CONF File	21 KB
Script.conf	4/10/2023 9:36 PM	CONF File	21 KB
🛛 📄 iUnique.conf	4/10/2023 9:35 PM	CONF File	21 KB
📄 magic	8/25/2022 5:06 PM	File	14 KB
imime.types	8/25/2022 5:06 PM	TYPES File	62 KB
openssl.cnf	8/25/2022 5:06 PM	CNF File	11 KB
ratingMongo.conf	4/10/2023 9:35 PM	CONF File	21 KB
		_	_

Figure 446 - Apache Upgradation (cont.)

- 4. Open the conf files one by one in notepad++/notepad, locate the word "Define SRVROOT "/Apache24".
- 5. If it is present you can skip this step and proceed with Step 6, if not add the following 3 lines by searching for the word "ServerRoot "c:/Apache24"
  - Replace "ServerRoot "c:/Apache24"" line in the file with below 3 lines
  - Define SRVROOT "/Apache24"
  - ServerRoot "\${SRVROOT}"
  - PidFile "\${SRVROOT}/httpd.pid"

By Default **TLS version, 1.3** has been enabled in this apache configuration. If you want to enable any other TLS version for a particular windows build you need to follow below mentioned steps else continue with **step 9** 

6. Then find the line "SSLEngine on" in the same document



- 7. Based on the TLS requirement, check the TLS version that needs to enabled and copy the lines mentioned below for respective TLS version and paste it after "SSLEngine on" line in conf file by removing/uncomment "#" from the beginning and save the file.
- 8. If the required TLS line is already uncommented, skip and proceed with Step No 9, if it's not present perform below steps.

#### Table 15 - TLS versions - Apache

- #To enable SSL protocol TLS1.1 uncomment the below line
- #SSLProtocol -all +TLSv1.1
- #To enable SSL protocol TLS1.2 uncomment the below line
- #SSLProtocol -all +TLSv1.2
- #To enable SSL protocol TLS1.3 uncomment the below line
- #SSLProtocol -all +TLSv1.3
- #To enable and integrate SSL protocol TLS1.2 and TLS1.3 uncomment the below line
- #SSLProtocol -all +TLSv1.2 +TLSv1.3
- #To enable SSL protocol till TLS1.2 uncomment the below line
- #SSLProtocol +SSLv2 +SSLv3 +TLSv1 +TLSv1.1 +TLSv1.2
  - For example:

If need to go with TLS version 1.2: Removed "#" in the below screenshot and save the file.

<pre>SSLEngine on # To enable SSL protocol TLS1.1 uncomment the below line #SSLProtocol -all +TLSv1.1 # To enable SSL protocol TLS1.2 uncomment the below line SSLProtocol -all +TLSv1.2 # To enable SSL protocol TLS1.3 uncomment the below line #SSLProtocol -all +TLSv1.3 # To enable and integrate SSL protocol TLS1.2 and TLS1.3 uncomment the below line #SSLProtocol -all +TLSv1.3 # To enable SSL protocol till TLSv1.3 # To enable SSL protocol till TLSv1.4 #SSLProtocol +SSLv2 +SSLv3 +TLSv1 +TLSv1.1 #SSLProtocol +SSLv2 +SSLv3 +TLSv1 +TLSv1.2</pre>	
Figure 447 - Apache Upgradation (cont.)	

Changes needs to be done for all Python Components that are selected in figure 446

- 9. Verify the changes done in all python components.
- 10. Go to **Run (Windows + R)** and type **services.msc** and start the python services, which are in stop state.

# **b** BigFix

Name	Description	Status	Startup Type	Log On As
🏟 HCL.iAutomate.DC	Service for	Running	Automatic	spandan
🍓 HCL.iAutomate.EmailService	Service for E	Running	Automatic	spandan
🎑 HCL.iAutomate.EntityModel	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.GenericExecutor	Service for	Running	Automatic	spandan
🎑 HCL.iAutomate.iCrawler	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.iKnowledge	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.iKnowledgeIndexer	Apache/2.4	Running	Automatic	spandan
🎑 HCL. i Automate. i Knowledge Screen	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.iKnowledgeSearch	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.iParse	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.iRecommend	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.iScript	Apache/2.4	Running	Automatic	spandan
🎑 HCL.iAutomate.iUnique	Apache/2.4	Running	Automatic	spandan
🍓 HCL.iAutomate.Listener	Service for L	Running	Automatic	spandan
🔍 HCL.iAutomate.RatingMongo	Apache/2.4	Running	Automatic	spandan

Figure 448 - Screenshot of the Apache Python services



## 4 Appendix

### 4.1 List of Abbreviations

	Table 14 - List of Abbreviations
Abbreviation	Expansion
AD	Active Directory
AI	Artificial Intelligence
ITOPS	IT Operations
ITSMS	IT Service Management System
KEDB	Known Error Database
SNOW	ServiceNow