



The Mobile Application Developer career path prepares students to develop, test, debug and deploy hybrid mobile applications. This will require skills in application development frameworks such as Sencha Touch, jQuery, Dojo and Apache Cordoba. The Mobile Application developer will use tools to create and publish mobile applications in public marketplaces such as Android SDK and Xcode, and also in private enterprise mobile application markets such as IBM MobileFirst.

This career path includes the following learning modules, badges, and skills:

Module I – Mobile Computing Overview

- *Mobile Overview, Trends, Mobile Enterprise, Case Studies*
- *Understanding Mobile Computing*

Module II – Mobile Application Foundations

- *Roadmap to Mobile Web Development*
- *Introduction to HTML5 and JavaScript programming*
- *Developing Mobile Web applications with Dojo Mobile*
- *Developing Mobile Web applications with jQuery*

Module III – Mobile Application Developer

- *Mobile application design types*
- *Develop a mobile app to run on Android or iOS platforms*
- *Use client-side APIs for cross-platform portability*
- *Mobile Frameworks: **Dojo and jQuery Mobile, Sencha Touch UI***
- *Use Apache Cordova framework to access native functions.*
- *Mobile Enterprise: Use IBM MobileFirst server-side APIs for back-end integration*
- *Secure a mobile application using authentication techniques.*
- *Manage updates and versions*

Be a part of a program that can make an impact on your world.

For more information contact us on: xacademy@ae.ibm.com

Visit the online portal at: www.ibm.biz/ibmskillsacademy

Facebook: www.facebook.com/ibmskillsacademy

Mobile Application Developer

Skills

- *HTML5, CSS,*
- *JavaScript*
- *Eclipse*
- *JSON*
- *jQuery*
- *Sencha Touch UI*
- *UX - User Interface Design*
- *Android SDK, ADT, AVD*
- *iOS, XCode*
- *DevOp Services*
- *Node.js*
- *Mobile Application Security*
- *Mobile Application Development*
- *IBM Bluemix*
- *Data Services*
- *Functional Security*
- *Liberty Profile*
- *REST Architecture*
- *Apache Cordoba*

IBM Open Badges

Mobile Application Developer: Explorer Award

Mobile Application Developer: Mastery Award

Associated Job Roles

Mobile Application Administrator

Cloud Application Developer

Business Process Developer



Application Security Analyst

The Application Security Analyst career path prepares students to scan web applications against vulnerabilities and attacks. This will require skills in web application security such as scanning and testing applications in order to identify and analyze security vulnerabilities.

Training topics will include OWASP security standards, Glassbox scanning, cross-site scripting, broken authentication, cross-site request forgery and thread analysis and reports.

This career path includes the following learning modules, skills, and open badges:

Module I - Cyber Security Overview

- *Security Overview, Trends, Case Studies*
- *Security standards and frameworks*

Module II - Cyber Security Foundations

- *Application Security Technologies:*
- *HTML5 and JavaScript programming*
- *SQL relational database, objects and tables*

Module III - Application Security Analyst

- *Web application components and security issues*
- *OWASP web application security attack classifications*
- *SQL injection*
- *Brute force authentication*
- *Cross-site scripting (XSS)*
- *Insecure direct object reference*
- *Security misconfiguration*
- *Sensitive data exposure*
- *Cross-site request forgery (CSRF)*
- *Vulnerability testing, scanning and threat modeling*
- *Reporting threats and vulnerabilities*
- *Glass Box testing*
- *Scanning Web Services*
- *Extend functions by using SDK and AXF*
- *Troubleshooting IBM AppScan*

Skills

- AXF
- Application Scans
- Brute Force
- CSRF
- Cross-site Scripting
- Ethical Hacking
- Glass Box
- IBM AppScan Standard
- OWASP Classifications
- SDK
- SQL Injection
- Security Scans
- Security Vulnerabilities
- Threat Modeling
- Vulnerability Testing
- Web Application Security
- Web Services

IBM Open Badges

Application Security Analyst: Explorer Award

Application Security Analyst: Mastery Award

Associated Job Roles

Security Intelligence Analyst

Mobile Application Developer

Cloud Application Developer



Be a part of a program that can make an impact on your world.

For more information contact us on: xacademy@ae.ibm.com

Visit the online portal at: www.ibm.biz/ibmskillsacademy

Facebook: www.facebook.com/ibmskillsacademy

Data Scientist

The Data Scientist career path prepares students to use the Big Data platform and data governance in order to efficiently store and manage massive amounts of data. This will require skills in Big Data architecture, such as Hadoop, Map Reduce, Hbase, Big SQL and BigSheets. The Data Scientist will use tools to capture, store and analyze structured and unstructured data.

This career path includes the following learning modules, badges, and skills:

Module I - Data Management Overview

- *Data Overview, Industry Applications, Case Studies*
- *Understanding Big Data*

Module II - Big Data Foundations

- *Hadoop architecture and administration*
- *Big Data platform and data governance*

Module III - Data Scientist

- *Big Data architecture*
- *Storing and processing data with Hadoop*
- *Creating data using HDFS and GPFS*
- *Data distribution and storage with MapReduce*
- *Hadoop Query languages (Pig, Hive, Jaql)*
- *Distributed storage system with Hbase and NoSQL*
- *Queries using BigSQL*
- *BigSheets analytics tool*
- *Analyze structured and unstructured data with text analytics*
- *Application Development Lifecycle*

Skills

- Analytics
- Application Development
- Big Data
- Big SQL
- BigInsights
- BigSheet
- Clustered Base Tables
- Data Distribution
- Database
- HBase
- HDFS
- Hadoop
- Hive
- IBM GPFS
- IBM PDA
- IBM Watson Explorer
- InfoSphere Streams
- MapReduce
- Materialized Views
- NZLOAD
- NoSQL
- Optimizer
- PureData System
- Query Plans
- Schemas
- Statistics
- Stored Procedures
- Text Analytics
- Zone Maps

IBM Open Badges

Data Scientist: Explorer Award

Data Scientist: Mastery Award

Associated Job Roles

Data Warehouse Specialist

Business Intelligence Analyst

Watson Cognitive Specialist



Be a part of a program that can make an impact on your world.

For more information contact us on: xacademy@ae.ibm.com

Visit the online portal at: www.ibm.biz/ibmskillsacademy

Facebook: www.facebook.com/ibmskillsacademy

Business Intelligence Analyst

The Business Intelligence Analyst career path prepares students to learn the essential reporting software's to create management reports. This will require skills in reporting applications such as Data Filters, Data Graphics, SQL, HTML, and structured and unstructured data. The Business Intelligence Analyst will use tools to create reports, analyze, and monitor events to meet an entity's requirements. This career path includes the following learning modules, badges, and skills:

Module I - Analytics Overview

- *Business Analytics Overview, Trends, Case Studies*
- *Understanding Business Intelligence and Analytics*

Module II - Business Analytics Foundations

- *Business Intelligence Overview*
- *Reports and Metadata models*

Module III - Business Intelligence Analyst

- *Introduction of Reporting Application*
- *List Reports and Crosstab Reports*
- *Advanced data filter*
- *Data graphics (charts, numerals, visualization)*
- *Parameters and prompts*
- *Query models and relationships (using SQL)*
- *Advanced dynamic reports*
- *Data sorting using effective prompts*
- *Report distribution through Bursting*
- *Data user interaction with HTML*
- *Structures and unstructured data*

Skills

- Advanced Data Filter
- Bursting Reports
- Creating Reports
- Crosstab Reports
- Data Graphics
- Data Sorting
- Drill-through Reports
- Dynamic Reports
- Focusing Data In Reports
- Formatting Reports
- HTML
- Navigating Reports
- Prompted Report Parameters
- Query Modes
- Relationship Queries
- Report Distribution
- Report Values
- Reporting
- Reporting Application
- SQL
- Structured Data
- Unstructured Data

IBM Open Badges

Business Intelligence Analyst: Explorer Award
Business Intelligence Analyst: Mastery Award

Associated Job Roles

Predictive Analytics Modeler
Big Data Developer



Be a part of a program that can make an impact on your world.

For more information contact us on: xacademy@ae.ibm.com

Visit the online portal at: www.ibm.biz/ibmskillsacademy

Facebook: www.facebook.com/ibmskillsacademy

Business Process Analyst

The Business Process Analyst career path prepares students to learn about managing upstream and downstream impacts and the cross-functional importance of processes to the overall objectives of an organization. It also explains important concepts and activities such as process analysis, process improvement, working with as-is and to-be processes, Business Process Modeling Notation (BPMN), and identifying and working with key performance indicators (KPIs).

This career path includes the following learning modules, badges, and skills:

Module I – Business Process Overview

- *Business Process Overview, Trends, Case Studies*
- *Understanding the Business Process*

Module II – Business Process Analyst Foundations

- *Business Process Management (BPM) building blocks, organization and process*
- *The BPM lifecycle and components*
- *BPM essentials and value proposition*
- *BPM strategies*
- *IBM Business Process Manager features and components*

Module III – Business Process Analyst

- *Introduction to BPM and its benefits*
- *BPM hierarchy and the four business principles*
- *Process driven culture, its components and importance*
- *Blueworks Live interface*
- *Process Modeling*
- *Create and modify process models with the IBM Process Designer*
- *Playback 0 validation goals and requirements*
- *Creating Business Process Definition (BPD) from the process*

IBM Open Badges

Business Process Analyst: Explorer Award

Business Process Analyst: Mastery Award

Associated Job Roles

Business Process Developer

Be a part of a program that can make an impact on your world.

For more information contact us on: xacademy@ae.ibm.com

Visit the online portal at: www.ibm.biz/ibmskillsacademy

Facebook: www.facebook.com/ibmskillsacademy



Business Process Developer

The Business Process Developer career path prepares students to create a simple case and a business process definition (BPD) from business requirements that are identified during process analysis. You learn how to make team collaboration more efficient by enabling all team members to use standard Business Process Model and Notation (BPMN) elements. You will learn an overview of business process management, emphasizing the concepts of reuse, ease of maintenance, and high-quality development strategies.

You create business objects and variables, implement gateways, and demonstrate process flow on your diagrams. You build customized user interfaces (coaches) to enable business and process data flows throughout the process model.

This career path includes the following learning modules, badges, and skills:

Module I - Business Process Overview

- *Business Process Overview, Trends, Case Studies*
- *Understanding the Business Process*

Module II - Business Process Developer Foundations

- *Business Process Management (BPM) building blocks, organization and process*
- *The BPM lifecycle and components*
- *BPM essentials and value proposition*
- *BPM strategies*
- *IBM Business Process Manager features and components*

Module III - Business Process Developer

- *Process Modeling phases*
- *IBM Blueworks Live in process modeling*
- *Creating a Discovery Map*
- *Process and sub process of a Discovery Map*
- *Enhance a Process Diagram in a Blueworks Live blueprint*
- *BPM and its phases*
- *Playback 0 validation goals and requirements*
- *Controlling process flow*
- *Creating a decision service*
- *Exposed process variable (EVP)*

Be a part of a program that can make an impact on your world.

For more information contact us on: xacademy@ae.ibm.com

Visit the online portal at: www.ibm.biz/ibmskillsacademy

Facebook: www.facebook.com/ibmskillsacademy

IBM Open Badges

Business Process Developer: Explorer Award

Business Process Developer: Mastery Award

Associated Job Roles

Business Process Analyst

Cloud Application Developer





The Cloud Application Developer career path prepares students to develop applications on a hybrid cloud development platform. This will require skills in application development frameworks on cloud, such as Node.js, REST architecture, JSON, Cloud Foundry and DevOps services. The Cloud Application Developer will use tools to build, run, deploy and manage applications on Cloud.

This career path includes the following learning modules, badges, and skills:

Module I - Cloud Computing Overview

- *Cloud Overview, Trends, Case Studies*

Module II - Cloud Application Foundations

- *Understanding Cloud Computing technologies*
- *Introduction to HTML5 and JavaScript programming*

Module III - Cloud Application Developer

- *Cloud Service models (IaaS, PaaS, SaaS)*
- *Bluemix applications*
- *Building applications using Node.js, Eclipse, Cloud Foundry and DevOp Services*
- *REST architecture, JSON and Functional security*
- *Data Services in Bluemix*
- *Server side JavaScript*
- *Web Application framework*
- *Liberty profile (administer, deploy and monitor applications)*

Be a part of a program that can make an impact on your world.

For more information contact us on: xacademy@ae.ibm.com

Visit the online portal at: www.ibm.biz/ibmskillsacademy

Facebook: www.facebook.com/ibmskillsacademy

Cloud Application Developer

Skills

- Android SDK
- Bluemix CSS
- Cloud
- Cloud Computing
- Cloud Foundry
- Data Services
- DevOp Services
- Eclipse
- Functional Security
- HTML5
- IaaS
- JSON
- JavaScript
- Liberty Profile
- Node.js
- PaaS
- REST Architecture
- SaaS
- iOS
- jQuery Mobile

IBM Open Badges

Cloud Application Developer: Explorer Award

Cloud Application Developer: Mastery Award

Associated Job Roles

Cloud Solution Administrator

Mobile Application Developer

Mobile Application Administrator

Business Process Developer





Cloud Enterprise Developer

The Cloud Enterprise Developer prepares students to migrate applications to an enterprise hybrid cloud environment. This will require skills in cloud application migration, such as Cloud Foundry, Docker, Java Application, and APIs. The Cloud Enterprise Developer will use tools to Migrate, Integrate, and Secure Applications on the cloud.

This career path includes the following learning modules, skills, and open badges:

Module I - Cloud Computing Overview

- *Cloud Overview, Trends, Case Studies*

Module II - Cloud Application Foundations

- *Understanding Cloud Computing technologies*
- *Introduction to HTML5 and JavaScript programming*
- *Cloud Foundry and Bluemix architecture*
- *Deploy applications in cloud and apply Bluemix services*

Module III - Cloud Enterprise Developer

- *Describing a cloud application*
- *Cloud applications security requirements*
- *Migrating Applications to the Cloud (Bluemix)*
- *Cloud Foundry runtime and buildpacks*
- *Docker containers, Liberty for Java, and Tomcat*
- *Cloud integration services (Secure gateway, VPN, and API)*
- *Cloud Native and Microservices*
- *Java applications to cloud migration tools (Weblogic, JBoss, Jython scripts)*
- *Cloud computing and integration concepts*
- *System of records and system of engagement*
- *Secure gateway concepts, implementation, and clients*
- *Transport Layer Security (TLS)*
- *API, Data Integration, and DataWorks*

Skills

- Android SDK
- Bluemix
- CSS Cloud
- Cloud Computing
- Cloud Foundry
- Data Services
- DevOp Services
- Eclipse
- Functional Security
- HTML5
- IaaS
- JSON
- JavaScript
- Liberty Profile
- Node.js
- PaaS
- REST Architecture
- SaaS
- iOS
- jQuery Mobile

IBM Open Badges

Cloud Enterprise Developer: Explorer Award
Cloud Enterprise Developer: Mastery Award

Associated Job Roles

Cloud Solution Administrator
Cloud Application Developer
Mobile Application Developer
Mobile Application Administrator
Business Process Developer



Be a part of a program that can make an impact on your world.

For more information contact us on: xacademy@ae.ibm.com

Visit the online portal at: www.ibm.biz/ibmskillsacademy

Facebook: www.facebook.com/ibmskillsacademy

Cloud Solution Administrator

The Cloud Solution Administrator career path prepares students to design, implement, and manage a simple infrastructure as a service (IaaS) cloud environment. This will require skills in cloud infrastructure administration such as virtualization, networking, storage, and security. The Cloud Solution Administrator will use tools to setup cloud infrastructure, manage performance, and administer scenarios.

This career path includes the following learning modules, open badges, and job roles:

Module I - Cloud Solution Administrator

- *Cloud computing characteristics, and deployment models*
- *Implications of cloud computing*
- *Understanding the IaaS approach*
- *Platform architecture of cloud computing*
- *Types of servers in IaaS*
- *VLANs and VLAN spanning*
- *Storage options such as backup and recovery basics*
- *Managing IaaS environment*
- *Securing cloud environments*
- *Monitoring tools, alerts, and responses in cloud environments*
- *Automating management with APIs*
- *Cloud solutions for industry specific scenarios*
- *Multi-tiered architectures, and security zones*

Associated Job Roles

Cloud Application Developer
Cloud Enterprise Developer
Mobile Application Developer
Mobile Application Administrator
Business Process Developer

Be a part of a program that can make an impact on your world.

For more information contact us on: xacademy@ae.ibm.com

Visit the online portal at: www.ibm.biz/ibmskillsacademy

Facebook: www.facebook.com/ibmskillsacademy





The Mobile Application Administrator career path prepares students to learn administrative tasks that are involved in management of cross-platform mobile applications. Training starts with the setup of the developer environment for Android and iOS (Android SDK, ADT, AVD and iOS Xcode), followed by deploying, publishing, and managing mobile apps in Google Play, App Store, and Worklight market place. Training topics will include mobile apps security, push notifications monitoring, apps usage analytics, direct updates and version control.

This career path includes the following learning modules, badges, and skills:

Module I - Mobile Computing Overview

- Mobile Overview, Trends, Mobile Enterprise, Case Studies
- Understanding Mobile Computing

Module II - Mobile Application Foundations

- Roadmap to Mobile Web Development
- Introduction to HTML5 and JavaScript programming
- Developing Mobile Web applications with Dojo Mobile
- Developing Mobile Web applications with jQuery
- Installing and managing web servers
- Application server foundations

Module III - Mobile Application Administrator

- *Publish and test a cross-platform mobile app using Eclipse*
- *Mobile browser simulator: Android Virtual Device, iOS simulator*
- *Push notification management*
- *Direct update: version, distribution, and tuning*
- *Deploy and publish mobile apps: Apache Ant*
- *CLI: hybrid apps, skins, adaptors, native APIs, environments, test server and server lifecycle*
- *Operational analytics: dashboards and reports*
- *Security: LTPA and server side authentication*
- *Application center: apps rating, users and groups, tuning*

Be a part of a program that can make an impact on your world.

For more information contact us on: xacademy@ae.ibm.com

Visit the online portal at: www.ibm.biz/ibmskillsacademy

Facebook: www.facebook.com/ibmskillsacademy

Mobile Application Administrator

Skills

- Adaptors
- Administration Security
- Android
- Apache Cordova
- Application Center
- Command Line Interface
- Cross Platform Portability
- Dashboards
- Direct Update
- Eclipse Studio
- HTML5
- Hybrid Apps
- IBM Worklight Studio
- JavaScript
- Location Services
- Mobile Application
- Mobile Application Administrator
- Mobile Application Deployment
- Mobile Application Skins
- Mobile Browser Simulator
- Mobile Computing
- Native APIs
- Operational Analytics
- Push Notification Reports
- Server Lifecycle
- Team Application Development
- Test Server
- Worklight Server iOS

IBM Open Badges

Mobile Application Administrator: Explorer Award

Mobile Application Administrator: Mastery Award

Associated Job Roles

Mobile Application Developer

Cloud Application Developer

Business Process Developer



Predictive Analytics Modeler

The Predictive Analytics Modeler career path prepares students to learn the essential analytics models to collect and analyze data efficiently. This will require skills in predictive analytics models, such as data mining, data collection and integration, nodes, and statistical analysis. The Predictive Analytics Modeler will use tools for market research and data mining in order to predict problems and improve outcomes.

This career path includes the following learning modules, badges, and skills:

Module I – Analytics Overview

- *Business Analytics Overview, Trends, Case Studies*
- *Understanding Business Intelligence and Analytics*

Module II – Business Analytics Foundations

- *Introduction to Data Mining CRISP-DM*

Module III – Predictive Analytics Modeler

- *Nodes and streams*
- *Initial data mining, storage and field measurement*
- *Understanding the data (valid and invalid values)*
- *Integrating data (methods, options, merging, and sampling)*
- *Deriving and reclassifying fields (CLEM)*
- *Looking for relationships (matrix, distribution, means, histogram, statistics and plot)*
- *Functions (conversion, string, and statistical)*
- *Data transformation*
- *Statistical. graphical and sample nodes*
- *Automated data mining and modeling*
- *Predictive models and customer segmentation*

Skills

- Automated Data Mining
- CLEM For Data Analytics
- Customer Segmentation Analytics
- Data Analysis
- Data Collection
- Data Integration
- Data Mining
- Data Modelling
- Data Plotting
- Data Preparation
- Data Relationships
- Data Stream Analytics
- Data Transformation
- Histogram Configuration
- Modeling Nodes
- Predictive Analytics Modeler
- SPSS

IBM Open Badges

Predictive Analytics Modeler: Explorer Award
 Predictive Analytics Modeler: Mastery Award

Associated Job Roles

Business Intelligence Analyst
 Security Intelligence Analyst
 Watson Cognitive Specialist



Be a part of a program that can make an impact on your world.

For more information contact us on: xacademy@ae.ibm.com

Visit the online portal at: www.ibm.biz/ibmskillsacademy

Facebook: www.facebook.com/ibmskillsacademy

Security Intelligence Analyst

The Security Intelligence Analyst career path prepares students to learn to consolidate event logs from device endpoints within a network to identify threats. This will require skills in security intelligence and event management such as data security, event offenses, asset profile offenses and event rules. The Security Intelligence Analyst will use tools to investigate offenses that are generated from network logs and create rules that will prevent them from happening further.

This career path includes the following learning modules, badges, and skills:

Module I – Cyber Security Overview

- *Status quo of IT security*
- *Security Intelligence and operations*

Module II – Security Intelligence Foundations

- *Designing a Security Intelligence solution*
- *Security Intelligence functional components*

Module III – Security Intelligence Analyst

- *Collecting and processing events, flows, and vulnerability data*
- *Investigating an offense that is triggered by events*
- *Investigating the events of an offense*
- *Using asset profiles to investigate offenses*
- *Investigating an offense that is triggered by flows*
- *False positives overview*
- *Investigating superflows*
- *Using rules and building blocks*
- *Creating SIEM reports*
- *Performing advanced filtering*

Skills

- Advanced Filtering
- Advanced Security Threats
- Asset Profiles
- Collecting Events
- Enterprise Security Architecture
- Event Offenses
- False Positives
- Host Definition Building Blocks
- Investigating Security Offenses
- Processing Events
- QRadar SIEM
- SIEM Reports
- Security Analyst
- Security Intelligence
- Security Offense Rules
- Security Offenses
- Security Vulnerabilities
- Threat Intelligence Feed
- Vulnerability Data

IBM Open Badges

Security Intelligence Analyst: Explorer Award
Security Intelligence Analyst: Mastery Award

Associated Job Roles

Application Security Analyst
Cloud Solution Administrator
Predictive Analytics Modeler
Watson Cognitive Specialist



Be a part of a program that can make an impact on your world.

For more information contact us on: xacademy@ae.ibm.com

Visit the online portal at: www.ibm.biz/ibmskillsacademy

Facebook: www.facebook.com/ibmskillsacademy