SAML in the SAP J2EE Engine 6.40

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Introduction and Motivation

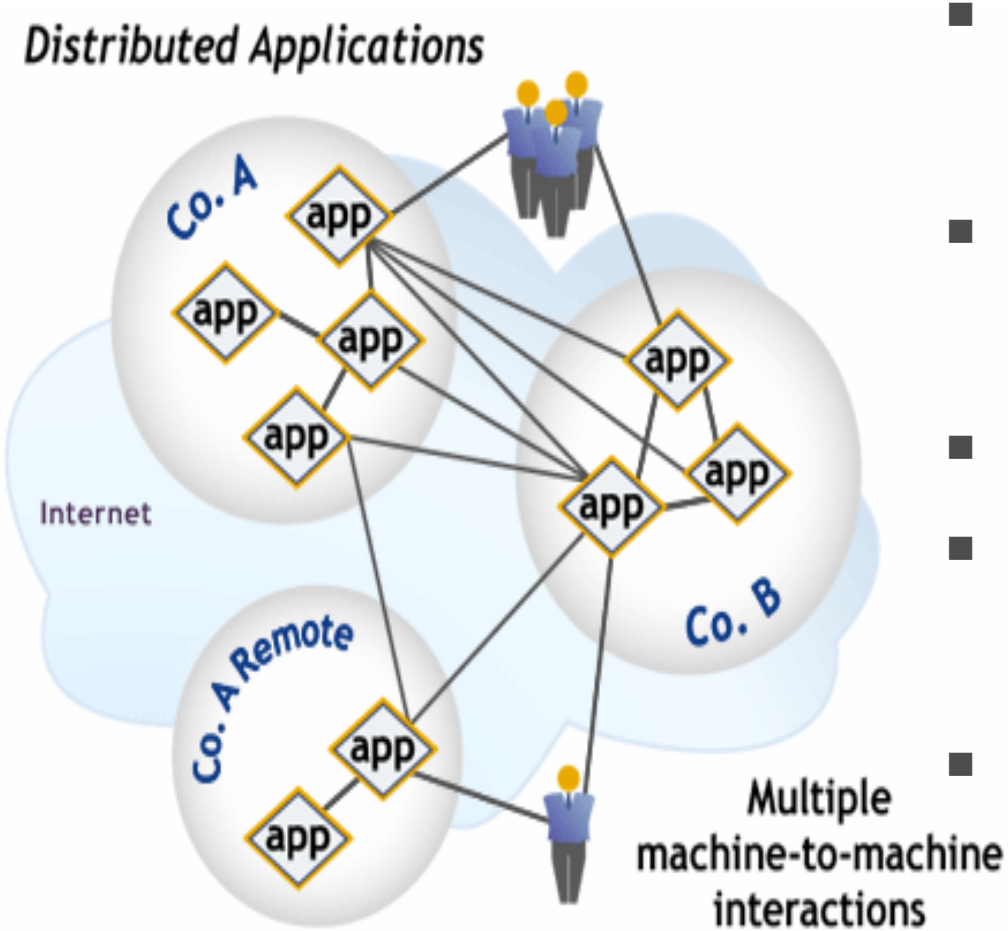
SAML Concepts

SAP J2EE and SAML

Configuring SAML for the SAP J2EE Engine

Summary

Security Requirements for Distributed Computing

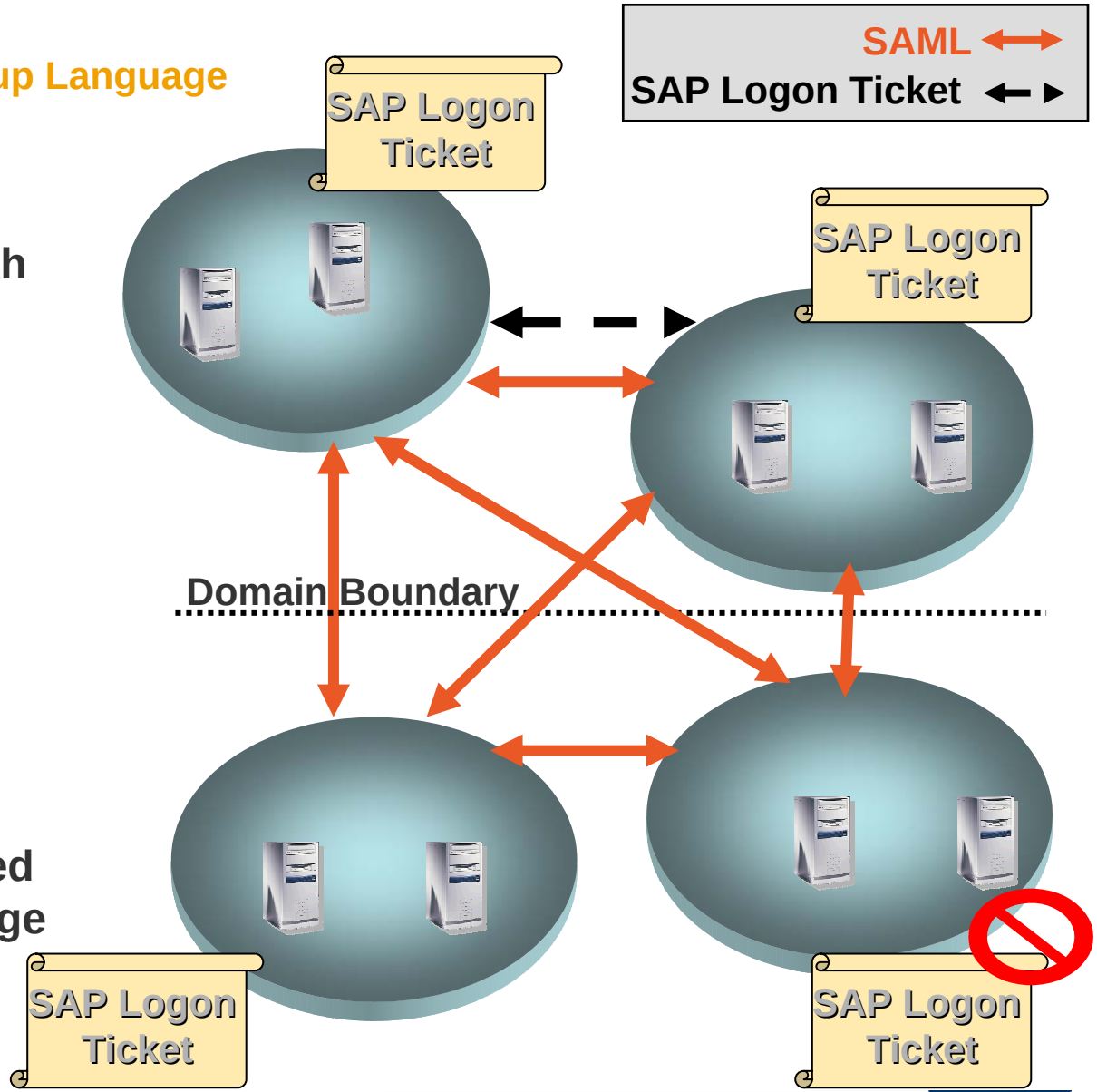


- Security in distributed applications, which span different companies, is crucial
- Current transport layer security protocols like SSL, TLS, IP Sec are not sufficient
- Application layer security is a must
- Security for Man-to-Machine and for Machine-to-Machine interaction is required
- Standard for distributed authentication and/or authorization is required

SAML Value Proposition

The Security Assertions Markup Language

- Interoperable security solutions to allow systems integration with great ease and minimal resources
- Enables remote access to protected resources by exchange of
  - Authentication Information
  - Authorization information
- Provides standard based mechanisms to exchange security information using SOAP, HTTP(s)



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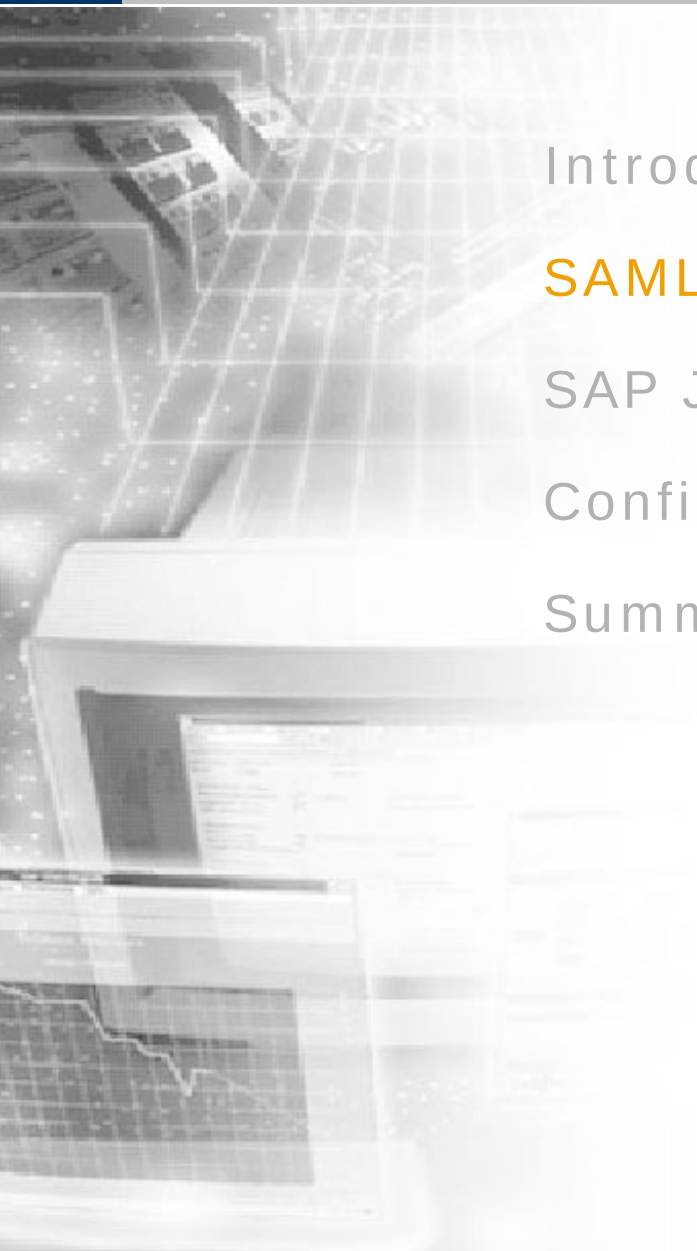

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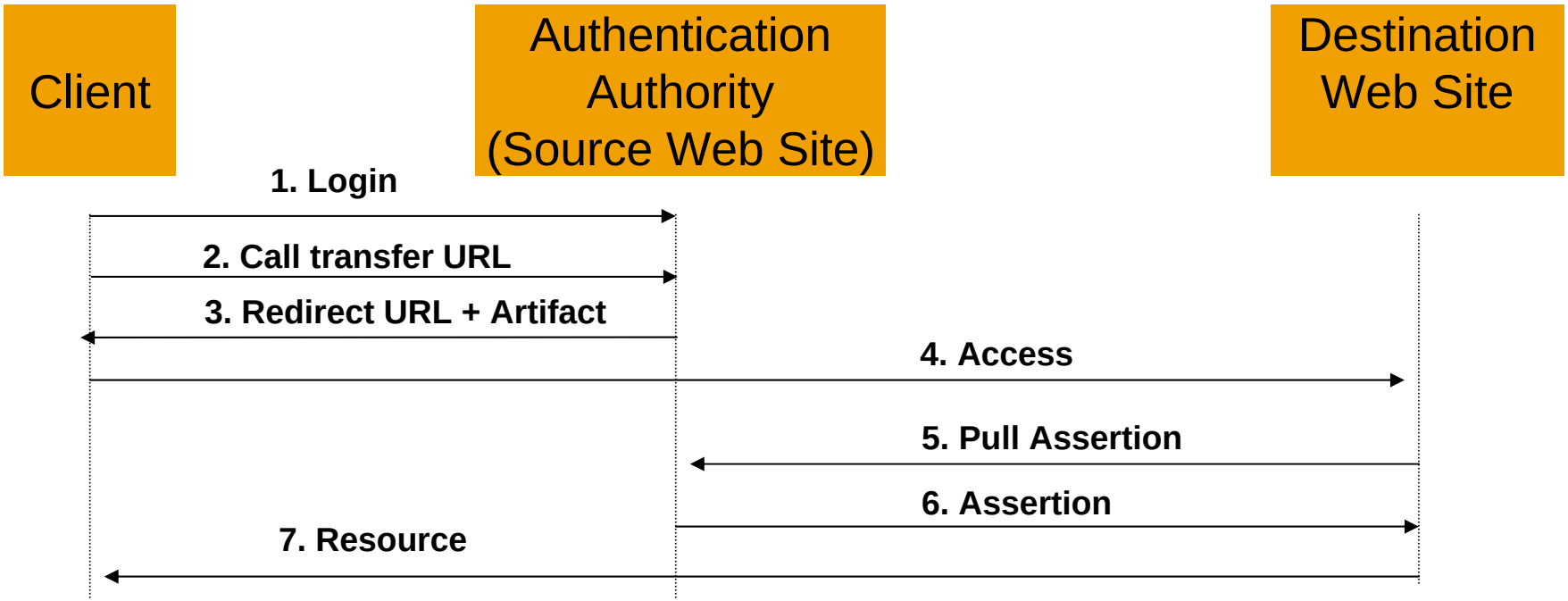
SAML Facts

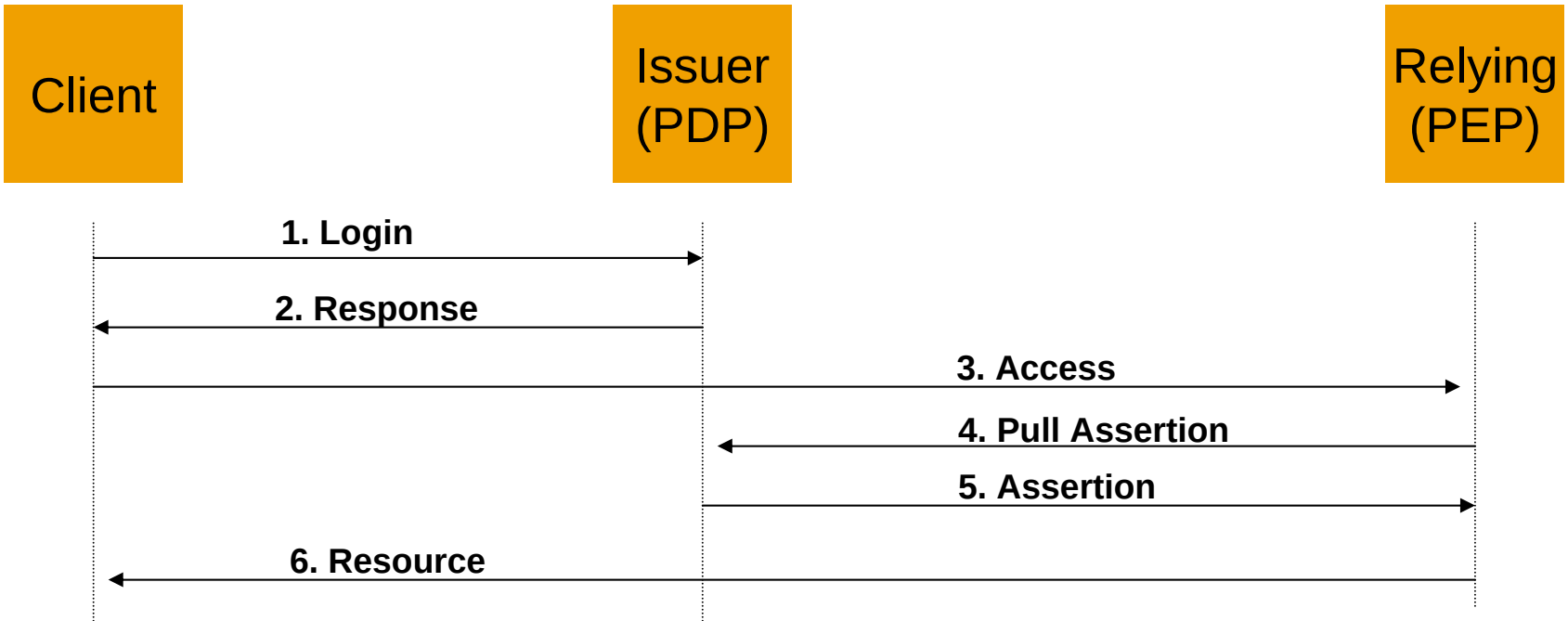
Facts about SAML:

- SAML is a protocol for encoding security related information (assertions) into XML and exchange this information in a request/response fashion
- SAML does not authenticate users
- SAML relies for message exchange on Standard Security Protocols like SSL, TLS and uses XML signatures
- SAML authorities produce so called assertions on client requests. An assertion can be either an authentication or an authorization assertion
  - Authentication assertion - a piece of data that represents an act of authentication performed on a subject (user) by the authority
  - Authorization assertion: a piece of data that represents authorization permissions for a subject (user) on a resource
- SAML can be used for authentication and authorization requests and assertions
- SAML is an emerging OASIS standard

Sample SAML Scenario for Single Sign On



Sample SAML Scenario for Authorization Assertions



PDP: Policy Decision Point
PEP: Policy Enforcement Point

Example of SAML Request and Response

SAML authentication request:

```
<samlp:Request
 MajorVersion="1" MinorVersion="0"
  RequestID="128.14.234.20.12345678" >
  <samlp:AuthenticationQuery>
    <saml:Subject>
      <saml:NameIdentifier
        SecurityDomain="smithco.com"
        Name="d030408" />
    </saml:Subject>
  </samlp:AuthenticationQuery>
</samlp:Request>
```

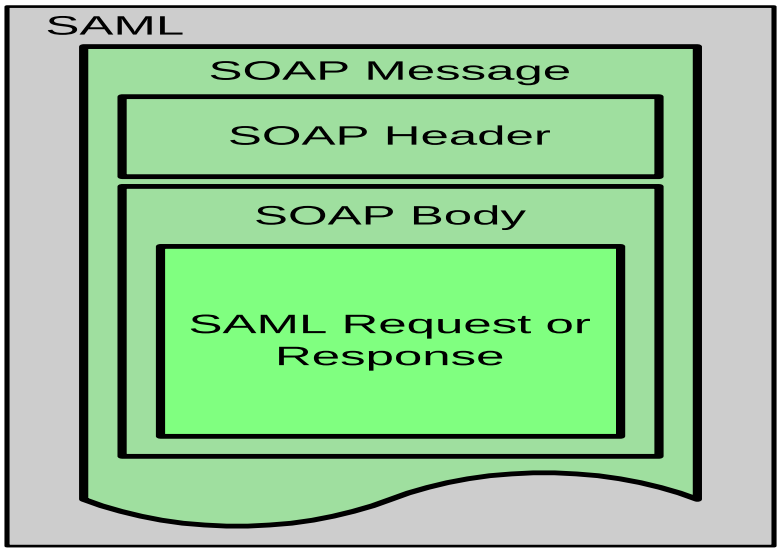
Authentication authorities SAML response with assertion:

```
<samlp:Response
 MajorVersion="1" MinorVersion="0"
  ResponseID="128.14.234.20.90123456"
  InResponseTo="128.14.234.20.12345678"
  StatusCode="Success">
  <saml:Assertion
    MajorVersion="1" MinorVersion="0"
    AssertionID="128.9.167.32.12345678"
    Issuer="Smith Corporation">
    <saml:Conditions
      NotBefore="2001-12-03T10:00:00Z"
      NotAfter="2001-12-03T10:05:00Z" />
    <saml:AuthenticationStatement …>…
    </saml:AuthenticationStatement>
  </saml:Assertion>
</samlp:Response>
```

Bindings

A binding is a way how to transport SAML requests and responses and therefore to secure the transfer. Possibilities are:

- **SOAP over HTTP(s) Binding**



- **Raw HTTP(s) binding (in future) ?**

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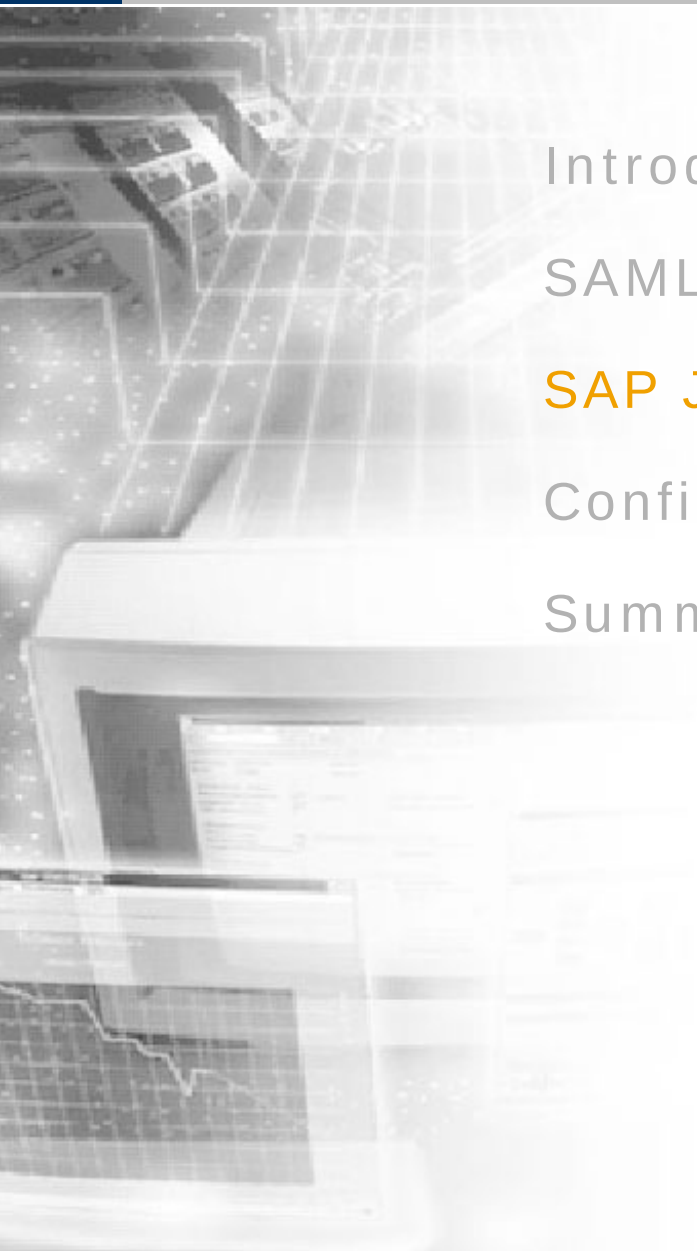

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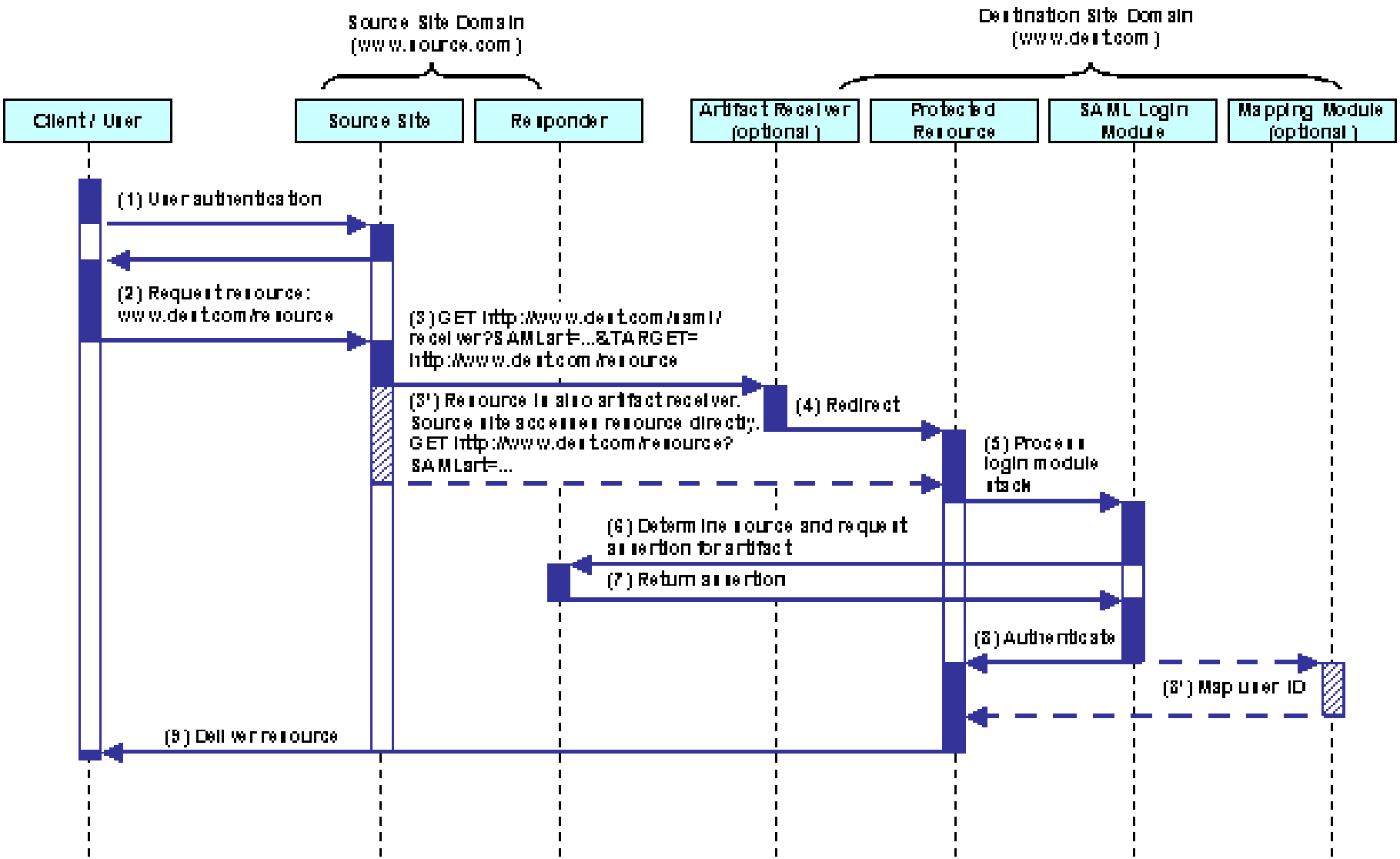
Support of SAML in the SAP J2EE Engine

Only SAML client for authentication available at destination site is available.

Support limited

- **Only browser artifact scenario supported**
- **Digital signatures for SOAP documents are ignored**
- **No support for additional “Condition” elements**
- **The received assertion may only contain one authentication statement**
- **The authentication statement must contain the NameIdentifier**
- **AuthorizationDecisionStatement and AttributeStatement are ignored**

SSO - Process Supported in SAP J2EE Engine



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Configuration Steps

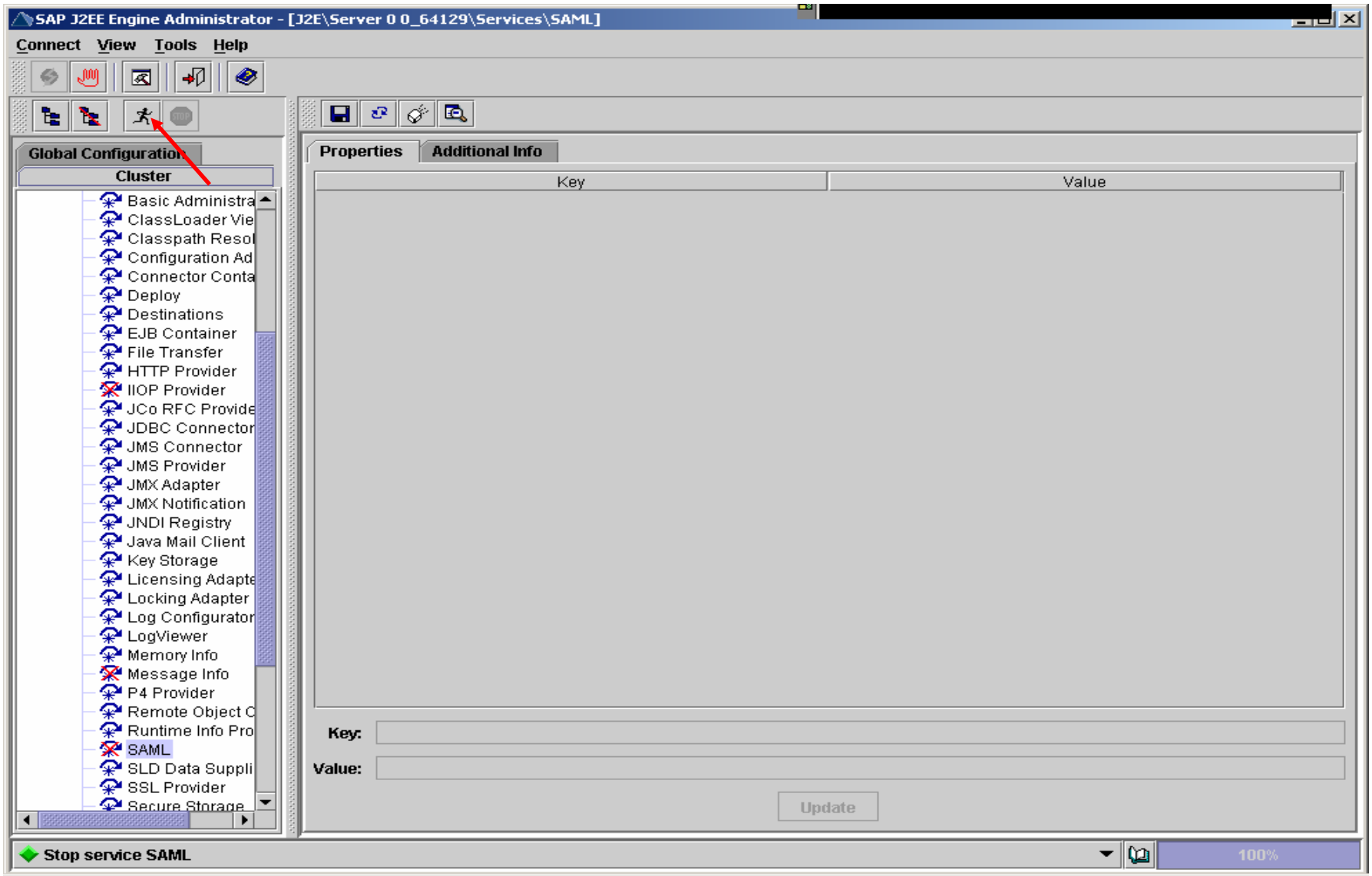
Prerequisites:

- **It is strongly recommended that you have configured SSL on the SAP J2EE Engine. SAML relies on secure transport mechanism**

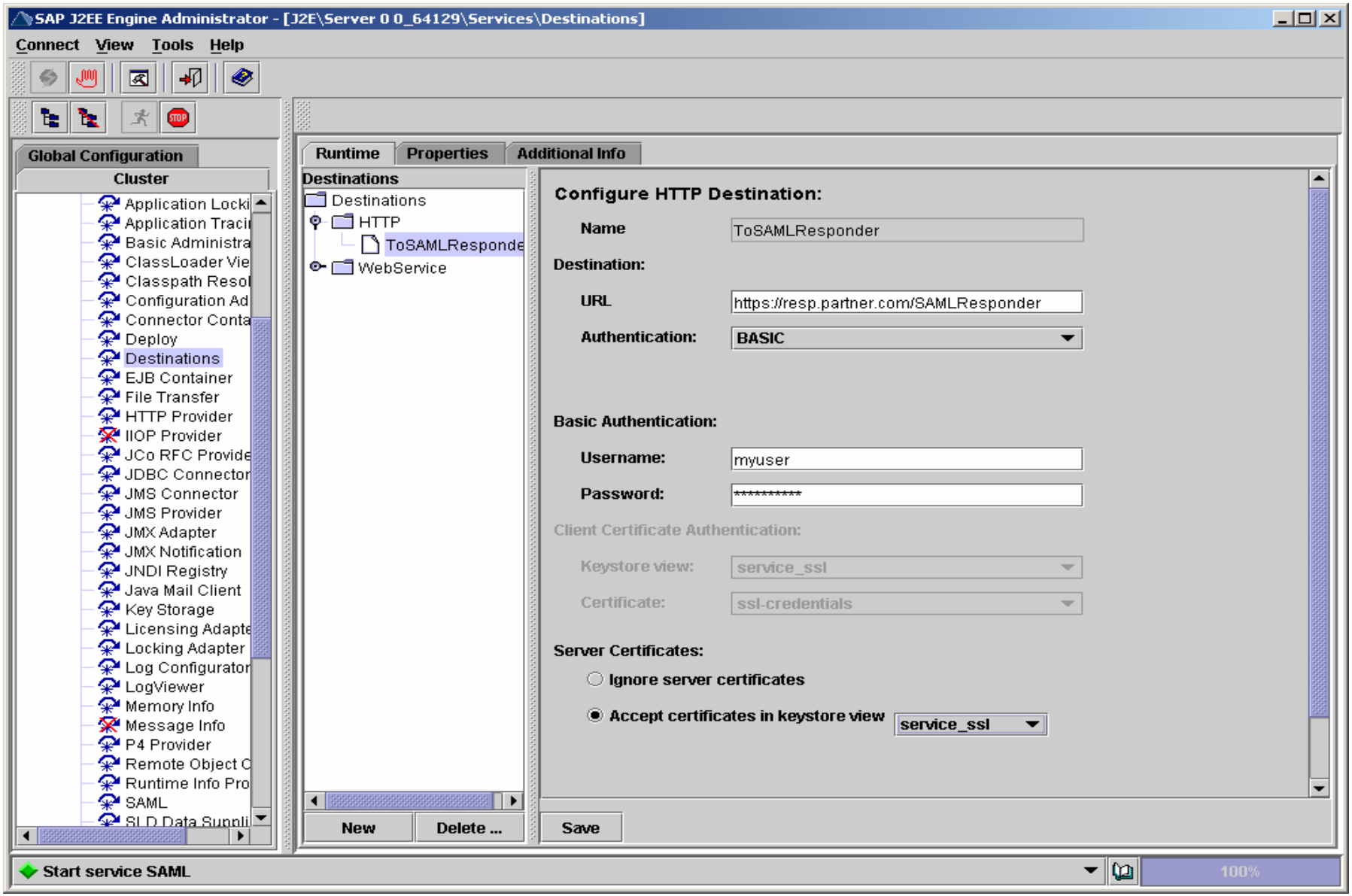
Steps for SAML configuration for the client SSO scenario in SAP J2EE Engine:

- **Start the SAML Service**
- **Define a destination to the SAML responder**
- **Define SAML Parameters**
- **Adjust the JAAS login module stack for the services, which should be accessed by SAML**

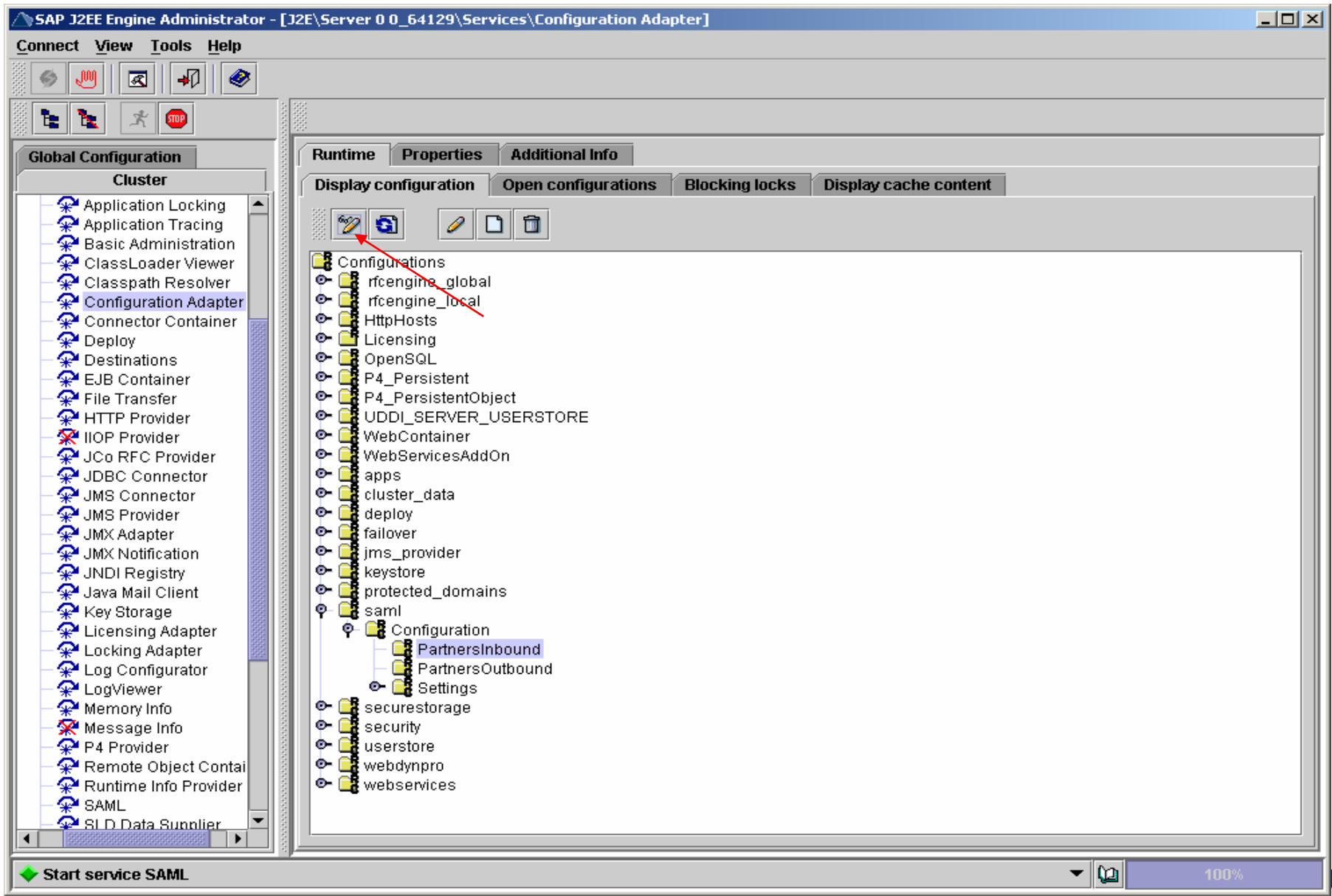
Start the SAML Service



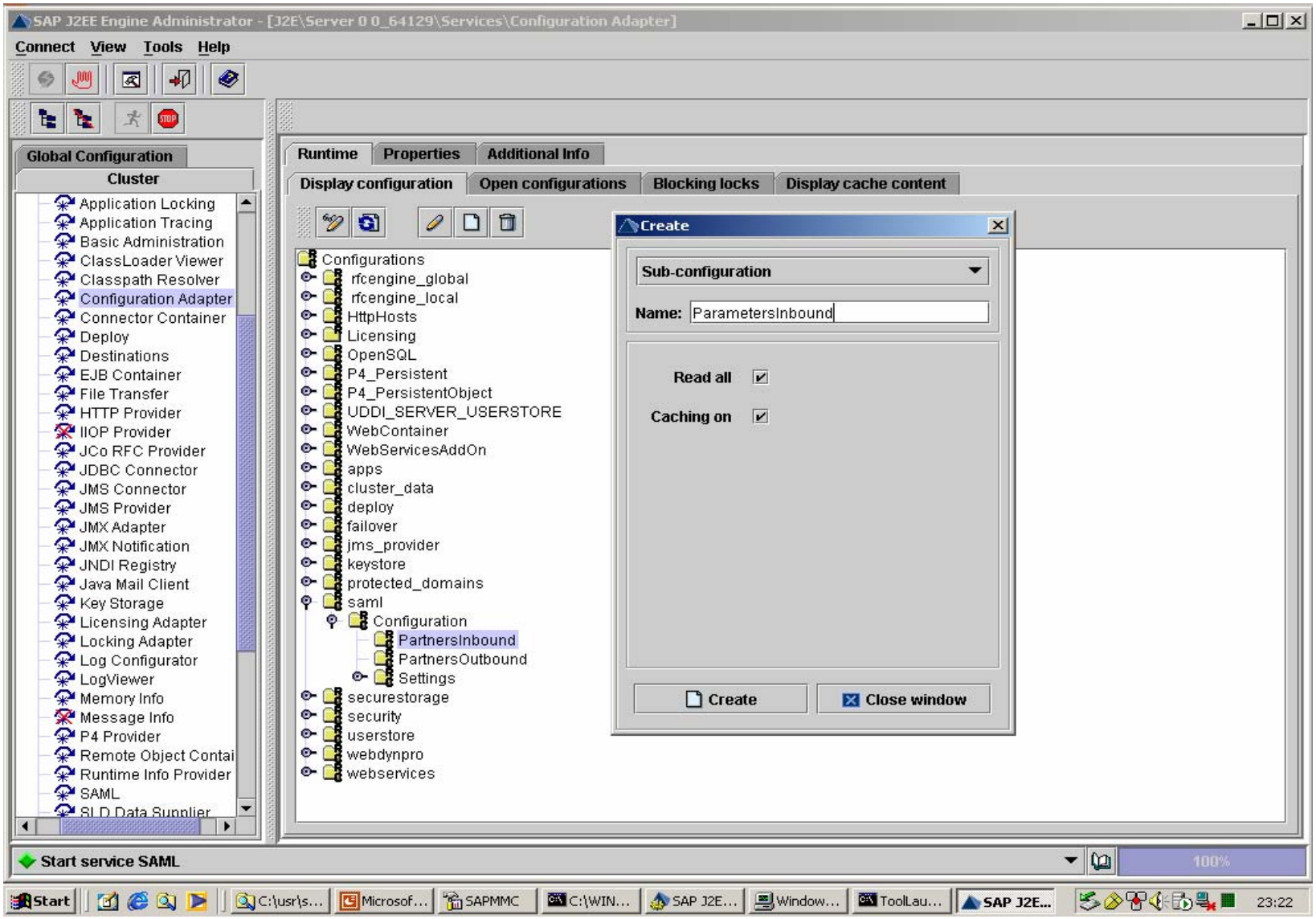
Create a Destination to the SAML Responder



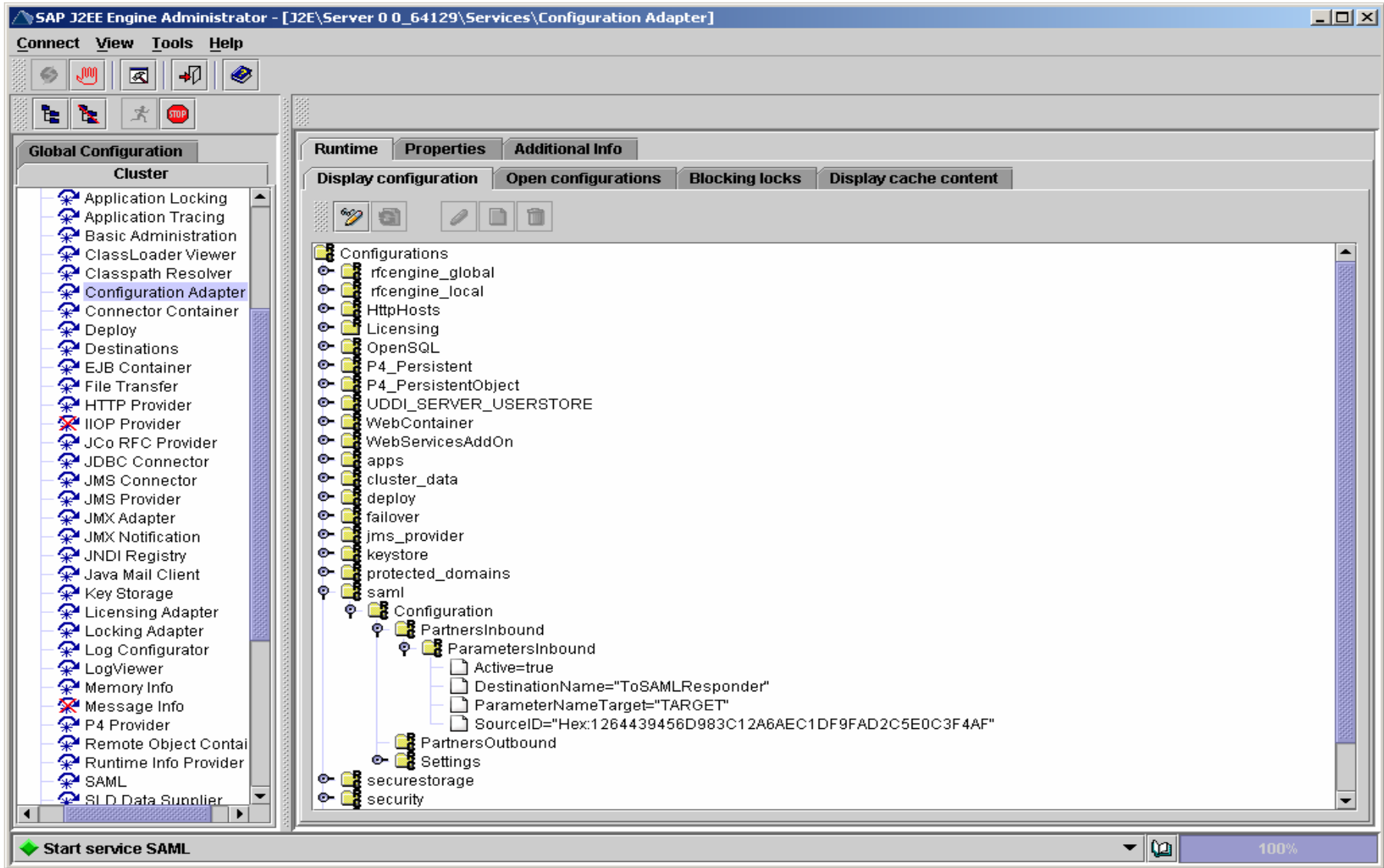
Enter SAML Parameters – View in the configuration Tree



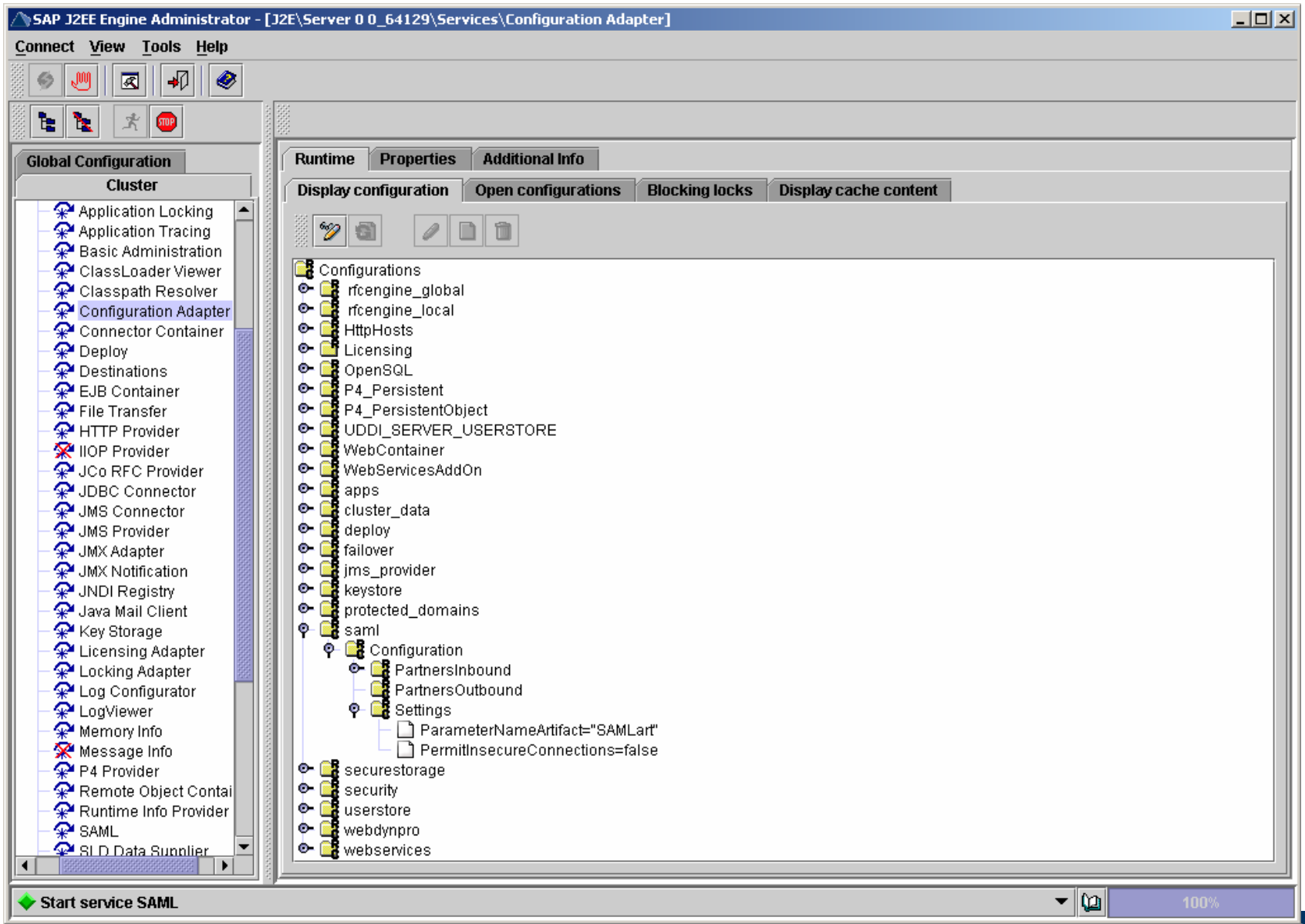
Enter SAML Parameters – Create a Sub-Configuration



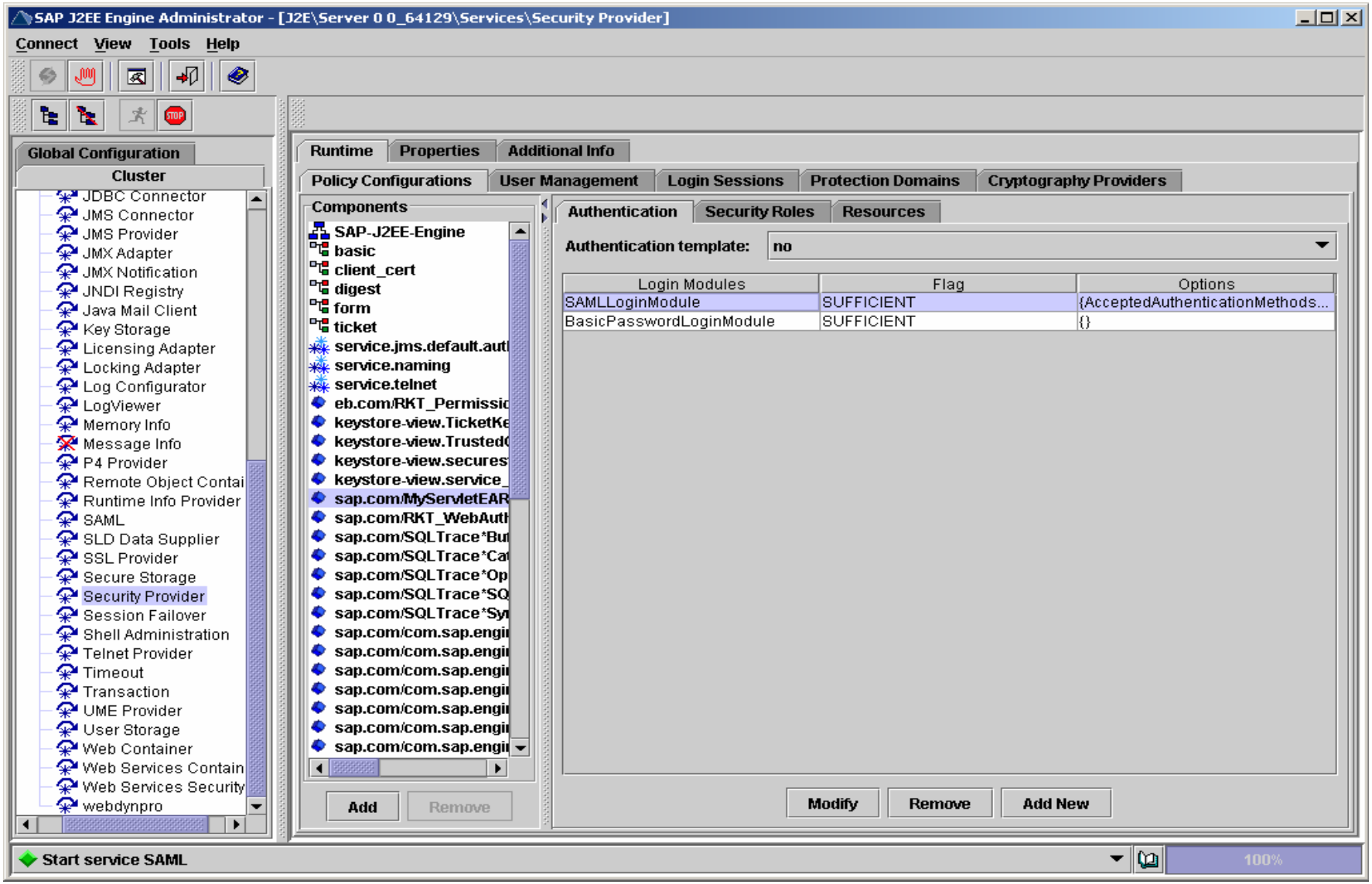
Enter SAML Parameters – Inbound Parameters



Enter SAML Parameters – General Parameters



Adjust Login Module Stack



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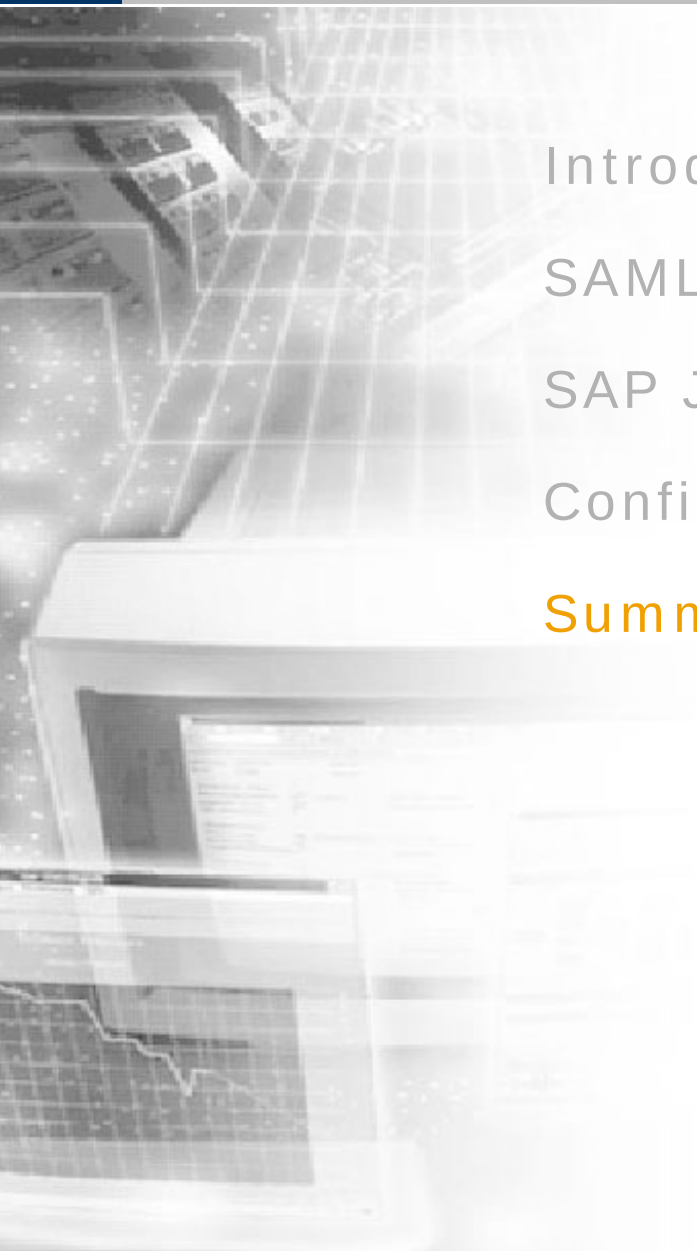

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SAML is a young evolving standard for transferring authentication and authorization information between security domains.

SAP J2EE Engine supports SAML at the moment in a limited fashion

SAML has strategic meaning for distributed business processes which use web services. Therefore it is also strategic for SAP.

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